The Integration of Highly Skilled Migrants into the Labour Market: Implications for New Zealand Business

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THE INTEGRATION OF HIGHLY SKILLED MIGRANTS INTO THE LABOUR MARKET: IMPLICATIONS FOR NEW ZEALAND BUSINESS.

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The Integration Of Highly Skilled Migrants Into The Labour Market: Implications For New Zealand Business.
EXECUTIVE SUMMARY

Much previous research into recent migrants’ experience of the New Zealand labour market has focused purely on the migrant viewpoint (the supply side). In contrast, this report also addresses the business perspective (the demand side).

Three discrete projects are integrated into this report. Taken together, they highlight the paradox of a labour market displaying significant unfilled demand for skilled labour, but which also contains numerous highly qualified and experienced immigrants who remain unemployed or underemployed. The report provides evidence that factors such as English language skills, local work experience and qualification recognition are seen by business to be important potential barriers to entry into the job market by recent, highly skilled immigrants.

The report concludes with recommendations. These focus specifically on immigrants at pre and post-arrival stages, employers, government, territorial authorities and tertiary research institutions, and they address issues including: -

- Provision of appropriate pre and post arrival information;
- Labour shortages and barriers to entry;
- Career planning and vocational training;
- English levels and provision of language courses;
- Qualification recognition issues;
- Attitudes and recruitment practices for potential employers.

Adaptations in New Zealand’s labour market mechanisms and attitudes are required to take full advantage of the benefits brought by new migrants. Critically, these include providing information, communication and training to companies about the skills and benefits migrants can bring in helping to meet their strategic HR needs. Action areas for key stakeholders in this process are outlined.
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1. INTRODUCTION

The labour market experience of recent migrants to New Zealand is both topical and important. It is particularly important in an economy that for some years has faced serious skill shortages. Clearly, the arrival of a layer of highly skilled migrants might alleviate this shortage. The extent to which this happens will be a function of the skills possessed by migrants on arrival (or those subsequently gained), the capacity of labour market institutions to place migrants in appropriate jobs, and, finally, the attitudes of the business community to this supply of skilled labour.

The role of highly skilled migrant labour may well take on added significance in a New Zealand labour market in which the rhetoric of the “Knowledge Economy” has taken root. In some economies, large numbers of highly skilled migrants have been at the heart of a burgeoning high technology sector. In the case of Israel, for example, a range of business incubation initiatives has been established to take advantage of this wind fall skill base. In other economies, such as Ireland, skilled migrant labour has complemented the domestically produced skill base to provide a labour force appropriate for impressive technological development.

It is important to understand the experience of migrants as they seek work in a new, often alien, environment. Equally, however, we need to know how potential employers see this supply of labour and how they respond when faced by different qualifications, cultures and expectations.

The recently elected government recognises the need to review immigration policies, particularly in terms of settlement issues. It is their commitment to conduct comprehensive research on the impact, costs and benefits of immigration in order better to inform future policy decisions (Labour New Zealand, 2000). This report provides a timely, exploratory contribution to this review from New Zealand’s leading research and tertiary business school and offers business focused recommendations for key stakeholders in the migration process.
The discrete projects brought together in this report encompass:

1. Empirical research into the labour market integration of recent immigrants from the former Soviet Union. The research focuses exclusively on migrants with higher qualifications (bachelors degree or higher). The research identifies barriers to successful settlement and the securing of appropriate employment. Current support and placement programmes are assessed and some policy recommendations presented.

2. The recruitment of well educated Asian immigrants and associated employer recruitment strategies in the electronics and software industries. Barriers to the integration of new immigrants into the job market are analysed along with the relationship between recruitment of migrants and international business development in IT industries.

3. Recent skilled and experienced migrants (defined as those who have arrived between 1995 and 1999) from the People’s Republic of China. These migrants, all with information technology (IT) or computing backgrounds, have successfully located and accepted jobs in New Zealand. This Auckland based research addresses the advantages and disadvantages of employing migrants in the labour market. It also identifies the demands of New Zealand’s high technology labour market, successful employment factors and policy issues concerning new migrants.

After reviewing the significant body of extant research and literature in the area, the motivations for the research programme are set out. The research methodologies and findings follow. The report concludes with recommendations and a discussion of future directions for the research.
2. PREVIOUS RESEARCH

Although the research presented focuses primarily on business attitudes towards the integration of immigrant workers, much previous research has addressed the immigration and labour market experiences of migrants to New Zealand, and related issues. For example, a review of recent literature commissioned by the New Zealand Immigration Service, has identified some 390 relevant publications since 1994, along with a number of current research projects. Supporting research projects have also focused on the labour outcomes of specific groups including: - Chinese immigrants in Auckland (Friesen and Ip, 1997), Koreans and South Africans (Spoonley, 1996), Chinese and Koreans in Auckland and Hamilton (Ho and Lidgard, 1998), Chinese, Indian and South African Immigrants (Trlin et al, 1998).

Here, we present discussion of five aspects of migrant experience in the New Zealand labour market. Each has played an important analytical role in one or more of the constituent studies. They are:

- Immigration and labour market outcomes;
- Global skill pressures, with a discussion of the Silicon Valley experience;
- The information technology sector in New Zealand;
- Education and training issues associated with investment in Information Technology and its associated research and development;
- Recruitment issues.

2.1 Immigration and Labour Market Outcomes

Four principal factors shaping labour market outcomes around the world are technology, globalisation, immigration and education. Migration has played a generally positive role in spreading human resources, skills and positive cultural traits. These are transferred from where they are abundant to where they are in short supply, thus enriching the host countries of immigrants (Kerr, 1997). The injection of specific skills
to the stock of a country's human capital is one aspect of the benefits from immigration (Sowell, 1996). In addition, immigrants often bring positive entrepreneurial attitudes to their host countries: a strong work ethic, and valuable links with other cultures and markets. In America, economists have been almost unanimous in their view that immigration this century has benefited the US economy (Simon, 1989). Immigration is not perhaps an engine of economic growth, but the effect is positive, not negative (Smith, 1997)

In 1997, Liliana and Rainer Winkelmann were commissioned by the Department of Labour to undertake a comprehensive, countrywide research project into the labour market outcomes of immigrants in New Zealand. Two key questions were addressed: what types of immigrants have been attracted to New Zealand and what have been their labour market outcomes? Broad findings showed that immigrants had relatively high levels of formal qualifications, most had incomes and employment rates above those of New Zealand-born employees, and that migrant relative labour market position improved with years spent in New Zealand.

The research noted that the growth of the immigrant working-age population during the 1981 and 1996 period was 32 percent, compared with 10 percent growth of the native population, and reported generally higher levels of income and higher education for the immigrant group. Identifying relatively high qualifications, skills and knowledge of overseas markets of immigrants arriving in the late 1990s, they noted that the labour outcomes of this group were poor, with the better outcomes being associated with higher levels of education, good English language skills, and length of time in New Zealand.

Immigration has always played an important role in New Zealand's labour market, but policy changes during the past two decades have altered the composition of the immigrant population. The removal of traditional source country preferences, and the introduction of a point system have significantly changed patterns of immigration. In 1981, for example, ethnic Chinese made up 0.3 percent of the New Zealand population. This figure had grown to 2.3 percent by 1996 (Bradford, 1997). This group has now become second only to Great Britain in terms of overall immigration (NZ: Immigration Service, 1995).
Immigrants entering the country under the General Skills and Business Investor point system are, to be eligible, highly educated, bringing with them skills, knowledge and links to overseas businesses. In 1996, the percentage of recent immigrants, (defined as those who have arrived within the last five years), with advanced degrees was 26 percent, compared with 8.0 percent of New Zealand born working age individuals (Winkelmann and Winkelmann. 1996). Despite this contrast, the same research reported that only 64 percent of recent immigrants were in employment as opposed to 71 percent of natives in the same year (Winkelmann and Winkelmann, 1998). The labour market outcomes of immigrants showed differences in terms of country of origin. UK and Ireland born individuals showed higher rates of employment and income, with Asian and Pacific Island immigrants having the least favourable outcomes in 1998 (p58).

The High Hopes Survey into labour market outcomes, carried out by the Ethnic Affairs Service of the Department of Internal Affairs (1996), identified problems relating to qualification recognition, training and employment of immigrants, inadequate and/or inaccurate pre-arrival information, local experience and language proficiency. It also reported under-utilisation of immigrant skills, noting that many recent immigrants experienced great difficulties in terms of securing jobs relating to their qualifications and experience. Some of the immigrants experienced more success with time, but identified language, qualification recognition and New Zealand work experience as key factors in determining labour outcomes.

2.2 Global Skill Pressures

One entry point into the debate around migration, the demand for highly skilled labour and technological change is an assessment of the global picture of this demand. A major recruitment problem is facing companies in the IT industry worldwide. In the US, for example, high technology is now the biggest employer with over 4.3 million people employed in electronics and information technology. The biggest threat is an inadequate supply of skilled labour. The Information Technology Association of America estimates that, in the US information technology industry alone, 190,000 jobs are unfilled, that is half of the industry's current employment. The problems facing the
industry could curb high technology's growth (Thuermer, 1998). A dominant example of the relationship between migration and technological change is found in Silicon Valley.

Silicon Valley in the United States is an internationally leading centre of electronics and innovation and entrepreneurship (Saxenian, 1994), and its success depends upon being able to attract sufficient, highly qualified personnel from all over the world. Asians are well represented in the IT workforce with some 20 percent of jobs (Dreyfuss, 1999), and they are setting up far-reaching professional and business connections with Asia (Saxenian, 1999).

Their skills are clearly identified as being beneficial to the industry, and a leading high-tech headhunter commented that without Asian talent and the energetic work ethic, intellectual base and technology they bring in, Silicon Valley would be a remarkably different place (Paisley, 1998). In contrast, the low percentage (7 percent) of Asian representation in the New Zealand IT workforce might be the reason that hinders the international development of New Zealand IT exports (See table 1).

**Table 1: Breakdown of those employed in IT occupations by ethnic origin excluding data entry in 1991 and 1996**

<table>
<thead>
<tr>
<th>Ethnic Origin</th>
<th>Migrants Employed in IT Occupations by Ethnic Origin (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1991</td>
</tr>
<tr>
<td>NZ European</td>
<td>76</td>
</tr>
<tr>
<td>NZ Maori</td>
<td>4</td>
</tr>
<tr>
<td>Pacific Islands</td>
<td>1</td>
</tr>
<tr>
<td>Asian Descent</td>
<td>6</td>
</tr>
<tr>
<td>Other</td>
<td>12</td>
</tr>
</tbody>
</table>

(Source: Ministry of Commerce, 1999)

New Asian immigrant entrepreneurs in Silicon Valley are setting up far-reaching professional and business connections with Asia (Saxenian, 1999). They are uniquely
positioned because their Asian language skills and technical and cultural knowledge allow them to perform effectively in the business culture of their home countries as well as in Silicon Valley. Chinese migrants helped flows of capital, skill, and information between Silicon Valley and the Hsinchu Science Park in Taiwan. Through this channel, IT entrepreneurs in Silicon Valley benefit from the venture capital co-ordinated by Chinese immigrants and from the networks that they provide into markets in Asia.

In a minor key, similar issues of securing a qualified and skilled workforce in the IT industry are facing New Zealand. Companies are trying to fill an increasing number of high-skill jobs from a limited pool of applicants. The research company, Gartner Group, estimate that there are only 7.5 people available to fill every 10 IT jobs advertised (Gifford, 1999).

Facing a global shortage of skilled people in the IT sector, the US companies have found one resource to relieve the tightening supply. In an attempt to fill the estimated 400,000 computer-related jobs that went unfilled in 1998, US companies have discovered a vast, untapped pool of technology talent halfway across the world (Fink, 1999). Each year, more Eastern Europeans are being hired for IT positions in America, and they are demonstrating admirable professional and personal success in the US technological marketplace.

### 2.3 Information Technology in New Zealand

Information technology is a major driver of economic growth, and the development of this industry is key to New Zealand’s transformation into a knowledge based economy. Information technology and the more efficient use of information can enhance economic growth by increasing labour productivity, increasing market reach and penetration for products and services. Furthermore, it plays an important role in creating higher valued products and services, creating customised products and services for specialised markets, and reducing management and co-ordination costs (Dordick, 1987).

The New Zealand Government has estimated that the electronic and software industries are the fastest growing industries in New Zealand. In 1991, Michael Porter from the
Harvard Business School conducted a study on the competitive advantage of New Zealand industries and singled out the software industry as being a significant source of foreign earnings for New Zealand. (Crocombe, Enright and Porter, 1991). As in many high-tech industries in other countries, the New Zealand sector is experiencing skill shortages. However, no in-depth studies of employers’ attitudes, policies, patterns and expectations have been conducted in these industries and discussions of how these fit into their international business development and future vision are rare.

The world is currently in the midst of a significant technological revolution based on information technology. For advanced economic systems it is the capacity to create new knowledge and apply it rapidly via telecommunications and information processing that is now of greater significance than the location of natural resources and cheap abundant labour (Bedford, et al., 1995).

New Zealand has been in the forefront of the world's nations in its utilisation of information technology. Expenditure for information technology, including telecommunication a systems and equipment, has been growing steadily over the past two decades. New Zealand's telecommunication systems are among the most modern in the world and a policy of universal service at affordable cost has resulted in telephone penetration that ranks with those of the world leaders (Dordick, 1987).

New Zealand's ability to compete in the new information economy, however, is slipping behind its trading competitors. According to the International Data Corporation Information Society Inc., in 1997 New Zealand was ranked at number nine, and in 1998 it slipped to number 13. While New Zealand was still growing, other countries grew faster than New Zealand did. That slide is expected to continue, with New Zealand languishing at 19 by 2002 (Gifford, 1999).

According to a study by Deloitte & Touche, about sixty percent of companies have encountered difficulties in recruiting skilled information technology professionals (Gouldson, 1998). It is estimated that in the United States, job vacancies for information technology professionals will be more than 700,000, representing about 20 percent of the whole information technology workforce. Most likely, only half of these vacancies will be filled (Gantz, 1999). This shows that there is a worldwide shortage of
information technology professionals. The labour shortage is particularly serious in New Zealand.

In New Zealand, a major reason for the slow transformation from a resources-based economy to a knowledge-based economy is the lack of competent human resources. This is particularly true in terms of the shortage of information technology professionals in New Zealand. Information technology plays an important role in facilitating dissemination of knowledge to people. The supply of competent human resources comes from two sources: (1) provision of tertiary education and research and (2) immigration.

2.4 Investment in IT Education and Research & Development

Ireland has developed itself into a knowledge-intensive economy (Frederick et al, 1999). As a result, young Irish people are staying rather than emigrating, and even ex-emigrants have returned from overseas. Huge investment in IT education and training is now paying dividends.

This is not the case, however, in New Zealand because of the low percentage of high-technology exports, insufficient supply of competent IT graduates & professionals and the small amount of investment in research and development. Existing tertiary education and research, in terms of quality and quantity, do not appear to fully match the needs of the information technology industry.

The IT Industry is defined as the industry sectors whose businesses are IT related e.g. software companies. IT occupations are referred to as those jobs whose focus is on IT, such as programmers. Nevertheless, there are non-IT occupations within the IT industry (such as a personnel manager in a computer company), and IT occupations in non-IT industries (such as a programmer in an insurance company). Hence, 41,823 people worked in IT industries in 1996, a number representing 2.6 percent of the total New Zealand workforce. 64,770 people were in an IT occupation and/or working for an IT industry company (a sum of 41,823 and 33,642 minus 10,695), a number representing 4 percent of the total New Zealand work force (Ministry of Commerce 1999, see Table 2).
Table 2: Number of IT Occupations in IT and all Industries

<table>
<thead>
<tr>
<th>No. Employed</th>
<th>IT Occupations</th>
<th>All Occupations</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT Industry</td>
<td>8,826</td>
<td>10,695</td>
</tr>
<tr>
<td>All Industry</td>
<td>27,717</td>
<td>33,642</td>
</tr>
</tbody>
</table>

(Source: Statistics NZ; 1999)

New Zealand has been ranked at the bottom among OECD countries in terms of the percentage of exports of high-technology products and the number of graduates from the computer science, mathematics and engineering disciplines per 1000 people (Frederick et al, 1999). The total number of graduates for 1997 was 21,493 (New Zealand Vice Chancellors’ Committee, 1998). New Zealand graduates in IT-related disciplines made up only 4.7 per cent of all graduates in 1997.

Furthermore, New Zealand has the lowest number of scientists and engineers in research and development for every one million people: and is second lowest in the number for science graduates for every 100,000 people in the labour force among OECD and other reference countries (Frederick et al, 1999). Investment in R & D is very low across all kinds of businesses in New Zealand (Walker and Liu, 1998) and it seems that current scientific and technological research and development activities make a very low contribution to the international competitiveness of New Zealand products. In New Zealand, the ratio of public funding to private investment in research in the IT industry was 1:3. Government spending on IT research in 1995/6 was NZ$4.6 million, while private-sector investment in IT research amounted to $15 million (Frederick et al, 1999; MORST, 1997).

While existing immigration policies have attempted to deal with economic and labour market needs in New Zealand, it seems that they are not functioning well (Frederick et al, 1999). Recent political arguments on immigration policy have had the effect of turning away potential immigrants. New Zealand underwent a fast growth in the number of Asian immigrants in the early 1990s. But since 1996 the number of
immigrants from Asian countries has declined sharply. These Asian countries, for example Hong Kong, Taiwan, and South Korea, have been supplying New Zealand with knowledge workers. Recently, New Zealand's residency requirements have been changed slightly to recognise the working experience of IT professionals and put less weight on their academic qualifications (Frederick et al, 1999; Wells, 1999).

2.5 Recruitment Issues

Recruitment problems encountered by Asian migrants have included: (1) obstacles over the recognition of overseas qualifications, (2) lack of New Zealand working experience, (3) employers’ prejudicial discrimination against prospective applicants with foreign characteristics, (4) insufficient English skills and (5) being over-qualified for the vacancies (Department of Internal Affairs, 1996). Asian migrants felt that they were not actually settled in New Zealand until they were employed in a similar job to the one they had in their home countries (Lidgard, 1996). A lack of government policies to integrate the professional skills and experience brought by Asian migrants into the workforce and culture of New Zealand is of a concern to many people (Lidgard, 1996).

Immigrants with the ability to contribute to New Zealand's social and economic development have been specifically targeted under the General and Business Immigration Category (Department of Internal Affairs, 1996). The current immigration policy requires that applicants, who apply for permanent residence under the general skills category, must provide their recognised qualification and working experience, along with a good command of English skill. The research, however, shows that despite the high qualifications and abundant working experience of the new migrants, it is still difficult for them to find jobs that can apply those skills and knowledge, and there are substantial numbers of migrants who are under-utilised.

Issues such as high qualifications and low employment rates, inaccurate or insufficient pre-arrival information, absence of local planning and preparation for new immigrants, language abilities, work experience in New Zealand and recognition of qualifications appear in the supporting research as significant in securing satisfactory settlement of new immigrants. As a result, significant numbers of highly qualified immigrants remain
unemployed, while employers, particularly in the IT industry, note a shortage of skilled workers.

A number of questions follow from this discussion. For example, what are the dynamics behind recruitment policies established by both employers and recruiting agencies with regard to immigrants? What are the contributing factors leading to the success or failure in terms of subsequent integration into the workforce? Do barriers exist that limit, or deny, access to appropriate employment in this country? Not all immigrants, however, fail to access the labour market at appropriate levels. Analysis of success factors has much to tell us about potential courses of action and programmes for assisting new immigrants and those currently unemployed or under-employed.

2.6 The Emerging Challenge

This brief account of literatures addressing migration, technological change and labour market profiles presents a challenging picture for New Zealand. International evidence suggests that contemporary migration, especially of high skilled people orientated to leading edge technology sectors, is a positive feature of both the international and domestic economies. Adequate supplies of highly skilled labour are a sine qua non for technological advancement; they are also potentially a key catalyst for such growth. Migration allows these supplies of labour to move to challenging new opportunities. In New Zealand, however, the evidence from existing sources suggests that we under-utilise skilled migrant labour. There is concern that we place obstacles in the way of its effective incorporation into our labour markets, and that, in the case of the Information Technology sector, for example, we stand to limit our growth potential if we do not recognise the opportunities offered by highly skilled migrants. It is the recognition of this challenge that prompted the present research programme.
3. THE THREE STUDIES

This section describes the genesis of the current research, outlines the research methodologies employed and reports the findings of three separate but interrelated projects which comprise the exploratory phase of the research programme.

3.1 Research Design

The research reported here grew out of an unusual combination of factors. A small number of highly qualified immigrant postgraduate students were seeking a project with which they could complete their degrees. They were studying in a department in which a strong focus on New Zealand company performance exists alongside expertise in labour markets, technological change and associated policy issues. From this conjuncture emerged these exploratory studies. The ethnic origin of the researchers provided an original perspective, allowing access to information difficult to obtain through standard research techniques. Figure 1 shows the research design in terms of the communities addressed in the sampling frames. The studies, in part designed to establish a framework for further studies, addressed issues within the following communities and professions:

- Migrants from a single source in a single industry (migrants from mainland China in the Information Technology (IT) industry – quadrant 1);
- Migrants from a single source across multiple professions (academically qualified migrants from the former Soviet Union – quadrant 2);
- Migrants from multiple sources in a single industry (migrants from Asia in the IT industry – quadrant 4).

3.2 Exploratory Studies

The use of exploratory studies is justified in order to clarify the nature of the problem, and to identify whether there is indeed an issue to investigate in more depth. Thus the present studies were conducted in the expectation that:
(a) They would sharpen and refine our understanding of the issues;
(b) Confirm that there were indeed new issues to investigate;
(c) Anticipate subsequent research to provide more conclusive answers (Zikmund, 1998).

The studies used a variety of techniques, primarily using a qualitative approach. The studies included:
- Detailed literature reviews;
- Analysis of secondary data;
- Experience surveys, using both anonymous postal and telephone approaches;
- Descriptive statistics;
- Case study, using face-to-face interviews.

The present study was designed to establish the basis for future, large-scale cross-sectional studies which will allow us to elucidate and test emergent findings, specifically in quadrant 3, regarding migrants from multiple sources across multiple business sectors or professions (Figure 1).

**Figure 1: Research design**

<table>
<thead>
<tr>
<th>Migrant Origin</th>
<th>Business Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple</td>
<td>Single profession Single source</td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Single</td>
<td>Single profession Single source</td>
</tr>
<tr>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Single | Multiple

*The Integration of Highly Skilled Migrants into the Labour Market: Implications for New Zealand Business*
3.3 Overview of the Pilot Studies

This section briefly outlines the design, approach and key findings of each of the three sub-studies that comprise the present report.

3.4 Recent Highly Skilled Immigrants from the Former Soviet Union (FSU): Adaptation and Integration into the New Zealand Labour Market

Major focus

Empirical research was conducted into cultural and non-cultural factors affecting the adaptation and integration of recently arrived, highly skilled immigrants from the former Soviet Union into the New Zealand labour market.

Community Focus

Migrants from the former Soviet Union who were distributed throughout New Zealand.

Methodology

Multiple methods were used in this study:

- A 23-item mail survey;
- Telephone interviews with recent immigrants currently resident in Auckland;
- Face-to-face interviews with highly skilled immigrants resident in Auckland.

The major themes: pre-arrival qualifications, previous work experience, pre and post-arrival attitudes towards New Zealand, the adaptation process, integration into the local labour market, future plans and suggestions.

Profile of Interviewees

All interviewees migrated from countries in the former Soviet Union, principally Russia, the Ukraine, Kazakhstan and Uzbekistan.

Pre-arrival Qualifications and Experience.

Table 3 shows the qualifications of the migrants from the former Soviet Union.
Table 3: Qualifications of FSU Survey Respondents

<table>
<thead>
<tr>
<th>Qualifications</th>
<th>Survey respondents No</th>
<th>Survey respondents %</th>
<th>Telephone interviewees No</th>
<th>Telephone interviewees %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor’s Degree</td>
<td>45</td>
<td>76.3</td>
<td>13</td>
<td>72.2</td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>13</td>
<td>22</td>
<td>5</td>
<td>27.8</td>
</tr>
<tr>
<td>Doctorate</td>
<td>1</td>
<td>1.7</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Areas of Professional Experience

68 percent of survey respondents and 67 percent of telephone interviewees arrived in New Zealand with over ten years of qualification-relevant work experience. Their areas of professional experience included engineering, medicine, microbiology, natural and social sciences, computing, linguistics and fabric design.

3.4.1 Findings

Post-arrival occupational status

The qualification status and previous experience of the migrants surveyed were found to be of extremely high calibre, indicating that they would be expected to be attractive prospects to New Zealand employers.

Table 4 indicates the post-arrival occupational status of the recently arrived immigrants from the former Soviet Union.
Table 4: Occupational Status of FSU Survey Respondents

<table>
<thead>
<tr>
<th>Occupational status</th>
<th>Survey respondents No</th>
<th>Survey respondents %</th>
<th>Telephone interviewees No</th>
<th>Telephone interviewees %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working full-time</td>
<td>31</td>
<td>52.5</td>
<td>13</td>
<td>50.0</td>
</tr>
<tr>
<td>Working part-time</td>
<td>10</td>
<td>16.9</td>
<td>2</td>
<td>11.1</td>
</tr>
<tr>
<td>Studying</td>
<td>11</td>
<td>18.7</td>
<td>6</td>
<td>33.3</td>
</tr>
<tr>
<td>Unemployed</td>
<td>7</td>
<td>11.9</td>
<td>1</td>
<td>5.6</td>
</tr>
</tbody>
</table>

Perceived Obstacles to Professional Employment in New Zealand

As perceived by the survey respondents and telephone interviewees, the main obstacles to immigrant adaptation and integration into New Zealand’s labour market were

- Inadequate level of English;
- Lack of local work experience;
- Absence of social networks;
- Recognition of qualifications;
- Inadequate professional levels.

Additional obstacles included age, old working habits and new requirements, lack of positions related to qualifications, working in a rare profession, lack of perseverance in seeking jobs, and being overqualified.

Modes of entry into the New Zealand labour market

44 percent of survey respondents and 67 percent of telephoned interviewees entered the labour market through temporary employment and 27 percent of survey participants and 39 percent of telephone interviewees took up professional employment upon arrival. Other immigrants entered the labour market through vocational training, up-skilling and obtaining a new qualification or taking qualification recognition examination (See Appendix 1).
Immigrant Perceptions of Employers' Attitudes
3 percent of surveyed immigrants and none of the telephone or personal interviewees reported enthusiasm among local employers in terms of employing immigrants from the FSU. 56 percent of those surveyed and 50 percent of telephone interviewees reported that employer attitudes were based on professional qualities; this was confirmed by 33 percent of those personally interviewed. 7 percent of survey respondents, 22 percent of telephone interviewees and 25 percent of personal interviewees reported other employer attitudes towards Russian professionals as ‘wary’, ‘cautious’, ‘distrustful’ and exhibiting a ‘lack of interest towards foreigners’.

Support Mechanisms within the New Zealand Labour Market

Pre-arrival information
58 percent of those surveyed and 50 percent of telephone interviewees were in possession of only sketchy and inconsistent information about the local labour market. Only 10 percent of the survey respondents and 6 percent of telephone interviewees felt they had detailed information. 32 percent of the surveyed group, and 44 percent of the telephone interviewees had no information at all about the New Zealand labour market.

Sources of Information
Most participants obtained their information from unofficial sources (73 percent of survey responses and 70 percent of telephone interviewees) while 25 percent of surveyed participants also used commercial and official sources and 40 percent of telephoned interviewees also used commercial sources (See Appendix 2).

Quality and reliability of Information
63 percent of the surveyed migrants and 50 percent of the telephoned interviewees reported that the information they had received was partly true. 18 percent and 10 percent respectively reported the information they received as true and objective. However, 20 percent of surveyed respondents and 40 percent of telephone interviewees maintained that the information they received was misleading. Of the assistance available 75 percent of those surveyed, and 78 percent of the telephone interviewees
reported that they received no help from Work and Income New Zealand (formerly New Zealand Employment Service, before 1998).

**Immigrant Perception of Support Mechanisms**

78 percent of surveyed participants and 72 percent of telephoned interviewees referred to existing mechanisms for the integration of new immigrants as inadequate.

**Summary of face to face interviews**

The following commentary summarises the personal interviews held with a sample of the migrants from the FSU.

**Case A**

Subject A arrived two years ago with a master’s degree in Demographics and fluent in English. He has extensive teaching experience, including five years in American universities. He has been unable to secure employment, and has enrolled in a postgraduate programme of study.

**Case B**

Subject B is medical doctor with over 10 years experience specialising in severe brain ailments, and has been involved in international scientific projects. He has been unable to secure appropriate employment in New Zealand and regards the prospects as equal to nil. He maintains that improving English and updating qualifications are important in terms of professional career development, and cites examples of New Zealanders being employed over immigrants despite lower qualifications, implying bias.

**Case C**

Subject C is a therapist specialising in TB, and has 10 years of experience. He has not been able to secure appropriate employment since failing qualification recognition examinations. He maintains that the knowledge and experience gained in the former Soviet Union is not the problem, but that language has become an insurmountable barrier.
Case D

Subject D is an engineer with 14 years of industrial experience. He arrived in 1995, and was unable to secure employment for two years. He reported that he was not offered one job because his English was not fluent enough. Other reasons given for not offering employment included a lack of New Zealand experience and positions already being filled. He stated that many local employers are very cautious in their approach to employing immigrants due to a lack of information about them.

Case E

Subject E is an automotive engineer with 7 years of experience in a road accident testing laboratory prior to arrival in 1996. He worked for a year in menial jobs before securing employment in a small air-conditioner repair and installation shop. He has since been promoted, but reports persistent problems with English. He received assistance from the New Zealand Employment Service (NZES), and maintains that their assistance was instrumental in securing him employment.

Case F

Subject F holds a master’s degree in Asian studies and has 30 years of research and teaching experience in a prestigious scientific research institute in Moscow. She speaks several languages, is well published, and her achievements and unique teaching methods have been recorded in two articles in the New Zealand Herald. She is still unable to secure suitable employment, and periodically gives English lessons to other immigrants. She maintains that being without a network of colleagues and friends in this new environment has created the major difficulty in terms of securing employment. She has never been invited for an interview, and believes that the vacancies posted were not intended for immigrants. She also believes that the knowledge and skills of immigrants should be used regardless of where they were obtained.

Case G

Subject G is a surgeon with 10 years of experience prior to arrival in New Zealand. He managed to secure employment as a laboratory assistant, and worked on his English with the intention of completing qualification recognition examinations. He recognises that passing the examination without working with a New Zealand doctor will be
extremely difficult. He plans to move to Australia where he understands that legislation allows doctors to work in the outback without the qualification recognition examinations.

Case H

Subject H holds a master’s degree and has worked for over 20 years in landslide science prior to arrival in New Zealand. He decided to obtain new qualifications in computing upon being told that his profession was not in demand.

Case I

Subject I is a boat turbine engineer with over 20 years experience in a ship building plant in the Ukraine. He was the head of the plant’s research laboratory prior to his departure for New Zealand. He took temporary employment in a car repair shop until he found employment related to his qualifications a year later. He maintains that the fact that he had some form of employment worked in his favour when a suitable position came up.

Case J

Subject J is an engineer with a master’s degree and he specialises in hydraulic equipment. He has industrial, research and teaching experience, and over 10 years of employment in a large aircraft construction plant. He was able to secure suitable employment after several months of concentrated effort, although he was given a three-month probation period before securing a permanent position. He maintains that his high level of English was a major advantage. He sought assistance from NZES, but was informed that the agency was not designed to help the employment of highly educated people.

Case K

Subject K is a microbiologist with more than 10 years of research experience, and numerous patents registered to his name. He was unable to secure suitable employment, and he set up a business with financial support from the New Zealand Income Support Service (NZISS) small business scheme. The business has been recognised as the most
original small business of the years by the local council, and he plans further developments using his other inventions.

Case L

Subject L is an award winning fashion designer with a bachelor’s degree and certificate from an American School of Design. She was rejected by one employer who stated that he never employed foreigners, but she does not believe that this is standard practice.

3.4.2 Recommendations

(1) Pre-arrival Information

Objective information about the local labour market conditions, and existing rules and regulations on qualification recognition, should be made available to migrants before, and after, their arrival in the country. Regularly updated information should be made available through the New Zealand Embassy and Consulate in Moscow and on the NZIS website.

(2) Post-arrival adaptation

Courses should be introduced for new immigrants to provide basic information about New Zealand society, economy, political system, legislation etc. Detailed information on employment opportunities in all professional categories should be provided.

(3) Official Recruitment Policy towards Immigrants

Policy should focus on the importance of skills, knowledge and experience and ways to overcome conservatism in recruitment practices should be found. Employers need to become more aware of foreign experience and expertise.

(4) Integration process

There is a need to provide qualified assistance in terms of career planning and access to vocational training for immigrants who want to change professional career. A government programme could be developed to assist professional migrants in their preparations for qualification recognition and practical training examinations.
(5) Non English Speaking Background (NESB) Immigration Agency

A separate agency, or WINZ incorporated office, could be established for immigrants from non English speaking backgrounds. It could develop programmes for language, vocational training, up-skilling, and assistance in qualification recognition examinations as necessary.

3.5 The Recruitment of Migrants for New Zealand Business Development

Major Focus
This study focused on organisational attitudes and perceptions to recruiting recently arrived educated, skilled Asian immigrants. Of specific interest were employer recruitment strategies in the information technology (IT) industry and the relationship between migrant recruitment and New Zealand's international business development in the IT industry.

Community Focus
The study targeted employer experience of Asian migrants within the wider context of non Anglo-Saxon migrants within New Zealand as a whole.

Methodology
A 23-item questionnaire mail survey was distributed to 314 companies in the IT industry throughout New Zealand and achieved a 22 percent response rate. In each case Chief Executive Officers were targeted with guaranteed assurances of confidentiality. The major focus of the questionnaire was employer perception of recruitment needs, the pattern of industry recruitment over the last five years and companies' recruitment strategies for different job categories and recruitment criteria.
Profile of the Companies
The responding companies were located in Auckland (32) and Wellington (14) with a further 23 businesses nation-wide. The business focus of the companies included production of electronic components/equipment and technical services (36 percent), computer equipment and supplies (19 percent), computer hardware, software and peripherals (19 percent), software (13 percent), systems and services (10 percent), and computer bureau services (3 percent). The length of operation of the firms was distributed thus: 1 to 5 years (12 percent), 6 to 10 years (33 percent); 10 to 15 years (16 percent); 16 to 45 years (39 percent). In terms of company size, over 50 percent of the companies had less than 11 employees and 33 percent had between 21 and 50 employees. Companies involved in the study employed a total of 3001 staff, with 93 percent full-time and 7 percent part-time. 90 percent of the companies were controlled by New Zealand citizens or residents. Finally, 67 percent of the companies focused on the domestic market whilst 33 percent were involved in exporting products and services.

Recruitment
Of recently recruited New Zealand staff (born or arrived before 1991), 11 percent were Asian and 78 percent European. Of recently recruited recent migrants (arrived in New Zealand since 1991) 25 percent were Asian and 45 percent were European. (See Appendix 1). Of recently recruited New Zealand staff (born or arrived before 1991) 60 percent were in professional positions and 26 percent in skilled positions. Finally, of recently recruited recent migrants (arrived since 1991) 19 percent were in professional positions and 57 percent in skilled positions. (See Appendix 5).

Work Experience
The companies reported that 69 percent of recent immigrants had acquired their working experience in their home countries and 31 percent acquired their experience locally. 42 percent of recruited migrants had been required to obtain New Zealand qualifications. 31 percent had secured their current employment by initially taking up jobs requiring lower levels of skill.
Industry Requirements
64 percent of the companies had experienced difficulty in recruiting staff and the nature of long-vacant position were as follows: - Managerial (3 percent), professional (26 percent), skilled (62 percent), and semi-skilled (9 percent).

Perceived reasons for the labour shortage
Companies pointed to a mismatch of NZ tertiary education and IT industry’s human resource needs (30 percent), to negative migration as a result of the policies of the NZ government (16 percent) and a lack of applicants with experience and/or hand on skills (16 percent) (See Appendix 3).

Quality and Quantity of IT graduates and Research
84 percent of responses maintained that the quality of graduates from New Zealand tertiary institutions satisfactorily met the needs of the IT industry, with 75 percent maintaining that the quality of research was satisfactory. However, 36 percent stated that the number of graduates was insufficient. Finally, 44 percent of the respondents maintained that the quantity of IT research was insufficient to raise the competitiveness of the IT industry in international markets.

Recent, highly skilled migrants as a source of labour
Significantly, 56 percent of companies had not actively considered recent, highly skilled migrants as a source of labour in local markets.

Perceived barriers/factors facing recent, highly skilled migrants
According to the companies which responded, the barriers or factors affecting the employment opportunities of recent, highly skilled migrants were, in rank order: -

- Lack of communication skills;
- Fluency in English;
- Lack of interpersonal skills;
- Lack of New Zealand work experience;
- Others such as cultural differences.

Recruitment Methods
In terms of the recruitment methods reported in the survey, 48 percent of companies use their own recruitment procedures, 10 percent use a recruitment agency only and 43
percent use a combination of their own recruitment and a recruitment agency. 23 percent of companies obtained access to all applications received by recruitment agencies. 77 percent did not. 97 percent of companies using recruitment agencies reported that the agencies screened the applicants and 75 percent of companies established screening criteria for the agencies. 35 percent of employers using recruitment interview procedures established a formal interview protocol but 65 percent of companies had not established such protocols.

Methods of advertising job vacancies
Methods used to advertise were ranked as follows: - word of mouth, recruitment agencies, national newspapers, local newspapers, employee recommendation, New Zealand Employment Service, university and school careers officers, internal recruitment, professional journals, company’s web site.

Selection Methods
The most favoured methods used for selection were interviews (94 percent) and the use of references (78 percent). Other methods used included: - aptitude tests, proficiency tests, bio-data, personality tests, group selection, intelligence tests, psychological tests and existing staff approval.

Company Recruitment Criteria
Criteria ranked in order of importance to the companies were: work experience, qualifications, communication skills, character, language proficiency, English skills, market knowledge and networks, appearance and manner, and multicultural abilities.

Recruitment skills required by export-focused employers
Skills required by new employees were reported to be: - overseas market knowledge, international networking skills and language skills.

Multicultural abilities
Almost 83 percent of companies that focused on exporting reported their belief that immigrants could bring some form of competitive advantage to New Zealand companies.
3.5.1 Recommendations

(1) Interview skills

Companies need to develop formal interview protocols, with specific reference to job descriptions and specifications, in order to select appropriate personnel, based on the job specifications and prediction of performance.

(2) Information on Migrants' Technical Skills

Employers might benefit from a clearer recognition of the potential role of qualified migrants in the development of New Zealand’s IT industry, especially in terms of the gap between supply of and needs for qualified personnel.

(3) Recognition of Migrants' International Knowledge

Recognition of the skills, education and contacts with overseas markets is of value in terms of New Zealand’s international business development.

3.6 Integration of New Migrants into The New Zealand Work Force: The Experience of New Migrants in Auckland from Mainland China with an IT Background

Major focus
This study conducted empirical case study research into the successful integration experiences of migrants from Mainland China with an IT background into the New Zealand labour market in order to identify success factors.
Community Focus
The study targeted migrants from Mainland China who were Auckland based.

Methodology
This was a qualitative study based on semi-structured, in-depth face-to-face interviews using a questioning guide within a multiple case-study approach. It involved purposeful snowball sampling of migrants from Mainland China in Auckland, successfully employed in IT positions, beginning with the researcher’s personal contacts. The questions focused on subject data, qualifications, work experience, motivation for coming to New Zealand, the job search process, job role, content, expectations, experience of the labour market, identifying success factors, importance of language skills and employing company policies.

Profile of Interviewees
The study involved 12 subjects, 10 employees and two managers. The employees were new migrants from Mainland China and the managers were European New Zealanders who had recruited two of the migrant subjects. Of the 10 migrants, 6 were male and 4 female. 6 subjects were aged 30-35 1 is 35-40, and 1 was over 40. 6 arrived in New Zealand in 1997, 3 in 1995, and 1 in 1996. The subjects came from different areas in China, and all of had tertiary education, 6 obtained Masters' degree in China, and 1 in New Zealand. All were granted permanent residence under the general skills category, and all except for one subject, who worked for one year in Hong Kong, had only worked in China before they came to New Zealand. Every subject had a full time permanent job in New Zealand. General subject characteristics are set out in Table 2.

The Case Studies
The views of the subjects are summarised below:

Case 1
Subject 1 attributed his success in finding a job mainly to good luck and to passing an aptitude test required by the company. He thought that new migrants had no competitive advantage in the local labour market. The language problem and lack of New Zealand work experience were the two major disadvantages for new migrants. Subject 1 had a positive view of his company's recruitment policy, but had no confidence in the Government’s economic policies.
Case 2

Subject 2 was quite satisfied with her current job. She attributed her success in finding the job mainly to good communication skills, previous relevant work experience and a bit of good luck. She thought that the bilingual skills of some new migrants could be an advantage in the local labour market. However, a lack of knowledge of local society, no work experience in a Western country, and poor English skills were the major disadvantages for new migrants in the local labour market. She was positive about her company's employment policies. However, she hoped that the Government could do more to reinforce liaison between new migrants and local companies, or provide some incentives to companies to encourage them to hire more new migrants.

Case 3

Subject 3 believed that his capabilities and good English skills were the main factors in his successfully finding his current job. The New Zealand qualification that he had obtained was only a minor contributor to this success. His advice to new migrants was to build up their self-confidence when competing in the local labour market, since the majority of new migrants had good experience and were hard working. In addition, a shortage of local technical expertise had provided job opportunities to new migrants.

Case 4

This subject believed that his high level qualification was the major contributor to his success in finding all the jobs in New Zealand. Despite the merits of having an open mind set, being proactive, well educated and experienced, poor language skills could be a barrier for new migrants’ integration into the local labour market. A change of working and technical environments was another disadvantage to new migrants.

Cases 5 & 6

These subjects were a couple: the husband believed that a shortage of local technical expertise provided opportunities in the market for new migrants who had qualifications and practical skills. On the contrary, the wife believed that one's achievement comes from one's own strength, including skills, knowledge and efforts. Migrants could
benefit from their high qualifications and high skills when competing in the local labour market. Both of them thought that the language requirement was rational.

Cases 7 & 8

Another couple, they felt that a bit of good luck and their knowledge in relevant areas accounted for their success in finding jobs. They listed some of the advantages of new migrants, including high qualifications, rich work experience, high skills and an ethos of hard work. The husband assumed that paying lower new migrants less than the local people was an advantage for migrants. Among the disadvantages, the language problem was a major issue, along with a lack of local qualifications and an understanding of the demands in the local labour market. The wife thought that many new migrants had lowered their expectations and requirements for jobs.

Case 9

Subject 9 believed that her own ability was the main contributor to her success in finding the current job, plus a bit of good luck. Except for a hard-working image, Asian migrants had no competitive advantage in the local labour market. Their language problems and their conservative character created disadvantages for them. She thought the language requirement in the current immigration policy was necessary for people who come under the general skills category, in terms of lowering barriers to communication.

Case 10

This subject believed that his internationally recognised qualification was the most important factor in his success in finding a job, along with some other factors, such as the result of an aptitude test, previous work experience and interview performance. He understood that the majority of new migrants were highly skilled and well educated, but these were not enough for them to compete in the local labour market. Except for an improvement in their English skills, an understanding of the local culture and social background, local work experience and qualification, along with an understanding of the local corporate culture, could prompt the process of integrating new migrants into the local work force. He was in favour of his company's recruitment procedures because the aptitude test provided an equal opportunity for Asian migrants. However,
he thought that the Government should give more support to provide new migrants with employment guidance, a liaison service and some language training to help them settle more quickly.

Case 11

The first manager believed the reason that the company hired migrant employees was because they had good industry experience. Specific qualifications were not essential in the software industry, because many people could learn the knowledge by themselves. An advantage for the company that hired migrant employees was that migrants were hard workers. The disadvantage was that they might leave the company because they went back to their home countries.

Case 12

The second manager reported that the reason for the company hiring migrant employees was because they were simply the best people for the jobs. Qualifications were not necessary for skilled and experienced people in the software industry. However, the company would probably put more weight on local qualifications and work experience, since this could help migrant employees adapt to the company and the jobs faster. He thought that companies which recruited migrant employees could benefit from their international experience, high skills, loyalty, and strong work ethic. But the companies could also experience difficulties due to problems on the migrants' side, such as lack of local experience, communication problems and cultural difficulties.

Conclusions

The main success factors were found to be, in order of importance: relevant work experience, practical skills and good English. Good spoken and applied English did not necessarily correlate with formal qualifications, however.

3.6.1 Recommendations

Pre-migration English skills were essential, but practical application procedures should be assisted here in New Zealand. Employment guidance and liaison with new migrants would also be valuable. It was important for new migrants to maintain self-confidence,
and reinforce their English and cultural skills. Awareness among companies of migrants' skills, not necessarily based on formal qualifications, was essential and companies could also be encouraged to offer training to provide local knowledge. Companies need encouragement actively to consider new migrants in their recruitment.
4. ANALYSIS OF RESEARCH PROJECTS

Section 3 provided an overview of the individual studies in this programme. Their findings can be integrated around the following themes:

- Pre-arrival information
- Pre-arrival qualifications
- Post-arrival occupational status
- Perceived labour shortages
- Barriers to the employment of recent immigrants
- Recruitment channels and practices
- Recommendations.

4.1 Pre-arrival Information

Many immigrants, unable to secure employment upon arrival in New Zealand, enter the job market through temporary employment not fully relevant to their expertise. In one study 44 percent of surveyed participants, and 67 percent of telephoned interviewees chose this mode of entry into the job market, with substantially fewer participants securing jobs in their own profession (See Appendix 1).

Relatively few migrants entered a profession related to their qualifications directly. Inability to secure appropriate employment quickly indicates in some cases an absence of adequate pre-arrival information. With current and accurate information, a higher number of migrants might be expected to enter an appropriate profession immediately. Locating such information, however appears to have been a problem in some cases. The majority of surveyed immigrants from the former Soviet Union, for example, obtained information from unofficial sources (See appendix 2): -

Of the existing mechanisms for gaining information before arrival, a significant majority found the sources to be less than adequate. See Table 5 below.
Table 5: Migrant assessment of information obtained prior to arrival

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Survey respondents</th>
<th>Telephone interviewees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td>True and objective</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Partly true</td>
<td>25</td>
<td>62.5</td>
</tr>
<tr>
<td>Misleading</td>
<td>8</td>
<td>20</td>
</tr>
</tbody>
</table>

Relatively few (25 percent) participants obtained information through official and commercial channels, so the high percentage of dissatisfaction with information quality is, perhaps, understandable. From the perspective of the official channels, however, the low attention to official and commercial channels may be an indicator of low accessibility, and/or accuracy. In the pursuit of an appropriate migrant profile, improvements in quality and availability of pre-arrival information warrant further consideration. This information might well cover (in greater detail) employment processes and opportunities, emphasising the professional categories in which migrants will seek information. The Internet may be an appropriate source of such information.

4.2 Pre-Arrival Qualifications

Many of the migrants to New Zealand are highly qualified and experienced in their countries of origin. The qualifications, areas of experience and relevant work experience of migrants from the former Soviet Union are represented in Table 3 above and Tables 6 and 7 below.
### Table 6: Pre-Arrival Qualifications

<table>
<thead>
<tr>
<th>Qualification area</th>
<th>Survey Respondents</th>
<th>Telephone Interviewees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td>Engineering</td>
<td>24</td>
<td>40.6</td>
</tr>
<tr>
<td>Computing</td>
<td>8</td>
<td>13.5</td>
</tr>
<tr>
<td>Medicine</td>
<td>7</td>
<td>11.9</td>
</tr>
<tr>
<td>Natural Sciences</td>
<td>10</td>
<td>17</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>6</td>
<td>10.2</td>
</tr>
<tr>
<td>Linguistics</td>
<td>2</td>
<td>3.4</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>3.4</td>
</tr>
</tbody>
</table>

### Table 7: Pre-arrival Work Experience

<table>
<thead>
<tr>
<th>Work experience</th>
<th>Survey Respondents</th>
<th>Telephone Interviewees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td>1- 5 years</td>
<td>6</td>
<td>10.2</td>
</tr>
<tr>
<td>5 – 10 years</td>
<td>13</td>
<td>22</td>
</tr>
<tr>
<td>Over 10 years</td>
<td>40</td>
<td>67.8</td>
</tr>
</tbody>
</table>
4.3 Post-arrival Occupational Status

As noted above, recent immigrants from the former Soviet Union were experienced professionals with a minimum of a bachelor’s degree. Employment status after arrival however indicated that only 53 percent of survey respondents and 50 percent of telephone respondents were able to secure full time employment (See Table 8).

Only 28 percent of surveyed respondents, and 33 percent of those interviewed by telephone, were pursuing careers in New Zealand relating to their previous qualifications. 37 percent of those surveyed, and 28 percent of those interviewed by telephone, were pursuing careers somewhat related to their qualifications, and the rest were seeking jobs in careers outside the field of their qualifications.

Table 8: Post-arrival occupational status

<table>
<thead>
<tr>
<th>Occupational Status</th>
<th>Survey Respondents</th>
<th>Telephone Interviewees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td>Working full-time</td>
<td>31</td>
<td>52.5</td>
</tr>
<tr>
<td>Working part-time</td>
<td>10</td>
<td>16.9</td>
</tr>
<tr>
<td>Studying</td>
<td>11</td>
<td>18.7</td>
</tr>
<tr>
<td>Unemployed</td>
<td>7</td>
<td>11.9</td>
</tr>
</tbody>
</table>

The low and/or inappropriate employment levels of recent migrants are apparent, and may be based on numerous factors, one of which is job availability. If the mismatch between employment opportunities and suitable migrants employees is based on the absence of jobs in the labour market, then this may be most appropriately dealt with by providing appropriate information for migrants prior to departure from their home country. If, indeed, a long-term mismatch between migrant skills and local labour
market conditions were to be identified, appropriate changes in immigration policy might be called for.

### 4.4 Perceived Labour Shortages

67 percent of participating IT companies had trouble in recruiting staff. Of the companies facing difficulties in recruiting, more than half of the long vacant positions (62 percent) were at skilled level, and some 26 percent at professional level. Stated reasons for the labour shortage are noted in Appendix 3.

There was general recognition that the quality of New Zealand graduates satisfactorily meets the needs of the IT industry. Some 37 percent of companies, however, felt that tertiary institutions were unable to meet the demand in terms of quantity, and 44 percent felt that research in New Zealand was not sufficient to raise competitiveness in terms of international markets (Table 9).

**Table 9: Number of IT Graduates and Volume of Research**

<table>
<thead>
<tr>
<th>Opinion</th>
<th>Graduates</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># of responses</td>
<td>%</td>
</tr>
<tr>
<td>Too Many</td>
<td>2</td>
<td>3.64</td>
</tr>
<tr>
<td>Sufficient</td>
<td>33</td>
<td>60</td>
</tr>
<tr>
<td>Not enough</td>
<td>20</td>
<td>36.36</td>
</tr>
<tr>
<td>TOTAL</td>
<td>55</td>
<td>100</td>
</tr>
</tbody>
</table>

Despite this, 56 percent of the companies responding stated that they had not actively considered recent, highly skilled migrants as a source of labour in the NZ labour market (Table 10).
Table 10: Consideration of Recent and Highly Skilled Migrants as a source of Labour

<table>
<thead>
<tr>
<th>Has your firm actively considered Recent and Highly Skilled Migrants as a Source of Labour?</th>
<th># of responses</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>30</td>
<td>44.12</td>
</tr>
<tr>
<td>No</td>
<td>38</td>
<td>55.88</td>
</tr>
<tr>
<td>TOTAL</td>
<td>68</td>
<td>100</td>
</tr>
</tbody>
</table>

Additional research (noted in Section 2) supports the case that there are inadequate numbers of local graduates in the Information Technology (IT) sector (Frederick, et al, 1999). If the local tertiary education sector is unable to meet labour market demand, then utilisation of skilled immigrant labour would appear to be a solution, yet the evidence suggests that employers are not fully embracing this opportunity. Among participating IT exporters, some 83 percent of companies recognised that immigrants could produce some form of competitive advantage (Table 11), and yet some employers have failed actively to consider skilled immigrants as a source of labour. (Table 10). The fundamental reasons underpinning such attitudes could be central to the future development of this industry.

Table 11: Extent of Competitive Advantage Brought by Migrants to NZ Exporters

<table>
<thead>
<tr>
<th>Extent of competitive advantage brought by migrants to NZ exporters</th>
<th># of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Great</td>
<td>18</td>
</tr>
<tr>
<td>Modest</td>
<td>30</td>
</tr>
<tr>
<td>Little</td>
<td>9</td>
</tr>
<tr>
<td>None</td>
<td>1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>58</td>
</tr>
</tbody>
</table>
4.5 The Perceived Barriers to the Employment of Recent Immigrants

The perceived potential barriers to the employment of recent immigrants from Asia were as set out in Table 12.

Table 12. Potential Barriers/Factors Affecting Employment Opportunities

<table>
<thead>
<tr>
<th>Potential Barriers/Factors affecting Employment Opportunities</th>
<th>#</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluency in English</td>
<td>25</td>
<td>2</td>
</tr>
<tr>
<td>Lack of NZ working experience</td>
<td>13</td>
<td>4</td>
</tr>
<tr>
<td>Lack of communication skill</td>
<td>35</td>
<td>1</td>
</tr>
<tr>
<td>Lack of interpersonal skills</td>
<td>16</td>
<td>3</td>
</tr>
<tr>
<td>Cultural difference</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Others</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

There is considerable overlap between these results and those from respondents from the former Soviet Union, who identified the following areas as being the most important in terms of barriers to adaptation and integration into the labour market: - See Table 13.
Table 13. Perceived obstacles to adaptation and integration into New Zealand’s Labour Market

<table>
<thead>
<tr>
<th>Obstacle description</th>
<th>Survey respondents</th>
<th>Telephone interviewees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td>Inadequate level of English</td>
<td>33</td>
<td>55.9</td>
</tr>
<tr>
<td>Lack of local work experience</td>
<td>25</td>
<td>42.3</td>
</tr>
<tr>
<td>Absence of social network</td>
<td>16</td>
<td>27.1</td>
</tr>
<tr>
<td>Qualification recognition</td>
<td>9</td>
<td>15.2</td>
</tr>
<tr>
<td>Inadequate professional level</td>
<td>2</td>
<td>3.4</td>
</tr>
<tr>
<td>Other</td>
<td>12</td>
<td>20.3</td>
</tr>
</tbody>
</table>

The research conducted among migrants who had successfully secured employment identified the same qualities leading to successful job seeking, that is, relevant work experience, hands-on skills and good English skills. Managers focused on related work experience and skills in the industry as the key qualities sought in new immigrants seeking employment.

The principal barriers in terms of securing employment are in the areas of language, communication and interpersonal skills and lack of New Zealand work experience, with additional factors relating to absence of social networks, problems with qualification recognition and cultural differences also receiving specific mention.

4.6 Recruitment Channels and Practices

48 percent of companies surveyed recruited staff without the use of recruitment agencies, but 52 percent of companies used both their own recruitment processes, and a
recruiting agency i.e. more than half are making use of recruitment agencies. This is shown in Table 14.

**Table 14. Recruitment Methods**

<table>
<thead>
<tr>
<th>Recruitment Methods</th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own recruitment only</td>
<td>29</td>
<td>47.54</td>
</tr>
<tr>
<td>Recruitment agency only</td>
<td>6</td>
<td>9.84</td>
</tr>
<tr>
<td>Both own recruitment and recruitment agency</td>
<td>26</td>
<td>42.62</td>
</tr>
<tr>
<td>TOTAL</td>
<td>61</td>
<td>100</td>
</tr>
</tbody>
</table>

It is, therefore, important to look, first, at the attitudes and perceptions of both employers and recruitment agencies and, second, the relationship between the two actors. 77 percent of companies that responded did not obtain access to all the applications received by recruitment agencies, with some 97 percent reporting that their recruitment agencies screened applications, thus affording the agencies considerable discretion. Thereafter, in recruitment interviews, almost 65 percent of employers did not establish a formal interview protocol. See Table 15.
Table 15. Employer Use of Formal Interview Protocols

<table>
<thead>
<tr>
<th>Did employers use a formal interview protocol?</th>
<th># of responses</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>22</td>
<td>35.48</td>
</tr>
<tr>
<td>No</td>
<td>40</td>
<td>64.52</td>
</tr>
<tr>
<td>TOTAL</td>
<td>62</td>
<td>100</td>
</tr>
</tbody>
</table>

In terms of the selection methods reported by participating companies, the most popular selection method (65 percent of companies) was interviews, despite the modest percentage of companies that have developed formal interview protocols. The next most popular approach noted is obtaining references, which, though potentially valuable, are generally not objective predictors of performance. This suggests a traditional, subjective approach to hiring.

Techniques used by employers that have established formal interview protocols included:

- Selection through formal, structured, and competence based interviews,
- Standard questions to all candidates;
- Multiple interviews to review the accuracy of evaluation;
- Behavioural interviewing techniques,
- Aptitude, attitude, technical skills, qualification and communication ability,
- Specification of required characteristics.
Recruitment criteria were prioritised by the participating companies as follows: - Work experience, qualifications, communication skills, character, language proficiency, English skills, market knowledge and networks, appearance and manner and multicultural abilities. Identification of these criteria is important in order to distinguish potential barriers to employment.

In terms of recruitment, the current practice of selection based on interviews and references, coupled with the absence of interviewing protocols, may be damaging. A formal interview protocol is recommended in modern HR practice (some 65 percent of companies do not have one), and should be focused on job description and personnel specifications. This would allow employers to select the right person based on a prediction of performance on the job as opposed to non-objective measures based on perceived cultural similarities. The absence of an interview protocol reduces the chance of recruiting the right person and introduces the potential for bias and, potentially, discrimination.

This section has brought together the key themes, which have emerged from the exploratory studies conducted. We now go on to make recommendations based on these findings.
5. RECOMMENDATIONS

Section 4 outlined the major findings of the three studies, which made up the Auckland migrant skills research programme. We now present recommendations with a principal focus on government, companies and potential employers, new migrants and universities. They are sequenced from pre-arrival through to recruitment and employment outcomes.

Although cultural barriers may be firmly rooted in national identity, they are also shaped by official policies towards foreigners in general, and immigrants in particular. Such barriers may take a long time to overcome, but they can start to break down when practices are encouraged to adapt. The question, then, is: what adaptations in New Zealand’s labour market are required to take full advantage of the benefits brought to its business and society by new migrants?

There are several levels at which recommendations may be proposed, starting with pre-arrival information and readiness on the part of the New Zealand business community and the potential migrants, through to successful settlement and employment of the candidate. Essential questions include: -

What current information is available for the candidate before arrival?

- Who should be responsible for developing and presenting this information, and where is it going to be presented?

- What are the requirements of the labour market?

- Are appropriate systems in place for the effective integration of migrants into the New Zealand labour market?

Furthermore, responsibilities lie with both employers and candidates in terms of securing successful outcomes. As immigration policies and patterns of migration have changed, labour market mechanisms have still to adapt accordingly. It seems clear that companies may not be fully aware of the skills and benefits migrants can bring to New Zealand’s skill base. This is particularly important for New Zealand’s international business development in terms of bringing much needed access to innovation, market
knowledge and networks. Our research confirms that major difficulties exist for highly skilled migrants attempting to enter the New Zealand labour market. It also confirms that there is some recognition of the potential benefits they could bring to the economy. However, we find that businesses may not yet be fully aware of:

(a) The extent of the potential benefits new highly skilled migrants can bring;
(b) How to recruit new highly skilled migrants;
(c) How to fully utilise their potential contribution.
(d) The successful experience of employers of high skilled migrants in other economies.

There is an urgent need to address the strategic HR needs of New Zealand companies and, in the process, address the personal and societal needs of new New Zealand residents and citizens. These can be met through a process of information, communication and training.

Conservative company recruitment practices could be addressed by considering a more open-minded approach to foreign experience and expertise, particularly where skills are transferable. Indeed, the research carried out with successful migrants identified several key areas in which new migrants had significant advantages. These included knowledge of markets outside of New Zealand, and the possession of skills not readily available in the local population. These skills, increasingly important as New Zealand develops its international business profile, are valuable yet unrecognised by some local employers. Recommendations are thus directed at key stakeholders, namely employers, potential employees, government and local groups.

5.1 Suggestions at Company Level

Although many companies that employ migrant workers are satisfied with performance, other companies appear to prefer local employees, or workers with local experience. It may be of benefit to local employers to place less emphasis on local experience and qualifications where it is not central to job performance. If specific skills are required
within the company, it may be of benefit to the company to employ skilled migrant professionals and provide in-service training as necessary.

In terms of selection practices and recruitment, the development of an interview protocol would be of enormous value in terms of removing the potential bias created by a subjective approach to hiring. The protocol should be focused on predictions of success in performance, and on recognising the skills that may be readily transferable, and valuable, to the company. The protocol would be of most value if used by the potential employer, and any recruitment agencies that may be involved.

It appears that some employers are unaware of the pool of talent that already exists within the new migrant population, or are failing to utilise this human resource at this time. Immigration is a potential source of skilled labour, especially in IT industries, and current educational facilities do not appear to be matching the requirements of the industry. It may be of considerable benefit to employers to develop a more proactive approach in terms of seeking potential employees from this sector. This leads to the requirement for clear identification of selection criteria based upon the needs of the company, and the skills of the candidates.

If companies maintain that immigrants currently resident in New Zealand are not appropriately skilled for positions in the company, then proactive pursuit of qualified candidates from overseas may be an option to be developed. Co-ordination with immigration departments and other companies would be valuable in terms of locating such employees, providing them with appropriate information before arrival, and dealing with the range of settlement issues that face them upon arrival.

5.2 For New Migrants

The main success factors identified by the group securing appropriate employment included relevant working experience, hands-on skills in the industry and good English skills. It was recognised, however, that, in addition to poor language skills, many new immigrants face problems in terms of being unfamiliar with the local employment situation. Suggestions for new immigrants to New Zealand include: - improve language skills, attempt to develop an understanding of the local culture and social background,
upgrade knowledge in order to reinforce their strengths. Additionally, employed migrants suggest that potential immigrants do some research on market requirements before they come here. Although many of the recent immigrants were unaware of the current market situation, and were not furnished with current information, they could have been more proactive in terms of seeking this information before arrival.

In terms of the success stories, migrant responses indicated satisfaction with company employment practices – noting that rules and regulations were well established. These respondents also recognised the importance of English levels in determining success, and all of them raised the issues in their interviews. Indeed, the requirement for basic English levels makes is easier for migrants to settle in their new country. There was, however, some question about the ways in which English levels are assessed since high examination marks do not always signify high spoken abilities. Respondents who had secured appropriate employment suggested that potential immigrants should seek language training before they come to NZ.

5.3 Government

5.3.1. Pre-arrival information
There is evidence that immigrants from both Asia and the former Soviet Union did not have sufficient, appropriate or current information about the labour market conditions and opportunities for professional employment in New Zealand before their arrival. This, in turn, created frustration upon finding that appropriate employment was not available, or, if available, not readily achieved. Appropriate information should be made more readily available for potential immigrants by profession for access before their arrival in New Zealand—perhaps via New Zealand Embassies, Consulates and the NZIS on the Internet.

5.3.2. Post-arrival Adaptation
It is recognised by both migrant and management perspectives, that government provides insufficient employment guidance, liaison services and language training after immigrants enter the country. It is suggested that government help in the settling process by:
• Providing assistance in terms of understanding the local culture and social background

• Building connections between migrants and local companies

• Developing policies that encourage the employment of recent immigrants by local companies.

In that many new immigrants have limited access to current information prior to arrival, and, for many, they are moving into a new cultural environment, a series of introductory courses for immigrants should be provided to prepare them for their new environment in terms of economy, politics, legislation etc. Additionally, further information on professional opportunities should be made more readily available to encourage orientation into the NZ labour market.

5.3.3. Career Planning

It is recognised by both successful and unsuccessful migrants that the absence of effective social networks leaves them at a significant disadvantage in terms of securing employment. Many new migrants take on jobs unrelated to their qualifications, and it is suggested that some form of career planning be provided on an individual basis.

5.3.4. Vocational Training

Many professional, experienced migrants have been unable to locate employment in their field of expertise, and a further suggestion is that vocational training might usefully be provided for highly qualified immigrants keen on changing their professional career.

5.3.5. Co-ordination and English Training

In all of the studies, the issue of language ability was a central theme in terms of failure to locate appropriate employment. It is suggested that a NZEB (Non-Speaking English Background) Immigrants Agency be set up to develop programmes for the immigrants. The agency would develop programmes to include English tuition in addition to the co-ordinating and developing the aforementioned career advice and vocational training programmes.
5.3.6. Qualification Recognition
As employers seek local experience and local qualifications in many cases, a special programme needs to be developed to assist immigrant professional in preparing for qualification recognition (to include practical training for medical personnel).

5.4 Local Groups
Territorial Authorities and other agencies and groups with a local perspective are able to provide local information and networking opportunities. They may be able to offer courses, training or up-skilling in conjunction with local education institutions.

5.5 Universities
There is some indication that tertiary education in New Zealand is not fully meeting the requirements of the IT industry, and this should be further investigated. Though the focus of the research reported here was on immigrant employment outcomes, and the barriers to appropriate employment, the development of local talent is important in meeting the needs of the New Zealand market.

5.6 Future Research
The studies analysed in this paper represent a starting point for further research into settlement and employment issues for new immigrants into New Zealand. The focus upon single source immigrants/single professions, single source immigrants/multiple professions and multiple source migrants/single profession could be further extended in scope to include multiple source immigrants in multiple professions. It is clear that there is under-utilisation of skilled migrants from both Asia and the former Soviet Union, and that this extends across numerous professions. There is the need to analyse the scope of this issue further.

Evidence was presented of bias, or potential bias, in terms of recruitment by employers, and this is an area that could be the focus of further research. Though this potential bias may be based on the absence of information, the underpinnings and processes for overcoming any gaps should be investigated further. This research should, again, be at company level, and address potential or existing avenues of information gathering for employers, and the development of appropriate recruitment practices.
The cultural reasons why immigrants are not being appropriately employed should be analysed in order fully to develop programmes that address labour market integration issues, and benefit both immigrants and local business. Table 17 summarises some of the key recommendations contained in this report for the various stakeholder groups. This is by no means an exhaustive list and further research will enable careful fine-tuning of future actions and priorities.
### SUMMARY OF RECOMMENDATIONS

#### Table 16. Summary of Recommendations

<table>
<thead>
<tr>
<th>Stage in The Settlement Process</th>
<th>Pre-arrival</th>
<th>Arrival</th>
<th>Labour market insertion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Companies</strong></td>
<td>Overseas and web advertising</td>
<td>International selection criteria</td>
<td>Integration procedures</td>
</tr>
<tr>
<td></td>
<td>Providing current information by profession</td>
<td>Comprehensive, non-culturally biased selection methods</td>
<td>Liaison with government agencies</td>
</tr>
<tr>
<td></td>
<td>Use of overseas recruitment consultants</td>
<td>Development of selection/interview protocols</td>
<td>Staff training</td>
</tr>
<tr>
<td><strong>Government</strong></td>
<td>Web-based information</td>
<td>Comprehensive welcome pack</td>
<td>Follow-up</td>
</tr>
<tr>
<td></td>
<td>One-stop-shop for advice &amp; information</td>
<td>Alert employer groups and recruiters (WINZ?)</td>
<td>Retraining, upskilling and vocational courses</td>
</tr>
<tr>
<td></td>
<td>Liaison with employers</td>
<td></td>
<td>Language &amp; Doing Business in NZ courses</td>
</tr>
<tr>
<td><strong>Territorial Authorities</strong></td>
<td>Web-based information</td>
<td>Comprehensive welcome pack</td>
<td>Follow-up</td>
</tr>
<tr>
<td></td>
<td>One-stop-shop for advice &amp; information</td>
<td>Alert employer groups and recruiters (WINZ?)</td>
<td>Retraining, upskilling</td>
</tr>
<tr>
<td></td>
<td>Liaison with government agencies and employers</td>
<td></td>
<td>Language courses</td>
</tr>
<tr>
<td><strong>University</strong></td>
<td>Web-based information</td>
<td>Course information</td>
<td>Provision of retraining and upskilling</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Language courses (esp. advanced business English) &amp; Doing Business in NZ courses</td>
</tr>
</tbody>
</table>
6. REFERENCES


New Zealand Vice Chancellors Committee, (1998). Graduate Destination Survey


APPENDIX 1

<table>
<thead>
<tr>
<th>Entry Mode</th>
<th>Survey Respondents</th>
<th>Telephone Interviewees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td>Temporary employment</td>
<td>26</td>
<td>44</td>
</tr>
<tr>
<td>Professional employment upon arrival</td>
<td>16</td>
<td>27.1</td>
</tr>
<tr>
<td>Vocational training</td>
<td>11</td>
<td>18.6</td>
</tr>
<tr>
<td>Upskilling</td>
<td>8</td>
<td>13.6</td>
</tr>
<tr>
<td>New qualification</td>
<td>6</td>
<td>10.2</td>
</tr>
<tr>
<td>Qualification recognition exam</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>10.2</td>
</tr>
</tbody>
</table>
APPENDIX 2

<table>
<thead>
<tr>
<th>Information Resources</th>
<th>Survey Respondents</th>
<th>Telephone Interviewees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td>Unofficial</td>
<td>29</td>
<td>72.5</td>
</tr>
<tr>
<td>Commercial</td>
<td>10</td>
<td>25</td>
</tr>
<tr>
<td>Official</td>
<td>10</td>
<td>25</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

Unofficial sources include friends, colleagues and local press. Commercial sources include migration consultants in New Zealand and Russia. Official sources include the New Zealand Immigration Service, Embassies and Consulates. ‘Other’ refers to the accessing information from the Internet.
## APPENDIX 3

### Reasons behind Labour Supply Shortage

<table>
<thead>
<tr>
<th>Reason</th>
<th># of responses</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salary/Wage levels of the participating companies</td>
<td>4</td>
<td>10.81</td>
</tr>
<tr>
<td>Unattractive remuneration offered by New Zealand IT industry</td>
<td>3</td>
<td>8.11</td>
</tr>
<tr>
<td>Mismatch of NZ tertiary education and IT industry’s human resources needs</td>
<td>11</td>
<td>29.72</td>
</tr>
<tr>
<td>Negative migration as a result of the policies of NZ Government</td>
<td>6</td>
<td>16.22</td>
</tr>
<tr>
<td>Lack of experience/hands-on skill</td>
<td>6</td>
<td>16.22</td>
</tr>
<tr>
<td>Worldwide shortage</td>
<td>3</td>
<td>8.11</td>
</tr>
<tr>
<td>Lack of developed IT industry for skill growth</td>
<td>1</td>
<td>2.7</td>
</tr>
<tr>
<td>Lack of expertise in new developing area</td>
<td>3</td>
<td>8.11</td>
</tr>
<tr>
<td>TOTAL</td>
<td>37</td>
<td>100</td>
</tr>
</tbody>
</table>
APPENDIX 4

Recent Recruited staff by Ethnicity for last five years

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>New Zealanders (born or arrived in NZ before 1991)</th>
<th>Recent Migrants (arrived in NZ since 1991)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
<td>#</td>
</tr>
<tr>
<td>Asian</td>
<td>110</td>
<td>11.26</td>
<td>68</td>
</tr>
<tr>
<td>European</td>
<td>765</td>
<td>78.3</td>
<td>122</td>
</tr>
<tr>
<td>Maori</td>
<td>43</td>
<td>4.4</td>
<td>16</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>29</td>
<td>2.96</td>
<td>9</td>
</tr>
<tr>
<td>North/South American</td>
<td>15</td>
<td>1.54</td>
<td>10</td>
</tr>
<tr>
<td>Others</td>
<td>15</td>
<td>1.54</td>
<td>45</td>
</tr>
<tr>
<td>TOTAL</td>
<td>977</td>
<td>100</td>
<td>270</td>
</tr>
</tbody>
</table>
## APPENDIX 5

### Recent Recruited staff by Job Nature

<table>
<thead>
<tr>
<th>Job Nature</th>
<th>New Zealanders (born or arrived in NZ before 1991)</th>
<th>Recent Migrants (arrived in NZ since 1991)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
<td>#</td>
</tr>
<tr>
<td>Managerial</td>
<td>31</td>
<td>3.11</td>
<td>13</td>
</tr>
<tr>
<td>Professional</td>
<td>599</td>
<td>60.14</td>
<td>53</td>
</tr>
<tr>
<td>Skilled</td>
<td>260</td>
<td>26.11</td>
<td>155</td>
</tr>
<tr>
<td>Semi-skilled</td>
<td>34</td>
<td>3.41</td>
<td>30</td>
</tr>
<tr>
<td>Unskilled</td>
<td>24</td>
<td>2.41</td>
<td>2</td>
</tr>
<tr>
<td>Secretarial</td>
<td>48</td>
<td>4.82</td>
<td>19</td>
</tr>
<tr>
<td>TOTAL</td>
<td>996</td>
<td>100</td>
<td>272</td>
</tr>
</tbody>
</table>
APPENDIX 6

General Characteristics of the IT Migrant Subjects

<table>
<thead>
<tr>
<th>Sample No. : 10</th>
<th>Subject 1</th>
<th>Subject 2</th>
<th>Subject 3</th>
<th>Subject 4</th>
<th>Subject 5</th>
<th>Subject 6</th>
<th>Subject 7</th>
<th>Subject 8</th>
<th>Subject 9</th>
<th>Subject 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender:</td>
<td>male</td>
<td>female</td>
<td>male</td>
<td>male</td>
<td>female</td>
<td>male</td>
<td>male</td>
<td>female</td>
<td>female</td>
<td>male</td>
</tr>
<tr>
<td>Age group:</td>
<td>30-35</td>
<td>30-35</td>
<td>30-35</td>
<td>30-35</td>
<td>30-35</td>
<td>35-40</td>
<td>35-40</td>
<td>over 40</td>
<td>35-40</td>
<td>35-40</td>
</tr>
<tr>
<td>Original area in China:</td>
<td>middle</td>
<td>North</td>
<td>middle</td>
<td>South</td>
<td>South</td>
<td>South</td>
<td>middle</td>
<td>middle</td>
<td>North</td>
<td>North</td>
</tr>
<tr>
<td>Highest qualification:</td>
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<td>master</td>
<td>NZ master</td>
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<td>Residence status in NZ</td>
<td>P.R.</td>
<td>P.R.</td>
<td>P.R.</td>
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<td>P.R.</td>
<td>citizenship</td>
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<td>citizenship</td>
<td>P.R.</td>
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<td>Application category</td>
<td>general skills</td>
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<tr>
<td>Current job in New Zealand</td>
<td>software developer</td>
<td>programmer</td>
<td>radio frequency engineer</td>
<td>project consultant</td>
<td>software developer</td>
<td>system administrator</td>
<td>software developer</td>
<td>system engineer</td>
<td>software tester &amp; developer</td>
<td>software developer</td>
</tr>
</tbody>
</table>