



Victoria Management School

MMBA 532 Business Research Report

Final Report

**Identifying Critical Requirements for Successful Recruitment
Practices in Wellington's Small IT Firms**

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Abstract:

This paper explores the needs of small IT firms in Wellington related to staff recruitment and retention. It identifies the critical factors that influence the location, sourcing and matching of candidates' and their skills and behavioural qualities to the strategic technical, business and human resource management needs of these firms. Successful recruitment into Wellington's IT industry is a critical sustainable growth factor for many small IT firms. Wellington is considered to be a national hub for the IT services sector. Limits in small firms' ability to spend for recruitment and salary hamper their productivity and growth due to competition for talent in the sector. Innovations to solve the shortage related problems are taking place. Three alternative approaches are proposed that could contribute to a more stable equilibrium between supply of and demand for skilled IT professionals in Wellington.

Key words: *Information Technology (IT), Industry, Strategic, Human Resource Management, Critical Factors, Recruitment, Sustainable Growth.*

Section 1:

Introduction

A critical factor for the growth of small IT/ ICT firms in Wellington¹ is successful recruitment and retention of skilled personnel, including from international sources². Overall, Wellington's Information Technology (IT) and Information and Communications Technology (ICT) industry needs twice as many new recruits than are currently available. Over the past ten years, the number of firms has increased by over 100 new entrants in the Wellington region (Statistics New Zealand, 2013). This contributes significantly to Wellington's economic profile and ranks as the highest growth and value-added portion of employment in the region at almost 50%³ of regional GDP. Despite the efforts of recruitment agencies in Wellington and the efforts of IT firms, a gap between the demand for skilled and experienced IT experts and the supply of such people persists.

Through an interview process, the causes of this gap have been shown to include a lack of a sufficient number of local graduates, constraints on training on-the-job, high mobility among workers, and remuneration factors. Also contributing to the issues are variable quality of recruitment companies and their staff, the lack of strategic HR policies and personnel in small IT firms, the preference to try and cut costs by keeping the process "in-house" as well as the phenomenon of two-way selection occurring between the highly skilled candidates and the firms competing for them.

¹Between ten and fifty staff members

² Statistics New Zealand Table figures- 2000-2013 Business Group Surveys.

³Infometrics reports shares of regional GDP as primary 1.8%, secondary 16.3%, tertiary 23.7%, Quaternary 47% and other 11.2% in the Wellington Annual Economic Profile 2013.

The IT field requires highly qualified and talented IT experts with the experience and capabilities to design and maintain systems and manipulate information in existing computer based languages (Ministry of Business Innovation and Employment, 2013). This includes computer science graduates, software designers, developers and solutions architects as well as project management staff and specialists.

These requirements reflect the nature of work within the industry and given the ongoing challenges described above, should be addressed through a strategic approach that aims to deal with them in a systematic and purposeful way. However, small IT firms lack coherent strategic HR policies that are aligned with their organizational goals. Many of the firms appear to be reactive to market forces and as a result, only ramp up production when demand for expansion of services is already occurring. This makes the process of hiring new staff urgent. Responses from recruitment companies that the firms use to locate new staff are not always well targeted to the companies' needs either in respect of candidates' skills or their behavioural 'fit'. This is in part due to the fact that recruitment companies do not offer an HR strategy development service for the IT firms. As a result, there is a gap between the needs of the IT firms and the recruitment services on offer.

This paper examines the core factors influencing, and critical requirements for, successful recruitment into Wellington IT firms. The paper concludes that coordination of recruitment practices by local IT firms, recruitment agencies, third party service providers and government agencies could occur through an array of HR strategies, developed in concert with a consultative body offering packaged, modular solutions and lists of third party recruitment networks and contacts. This could better match supply of, and demand for, skilled personnel, reduce costs, and help all players keep pace with rapidly changing

conditions in the IT industry. This could provide economical and effective systems for matching international candidates with the appropriate IT firms in Wellington.

This paper is structured as follows:

Section 2 outlines a strategic HR management framework and the application of this to the IT industry.

Section 3 describes the main features of the Wellington IT industry and briefly examines factors influencing recruitment through a supply and demand lens.

Section 4 describes the research question and research method and the analytical techniques applied to the research data.

Section 5 describes the research findings and results of the analysis of these.

Section 6 proposes possible solutions to recruitment and retention problems experienced by small IT firms in Wellington.

Section 7 Summarises the findings and suggests some ways forward.

Section 2:

Strategic Human Resource Management in the Context of Recruitment for IT Firms

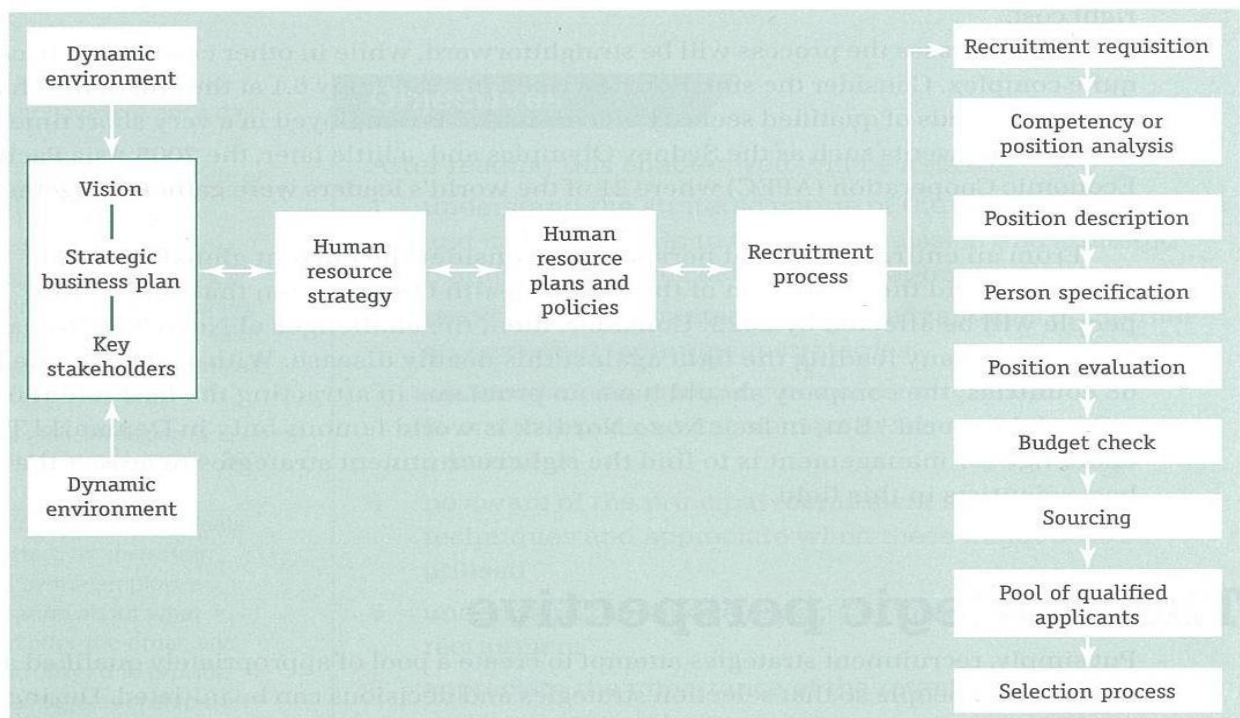
Strategic Human Resource Management involves the alignment of company goals with the people who possess the skills to realise them through effective recruitment processes that enfold the vision, mission and planning processes of an organisation.’(Nankervis, 2011)

Successful recruitment and selection for an organisation involves identifying and acquiring a suitable pool of talented individuals who have the technical aptitude and are capable of performing the tasks of the advertised job competently and effectively and who fit into the organisational culture. The ‘knowledge economy’ requires skilled individuals who are more likely than in the past to participate in two-way selection processes with prospective employers, choosing companies that provide complementary values, aligned with their own ideals.(Rudman, 2010)

Essential HR practices such as alignment of organizational goals with recruitment policies ensure a smoother process of planning for growth and identifying the types of people and skill sets required to make this happen. The process dictates that the strategic vision for the company will flow into a human resource strategy, plans and policies and a recruitment process.

A Typical Strategic Recruitment Process

As outlined in the diagram below, a strategic HR process follows several steps that flow from the strategic business plan through to the selection of appropriate candidates that will help to fulfil these goals. All companies operate in a dynamic macro-environment and must respond to changes forced upon them by tuning their human resource requirements to match their output needs.



(Nankervis, 2011)

A strategic business plan for an IT firm will deal with several aspects of business operation including finance, production, sales and marketing, product development and systems maintenance. It should also include an aligned strategy for human resource issues. Each of these is addressed in more detail through a strategy that is implemented through specific plans and policies. In the case of human resources, the policy and plan determine the main elements of the recruitment process. This proceeds in a series of steps outlined in the diagram above. In practice, the successful selection of the right staff is a major factor in

achieving the strategic vision or goals set out in the strategic business plan. Additional HR factors that make recruitment and retention of staff possible include upfront discussion of training and development opportunities and promotion and succession strategies. In principle, these processes are applicable to both small and large firms, although the extent to which it is used in practice varies, as the following sections describe.

This framework describes the steps in a strategic management process but does not address wider systemic issues within the firms' overall operating environment such as the interactions between firms or between firms and industry or government organizations. This could possibly be done using a broader strategic management framework at industry level.

Section 3:

New Zealand Context

There are 14,863 firms in combined telecommunications, manufacturing and wholesaling in New Zealand, of which 12,292 firms (82%) belong to the IT domain (Ministry of Business Innovation and Employment, 2013). According to Economic Development Minister, Stephen Joyce, the IT sector contributed 5% of New Zealand's GDP and has sustained a growth of 10% annually since 2002 (Ministry of Business Innovation and Employment, 2013).

Additionally, ICT manufacturing, telecommunications, and information technology services collectively employed 73,392 people last year, representing 3.2 per cent of the workforce.

The top four hot skills for employers in 2014 are for cloud services, business analysis, mobile app development and business intelligence.

The Wellington IT Industry

Overview

Wellington is considered by the industry to be the national hub of the IT/ ICT services sector due to its proximity to central government. The demand for talent from larger private firms and from various government departments is driving more competitive salaries in order to attract graduates and experienced workers. Remuneration is reported as being routinely double the national average salary (\$30,000)⁴ across all other sectors with Wellington offering an average salary between \$5-10,000 more per annum than Auckland and Christchurch (Absolute IT, 2013). Wellington based company; Xero is paying its recent graduate hires \$50,000 per annum as a starting salary (Doesburg, 2014). Limitations in

⁴ Statistics NZ website. Median income of \$575 per week equal to \$29,900 per year.

Wellington's small IT firms' willingness and ability to spend for recruitment and selection processes and salaries hamper their productivity. In Wellington there are about five hundred small IT firms of between ten and fifty employees, (Statistics New Zealand, 2013)

At present five thousand IT students graduate from NZ tertiary institutions each year. However, the New Zealand IT job market requires ten thousand personnel annually (Waikato Times, 2013). Wellington's regional economy includes the highest growth enterprises and national "business churn" in the field of IT and innovation (Ministry for Economic Development, 2013). With graduate numbers each year well below those needed to fill industry positions (Doesburg, 2014) it is likely that industry growth is constrained below its potential (Norman & Oakden, 2014). A lack of investment in IT training is considered partially responsible for the global downturn in students taking IT degrees as a proven career pathway. This is attributed to the 'DotCom Bubble' of 1997-2000 and the 2008 Global Financial Crisis. This has led to the current worldwide shortage of IT workers.

The chronic shortage of people with ICT skills is forcing employers to hire from overseas (NZ Immigration, 2014). One business reported in 2013 that of the roughly 200 hires it had made most recently, 70 (35%) came from outside New Zealand (New Zealand Now - Working in NZ, 2014). Approximately 20% of the total national IT sector jobs are based in Wellington.

Employee mobility is a further issue, with 66% of surveyed Wellington ICT professionals considering a move to a new workplace in 2013 according to the Wellington insight report commissioned by Absolute IT (Absolute IT, 2013), the industry appears to be in a state of constant flux, due to personnel seeking better remuneration, more challenging work and improved career development opportunities.

According to media reports, tertiary training does not meet the requirements of the local industry(WRS Implementation Plan, 2013). Many graduate students do not have the “walk in and work” skills needed(Norman & Oakden, 2014). International graduate students and experienced professionals by contrast, may have a greater breadth and depth of knowledge and experience, making them better value and a more attractive option and therefore the preferred option in the short to medium term for small IT firms in Wellington (Norman & Oakden, 2014).

The IT industry in Wellington had over 1,750 vacant positions as advertised from 400 employers in the first quarter of this year (2014 Job Seeker report). Wellington also has the highest base median salary at \$85,000 as compared with other urban centres, suggesting that larger firms are willing and able to pay more(Absolute IT, 2014). According to Norman and Oakden’s report on “Strategic issues for Employment and Design of Work in the Wellington Region”,several key themes emerge regarding the challenges that small IT firms in Wellington face.Requirements change rapidly so that staff needed today may be different from those needed in six months’ time (Norman &Oakden 2014). Training in local tertiary institutions cannot meet the demand for graduate employees to keep up with industry developments and the specific nature of any individual company’s service offerings in the market (Norman&Oakden, 2014). This mismatch means that employers need to provide on-the-job training. Unfortunately, many are not willing or able to do so due to time or budgetary constraints, or staff shortages. One respondent says of the graduate quality “Most of them don’t have the skills you need when they are hired- and training can be extensive and expensive- especially if you lose that talent to a larger company later on.”The 2014 Productivity Commission Report states that small ICT firms findit hard to recruit

“business ready” graduates (p 170) and are unwilling to bear the risk of hiring untried new graduates.

Factors Affecting Recruitment and Retention

According to literature, the main factors affecting recruitment and retention of skilled personnel in Wellington’s small IT firms include the rapid and continuing growth in the IT arena as information management requirements continue to increase across most sectors of the economy (Norman & Oakden, 2014).

The rapidly changing requirements for skills as information technologies and management requirements shift is another issue(Griffin, 2014). The local and global demand for IT skills exceeds supply of skilled and experienced workers thereby creating a “sellers market” (Grow Wellington, 2014). Alongside this, highly mobile IT workers build their careers through multiple successive employment opportunities rather than through internal opportunities within a single firm or organization(Watson, 2010).

A fragmented and highly specialized industry comprising a high proportion of small IT firms with limited internal capacity for recruitment and little or no intra-industry coordination is a further obstacle inhibiting small IT firms’ prospects(Hubbard, 2013).

There is a long lag time between industry signals on skill requirements and training responses from universities and other providers(Grow Wellington Press Release, 2014).

Small IT firms are ill equipped to bridge this gap through on the job training, whereas larger firms are able to spend more to recruit and retain the best talent available(Grow Wellington, 2013).

Finally, small IT firms in Wellington appear to have reached the limit of their capacity to use remuneration to bid workers away from competitors but other inducements may not be sufficient to provide a long term solution(Crossley, 2013). Differentiation in terms of “selling” New Zealand and Wellington has had some success, but may not be sustainable in the long term.

Wellington is renowned for the ease of assimilation and cultural diversity, making it possible to develop networks and social connections quickly, thus creating a positive environment for immigrants to settle in and feel comfortable(Norman & Oakden, 2014). This has a positive impact on job satisfaction and retention in the face of the above statistics indicating the nomadic nature of workers in the ICT industry(New Zealand Productivity Commission, 2014).

In addition, taking advantage of the drivers for job seeking in the ICT industry within Wellington and internationally, regional ICT firms are able to leverage off the international recruits’ desire to use their vocation for travel and experience(Work Here NZ Software Development , 2014). Offering “interesting things to work on” is a ploy currently used by small IT firms in the Wellington region to attract recruits (Norman & Oakden, 2014).

Events such as Tech Connect(Work Here NZ, 2014) – a Work Here NZ initiative designed to assist creating the pathways between New Zealand employers and international IT talent is attempting to bring firms and personnel together to address the coordination issues inherent in this recruitment problem(Radio New Zealand, 2014). What level of success they achieve from signals of interest through to hire and induction is unknown at present, although the organisers claim that 2,500 job applications from international candidates to Work Here have been processed as a direct result of the event.

Section 4:

Research Question

The core question addressed in this project is 'How could the factors influencing successful recruitment into small IT firms in Wellington be addressed through a strategic management approach and how could this better enable their growth and development, and increase their contribution to Wellington's regional IT industry and the local "Knowledge Economy"?'

Research Method

Description

The research followed a qualitative approach to a social inquiry to better understand how to identify the critical requirements for international recruitment in Wellington's small IT firms.

The aim of such research is to "investigate the meaning of social phenomena as experienced by the people themselves" (Malterud, 2001).

The research followed an interpretative process, using interviews to achieve an understanding of the methods managers of IT firms and practitioners in the IT recruitment field use. It also inquired into how they comprehend their experiences of the challenges of successful international recruitment for candidates.

The field research adopted a qualitative approach through interviews with industry representatives. Firstly, interviews were conducted across a range of small IT firms with managers in charge of recruitment processes in order to understand the HRM, recruitment sourcing and logistics problems and costs experienced by these firms. Secondly, managers at these firms were asked about the different methods they have applied as solutions to the

challenges they face. Observing where there are useful, universal and applicable practices can help identify optimal solutions for sourcing, recruitment and induction of international IT candidates. Thirdly, the opinions and observations of IT staff and recruiting managers as well as proven third party providers for recruitment consultancy services were considered and specific innovations were identified. This included solutions they have already implemented or proposed. An interpretivist model was used to seek an explanation for the issues in IT recruitment and to determine if it is feasible to create a framework for the development of industry guidelines. According to Angen, the criteria for evaluating interpretivist research includes consideration and articulation of the research question, carrying out inquiry in a respectful manner, creating a written account that develops persuasive arguments and adheres to ethical and substantive validity measures (Angen, 2000).

To understand current recruitment practices and test the feasibility of potential solutions field research was conducted in July and August 2014 with nine participants working in various roles in the Wellington IT industry. Interviews were held with recruitment company managers, small IT firms and recruits were conducted to explore the following issues:

- 1.** Growth, development and coordination needs of Wellington's small IT firms.
- 2.** Recruitment practices in relation to strategic HR management policies and strategy in small Wellington IT firms, including what has and has not worked in relation to international recruitment strategies and practices.
- 3.** What a strategic management approach might look like and what firms would need to do differently to implement such an approach.

4. What, if any, role can government (including local and regional government) play in meeting the recruitment needs of small Wellington IT firms.
5. To what extent do institutional and governance factors play a significant role? (This included industry coordination and links with business organizations such as Business NZ, the Wellington Chamber of Commerce and the City Council).
6. What recruitment solutions are possible for small IT firms in Wellington that could enable them to reach their growth potential?

Approach to Analysis

Detailed analysis and interpretation of the participants' comments was undertaken by comparing responses across the above set of issues to identify similarities and differences. Phrases and statements reported by the respondents were coded and tabulated in order to identify similarities and differences in experiences and opinions across the sample set of participants. Judgements were made as to their applicability in answering the research question.

Access to Participants and Organisations

Access to participants and organisations took place by prior arrangement through telephone and email contact. Face to face interviews were conducted with stakeholders in IT firms, candidates and recruitment agencies.

Analytical Technique

Transcription and coding, along with iterative sampling and analysis was carried out across three broad areas:

Current practices

- What is the nature and scope of recruitment issues for small IT firms in Wellington?
- What do recruitment agencies do and what are the outcomes for them, candidates and IT firms?
- What do small IT firms in Wellington do in relation to recruitment and what are the results?
- What are the differences between the practices of IT firms and recruitment agencies?
- Is any approach more effective than others?

Alternative Approaches

- What could small IT firms in Wellington be doing differently?
- What roles do recruitment agencies perform that small IT firms can't?
- Is there a one size fits all solution or is it "horses for courses"?

Potential Strategies

- What are the opportunities and risks in relation to recruitment practices for IT firms and agencies?
- What are the strengths and weaknesses of firms and of agencies?
- What alternative strategies might they pursue?

Limitations of Analytical Technique

Due to the limited sample size, the study is not necessarily representative of large scale trends in the industry. While the sample size puts some constraints around the extent to which the results can be extrapolated, they are likely to be indicative and therefore can serve as the basis for further proposals and ideas that could be tested within the IT industry.

Section 5:

Research Findings and Analysis of Recruitment in Wellington's IT Sector

Nature and Scope of Recruitment Issues

The interviews identified the key issues as: the difficulty in finding people with the right mix of IT and business analysis skills; finding people with up-to-date skills in information management that are also the right behavioural “fit” for the organisation and misalignment between agencies and small IT firms where aims and expected outcomes are different. The verification of international candidates' qualifications and skills; search and recruitment costs and retention of both local and international recruits due to better opportunities overseas also featured.

There also appears to be an asymmetry in matching supply and demand for IT skills, whereby demand exceeds supply in several parts of the industry. The market is segmented, with a spectrum of demand from the most basic skills for call centre workers through to highly specialised and specific skill areas needed to design, build and maintain systems critical to the ability of firms to be competitive in modern business and information management roles. This reflects a highly varied industry, ranging from “business as usual” service firms right up to cutting edge, innovative companies. On the other hand, respondents have commented that there is an over-supply of average ability candidates.

A key aspect of a good quality recruitment process is the ability to match applicants' skills and data with firms' requirements. Due to the rolling nature of some projects, different skills are needed at specific times in order to perform functions essential to the workflow of

a project and once the contracted work is completed, their services are terminated. In the case of permanent positions, such as for database management and ongoing application updates and builds, candidates must have the appropriate technical background as well as the ability to work effectively with the incumbent team.

Most of the small IT firms in Wellington are lean and do not employ HR staff, and the managers and specialists do not possess training in HR strategy or policy and planning. The result is often an ad hoc set of practices involving short term identification of the skills and behaviours needed by the firm. To compensate for their lack of recruitment skills, they seek assistance from recruitment agencies that provide a list of potentially suitable candidates. A complaint from many IT firms is that the candidates' skills are not always well aligned with the skills that they need. There seems to be a breakdown in the ability of the two parties to communicate exactly what is required in order to make the candidate 'fit' correctly. Add to this the global shortage of IT skills and the recipe for wasted time and resources becomes apparent. Larger firms tend not to suffer from this problem, as they have the necessary resources to employ robust HR practices and therefore do not have the same difficulty in seeking the right talent from the right sources.

The rapidly changing nature of the IT industry brings particular challenges in terms of the constant need for some firms to respond quickly to immediate needs, leaving little time to think strategically and develop plans to deal with chronic longer term issues such as recruitment.

Current Practices

Recruitment Agencies

Recruitment agencies exist because they provide candidate visibility to firms through the collection of candidate CVs and provision of databases. Many firms find it faster and cheaper to outsource recruitment and selection tasks rather than providing an in-house HR capability. However, the services provided by agencies vary in quality and affordability and their performance does not always meet the firms' requirements.

Sourcing Local Candidates

IT specialists are attracted to recruitment agencies rather than the end users because of coordination issues. The IT firms come to recruitment agencies due to the lack of visibility and frequently because they do not receive enough hits from the job advertising they employ from candidates with the appropriate mix of skills. One respondent believes that the majority of recruitment can be achieved within New Zealand, even for firms looking for specific skill sets.

An IT recruitment specialist at a Wellington based recruitment firm says his agency endeavours to find the best IT professionals on the market at any given time and provide the primary customers(IT firms), the best to choose from at both a skills level and from behavioural and cultural 'fit' perspectives. This has been achieved by building and maintaining close relationships with both individual candidates and firms of all sizes. He explains that recruitment agencies exist because they "know where the people are and how and when to get them." They utilise their talent database and a client relationship management system that is structured so that it can identify people by their skill sets, location and salary expectations. Although the company and the market needs are

“constantly in conflict with the fluid availability of the candidate base”, by using online advertising in forums and a word-of-mouth referral network, in addition to online services such as Linked-in, they can often recruit people locally. The nature of many hires is time bound and demand for a candidate on contract usually needs to be met within a matter of weeks. Hires for full-time equivalent, permanent positions are normally expected by clients to be filled within the space of one month.

Another respondent, a CEO for an IT services firm, is adamant that the recruitment agencies he utilises enable “candidate visibility” in an otherwise difficult environment to find the right people for the job. This is because their databases of eligible candidates are built on the CVs of people already working in the region and who are willing to allow match making between the recruitment firms and potential employers to occur based on employee or candidate characteristics.

A private IT firm manager believes that not enough is being done by many recruitment agencies to sift out the wheat from the chaff in respect of the less capable candidates. This respondent’s view is that many of the recruitment companies are willing to throw as many CVs as they have on their books at employers, regardless of the candidates’ quality, in the hope that one will stick. This “shotgun approach” raises the issue of cost-effectiveness as the fees charged by many agencies (between 11-18% of the total contract, per hour or salary rate for one-off contractor hires) should be justified by a better vetting and pre-selection process in return for the added cost. Another respondent says that many recruitment firms “struggle to present their relevance” in this respect. “Hardware testers are relatively easy to find, but not software testers. And they’re always gone when you call up to ask for them- we had exactly what you wanted last week... is an all too common

phrase we hear in Wellington. Not only that, but the price keeps going up each month. What \$85 per hour could buy you in July for a new hire, it will now cost you \$100 per hour plus.”

Other respondents reported that the agencies’ ability to predict what IT firms need is poorly aligned with the actual needs of this particular market. This occurs specifically at the lower end of the market, where the bulk of hires occur. An entry level engineer or tester will command a smaller recruitment fee relative to their salary, so it appears that much less effort is expended on matching them with the right employer. One respondent commented that CVs are often inflated and that due to a lack of in-depth knowledge of the industry specifics, these issues are often overlooked by agents in order to make quick sales and move on to the next hire.

Sourcing International Candidates

While small IT firms in Wellington prefer to hire locally where possible due to the shorter recruitment time and lower costs for relocation, they find that international recruitment is preferable when other viable avenues have been exhausted. The agency approach is more time effective, where the candidates are qualified and experienced enough to do the work. However, as many specialised jobs are either short term, or too specific to be regularly used in New Zealand, so the international market is the only option. The challenges here can outweigh the benefits in relation to the costs of identifying suitable candidates from the international market.

With the perceived improvement in the New Zealand economy during 2013-2014 and the downturn in the Australian market, many Kiwis are returning to look for work, making some “international” hires easier. As agencies do not offer immigration services, small firms outsource this function to immigration specialists. Others outsource their entire HR function

to private contractors who work closely alongside managers to get exactly what the firm needs to carry out its business duties.

In respect of international hiring, the issues around immigration and eligibility to work are key barriers on hiring from overseas. Candidates must have their affairs in order and be ready to travel immediately for open positions, as companies often need people to begin within a matter of weeks rather than months. The respondent also states that assessing 'fit' and conducting personal assessments is difficult by Skype or telephone, preferring to manage these processes in person.

In-House Recruitment by Small IT Firms in Wellington

It appears that most participants use the services of recruitment agencies in order to gain access to the available IT specialists on the market. However, while they use their services, they are dissatisfied with the level of quality of some of these agencies offerings in relation to the cost of the service.

Locating and attracting people qualified for the position requires resources to find "the right people, at the right time, in the right place and the right cost." (Nankervis, 2011). This can involve internal and external recruitment strategies, including e-recruitment and international recruitment through third party providers (Department of Labour, 2014). As small firms in the Wellington IT sector do not have the capacity or capability to support an internal HR department, managers within these firms must search for new candidates through networking, and online advertising as well as screening potential employees over video chat services as an alternative to face to face interviews. They can also hire third party providers such as specialised IT recruitment companies within Wellington to assist them in recruitment and selection processes. Another solution is to source contractors who have

high engagement and low commitment to the job to get the work done at additional cost(Nankervis, 2011). This is increasingly the case in Wellington at present(Wellington Scoop, 2014).

The participants' experiences of international recruitment in their current roles or as active managers of recruitment processes report both positive and negative outcomes. This is based on their ability to find candidates in a timely fashion through online advertising or direct methods as well as the interview process and the current 90 day 'trial period' for working as well as the ability of the recruits to perform the designated tasks as part of their role and their 'fit' in the organisation.

For smaller IT firms, seeking talent offshore comes with its own unique set of logistical challenges. Hidden recruitment costs such as search costs, coordination costs and a fall in productivity due to managers having to spend time on recruitment and selection processes, vetting and induction and training for international employees all add to the bottom line. Upfront costs for recruitment company services can seem unaffordable, but many small firms have not calculated the expense of doing it themselves and performing HR support services outside of their core competencies – the key is whether they use the services effectively or not (Rudman, 2010).

One solution that participants have explored as a means of having more control over the recruitment process is direct hiring from international sources as an alternative to accessing recruitment agencies' databases in the search for candidates. The relative ease of advertising online has benefits in respect of its broad reach and high rate of response from the international IT community. The disadvantages are that it is time consuming due to large volumes of applications and weeding out unsuitable candidates. Alternative measures

include employing people from within the firms' extended associate network or taking advantage of international alliances with parent companies.

One respondent, at an IT consultancy company has witnessed significant growth in the firm, which has rapidly expanded over a five year period from just six personnel to over one hundred and is still hiring new staff to meet demand for its services. Whilst they utilise recruitment agencies' services and hire direct internationally, they offer recruitment finders' fees to their own staff to locate and bring in new employees. This has benefits as it saves the firm money and takes advantage of word-of-mouth references and personal relationships and networks within the industry. In the past four months the firm have recruited four new staff from Pakistan, Spain and India. He says that while there are some problems in accreditation and cultural fit, the view is that experiences of hiring internationally are predominantly positive.

Another respondent works for a company that operates across three countries – New Zealand, Australia and Canada. This firm utilises Skype as a mode of communication as an alternative to international recruitment. This gives the firm access to the talent it needs, without having to front the expense of relocation. While this is nominally effective, the time zones play both for and against productivity; "When you have finished part of a build at the end of your working day in New Zealand and sent it to your colleagues, they are just waking up and getting started at the office, so by the time you get to work the following morning, their contribution is complete and ready for you to add to." On the other hand, the respondent adds "The sensation of being disconnected from your workspace and having face to face contact is not the best mode of working collaboratively and in a collegial manner."

As the experiences with some Wellington IT recruitment agencies are mixed, participants have developed new and innovative methods of recruitment as a means of locating and attracting talent. Several of the participants commented that these approaches are not ideal but are necessary in the face of the difficult terrain in the Wellington IT sector, coupled with variability in the quality of services provided by recruitment agencies in conjunction with the high costs they impose for their work.

The diagram below summarises the current recruitment practices used by small IT firms in Wellington and identifies the advantages and disadvantages of each.

Recruitment Options Grid: Dylan Longley 2014.

RECRUITMENT OPTIONS	ADVANTAGES	DISADVANTAGES
WORD OF MOUTH	Opinion based – Trusted sources. Lowers search costs	Adverse selection issues- person/ skill/ job fit mismatch
ONLINE OPTIONS	Cheaper than traditional advertising Available 24/7 +Information access Lower search costs 2-way process	Harder to select/ screen initial applicants- may be unsuitable Applicant numbers can be high Increases administrative workload
INTERNATIONAL STRATEGIC ALLIANCES	Contract- parent company advantage- secondments Process help- piggy backing HR Dept	Local knowledge disadvantage Induction period Training requirements
OUTSOURCING	Removes need for internal HR Department	Expense- not a guaranteed solution due to worldwide shortages of IT personnel

Factors Affecting Successful Recruitment

Mix of Skills

Opinions on the competitiveness of the Wellington IT recruitment market are mixed, with participants divided as to whether demand or supply factors are prevalent. While many comments indicate that demand for IT personnel is well above the supply of able candidates in the local market, the evidence points to a glut of average ability workers in the region, but a deficit of up-to-date skills in information management. Difficulties in finding people with the right mix of up-to-date skills can constrain opportunities for increased productivity.

Recruitment for project-based work differs from that for ongoing development work.

Project-led recruitment occurs where a business is updating its systems for maintenance, for acute security purposes, updating hardware, transferring its data or systems over to digital formats. These projects have distinct start and end points. Recruitment for ongoing development work focuses on hiring people with maintenance and development skills for updating and adding functionality to the IT platforms in various businesses. Small IT firms in Wellington straddle both of these industry areas and different firms can focus solely on project work, or programme work, or a mixture of both. However, focusing on a niche area tends to make the job of aligning the recruitment needs with the strategic focus of the business easier to manage.

Irrespective of whether the work is project-based or development orientated, for a number of small IT firms, growth and profitability are subject to having access to new staff with the right mix of skills, including business analysis and computer programming. Respondents highlighted that graduates coming from domestic and international training institutions lack

these combinations of skills. The business and technical mix is only developed through experience. Without access to the right personnel, increased productivity is constrained.

Qualifications

Results of a recent survey discussed in an article by Richard Garner of the *Independent* online news service, claim that a third of UK employers do not check the veracity of candidates' qualifications during the selection process (Garner, 2014). Surprisingly, a third of survey respondents admit to having falsified their degrees. While many companies do go through rigorous testing of graduates and other applicants, verifying qualifications appears to be frequently taken for granted.

Managers at IT Firms can check references using *SEEK* and *Linked-in* to some extent. When engaging a recruitment agency, it is expected that at the very least detection of falsification of qualifications would have occurred at the first stage of the process. However, it is reported that this does not happen in a significant number of cases. Because of the inherently small nature of the New Zealand IT community, employers can also make informal inquiries with colleagues at other firms where candidates have worked. This has the effect of making some aspects of the hiring process easier in that certain attestations and guarantees can be obtained through former colleagues and organisations.

However, the process is less certain when recruiting direct from international sources. Prospective employers' efforts to verify qualifications and previous employer details and references face a number of difficulties along with time pressures on managers who may have to perform these duties along with their regular workload. Complicating this, recruitment agencies are reluctant to expend effort preparing international candidates for the process of immigration. Uncertainties in relation to their documentation and whether or

not they will ultimately qualify for entry to NZ with a work permit makes the prospect and profitability much less appealing due to the labour intensive and time/cost factors.

For international recruitment, the required competencies must be expressed in the job description, and the vetting process must be able to determine if the candidates applying for the job are capable of meeting the level of skill needed. Verifying qualifications and experience can be a significant challenge to employers without adequate systems or resources to follow up on the information candidates give them. For those candidates who are a 'known quantity' and are specifically selected for their skills, retention is a chronic problem, with many unwilling to permanently relocate to Wellington.

Search and Recruitment Costs

Specific to international recruitment are the issues of commuting between NZ and other countries where the skilled candidates live. Accommodation in Wellington for furnished apartments for these temporary visitors is high relative to other international cities.

Temporary hires often cannot be found in NZ as the market is too small. Finding international candidates is expensive and time consuming. This translates as high opportunity costs for time and productivity for IT managers in small firms. The cost of appointing a bad candidate can damage the client and the IT firm's reputation. The current system for appointment to government IT projects uses approved provider panels consisting of contracted IT recruitment agents. This results in limited competition and limited incentives to perform to a high standard and low quality candidates being selected for jobs.

Differences Between the Practices of IT Firms and Recruitment Agencies.

Recruitment agencies vary in terms of quality of service. They have large pools of candidates to select from and the better ones perform a degree of pre-selection processes matching

job-to-person to cut costs and save time for both the agency and the firm. Those who do not screen CVs properly erode the sense of trust between client and agent, particularly in light of the significant fees that they charge. Lesser agencies - “body shops”, that provide little vetting or checking of candidates, their CVs and qualifications before passing them on to their clients are not taking the extra steps of providing the nominal HR alignment services that the small IT firms need. This “bargain-basement” approach has caused small IT firms in Wellington to adopt a number of innovative strategies to counter this lack of due diligence by utilising direct advertising for both domestic and international hires, using Skype for screening and interviewing, flying experts in for short term contracts, mentoring new staff, paying current staff to recruit, seconding experienced staff from larger firms, and outsourcing work utilising time zone differences for short turnaround times. It appears there are roles for agencies that specialise in IT recruitment that make an effort to stay in-tune with the rapidly changing needs of the industry but this service comes at a premium, which raises costs beyond what some small IT firms are able or willing to pay.

The recruitment models that work for small IT firms take advantage of the gaps in the market, enabling proxy solutions for their lack of HR strategies. Mobility costs are significant in terms of commuting between countries to attend meetings and to fly analysts and software testers between Europe, Australia and New Zealand. These can run into millions of dollars of additional cost to a project. Innovative approaches to mitigate this type of project cost that are being tested in some firms include developing mentoring programs for junior staff. Experienced software testers are seconded from other businesses to help new arrivals with less experience for a period of three months. These testers then return to their main job. This approach also allows ‘future-proofing’ through a maintenance and training

initiative whereby the senior staff member returns on secondment to continue monitoring the junior staff members' role as well as their development to eliminate "Key-man" syndrome. This aims to reduce the risk of having only one employee who is responsible for critical processes within the firm. Having shared roles and responsibilities mitigates the hazards of losing a key person for any reason and also encourages different ways of approaching tasks through different perspectives.

At present, many recruitment agencies simply advertise their services to small IT firms and the job-seeking candidates and forward their CVs and profiles to managers who need staff. This is often done without regard for the HR needs of small IT firms. As they do not have the capacity or ability to defer work pending a new appointment, agencies also utilise shoulder tapping, head hunting and networking to have a ready list of candidates to match the requirements of firms. With respect to international recruitment, most agencies will only accept applications from candidates that have already had their work visas approved by Immigration New Zealand. This is effective insofar as the potential employee is more likely to be available to begin work immediately, compared with a delay of up to three months for work visas that have only been started once the offer of work has been made.

Would a Strategic HR Management Approach Work for Small IT Firms?

A strategic HR management approach to recruitment requires that firms plan ahead to meet their organisational goals through the use of their people and their talents. Strategic HR policies also underpin the need to induct and mentor new employees as well as provide satisfying work and the opportunity for their employees to grow their capabilities through training and development and well defined remuneration and advancement pathways. This

benefits the company and its employees by investing in critical practices that are essential to success such as effective recruitment and retention that are predicates for growth.

The research results indicate that small IT firms in this study are overly focused on work processes and are not dealing with the strategic planning and identification of requirements that will assist in securing personnel ahead of growth phases. Coupled with the already identified global shortage in skilled IT workers, the gaps in strategic HR policies leave these small IT firms in Wellington vulnerable to the negative implications of continuously increasing costs for finding and retaining essential staff, skills and facing constraints on productivity and the growth that supports their economic success and their ability to develop innovative and competitive products.

While the firms and recruitment agencies work together in a relationship of convenience, the overriding impression given by respondents is that recruitment agencies are now popping up thick and fast and are taking advantage of the current situation. Price increases, low quality value added services and a predatory outlook coupled with small IT firms limitations of capital and undeveloped HR policies are resulting in a skewed market for IT professionals. Larger firms are insulated from this because of three factors in their favour, namely capital, developed HR policies, including career pathway opportunities and better job security. Small IT firms will need to counter the effects of the talent shortage by adopting more effective practices and approaches in order to realign the competitive market factors to create a more favourable environment. This may require some external input from business or government authorities once they have examined the root causes of the disparity in performance and opportunities for small IT firms.

Discussion

What emerges from these findings is that firms could cut time and costs from their candidate search by using strategic HR policies and practices in place to better help the recruitment agencies plan and promote the right candidates for the roles in advance of the selection round. Recruiters can equally benefit both parties by having a check list of generally accepted criteria for IT firms to ensure they know what can be provided.

While many IT firms are forced to look overseas for viable candidates in the current climate where skill shortages are an issue, they report that by far, most applicants who are keen to move to New Zealand for work are from Europe, India and Pakistan. The issues that arise from some of these candidates are common across all the respondents. This relates to variable quality and experience with regard to the combination of business analysis and technical skills that are needed. Cultural 'fit' concerns and taking initiative by demonstrating innovative thinking and on the job problem solving are familiar themes also. The development of HR policies and vetting in such cases could be the best response.

With small, medium and large organisations competing for staff, the playing field is unevenly pitched in favour of larger firms with defined HR strategies and well-aligned HR policies. They also have more spending power to attract IT specialists with better salaries. However, smaller firms campaign for growth with less cash to offer, they have the draw cards of agility, personal development prospects and the excitement of cutting edge technology to experiment with. While salary is attractive to many IT specialists, the work is always out there and the companies that have interesting things to work on possess a comparative advantage over implementation projects where no creativity is required.

Section 6:

Alternative Approaches

Effectiveness of Different Approaches

Due to the varied nature of IT projects, programs and the sizes of the organisations commissioning them and the wide-ranging activities of small IT firms in Wellington, their needs are distinctly different. The rapidly changing nature of the work and subsequently changing demands for different skills as well as the short and long term nature of project and program based work indicates that the critical requirements for successful international recruitment practices for small IT firms include:

- The rapid matching of skills and experience with job requirements by qualified and knowledgeable personnel.
- Segmenting the market to identify different types of IT work and different requirements
- Recruitment agencies specialising in niche markets within the overall IT sector to match specific industry requirements with the relevant skills and experience.
- Better use of behavioural assessment tools to assist “fit” in organisations.

It is also clear that firms use various approaches to manage these factors and the risks surrounding them and that they have varying degrees of success.

Taking the results of the analysis of factors affecting successful recruitment and considering a strategic approach to dealing with the challenges facing small IT firms, alternative approaches can be considered at both the industry and the firm level.

Industry Level:

Collaboration and communication through a forum for rating and comparing the services available and their effectiveness could assist in selecting the best recruitment agencies and encouraging others to improve their practices or exit the market.

Government sponsored recruitment fairs in USA, UK and the Baltic States is another solution. At present large firms in New Zealand hire the majority of international employees, small firms are hiring less personnel directly from overseas but proportionally the figures are the same.

Firm Level:

Some immediate strategic changes could occur within the Business Planning, Strategic Human Resource policies and recruitment practices of small IT firms in Wellington.

The need to identify and design robust training and development goals for incoming recruits as part of the recruitment process is an essential step towards ensuring retention. Without acknowledgement of a prospective employee's job and career development objectives, firms reduce their chances of securing the skilled candidates they need in a two-way selection process. This could counter the risk of IT workers and leaving to search for work that challenges their abilities, enables their career growth and keeps their skill sets relevant and up to date. For small IT firms to establish a comparative or sustainable competitive advantage in the market, planning for retention is as essential to their own productivity, development and prosperity.

Forming partnerships with trusted recruitment firms may meet the needs of a number of the small IT firms subsequent to this. In order to better screen candidates, additional

services can be provided by networking with external parties to contract out extra services or bring them in-house. For example, behavioural fit can be measured using psychometric testing and interviewing techniques, such as the OPQ test. Managers of small IT firms that have designed and implemented robust, strategic HR policies can expect to spend less of their time during the recruitment process with the recruitment agents going through CVs in order to explain their skill requirements and which candidates fit or do not fit and why.

Small IT firms in Wellington can also act in ways that benefit them such as utilising collaborative practices like information sharing between larger firms and small IT firms in Wellington. Strategic partnerships with larger firms through employee secondment can help to perform some tasks without the expense of employing a full-time equivalent or paying a contractor on an ongoing basis. Employing in-house Recruitment agents as specialists to perform the HR functions on a smaller scale and bypassing the larger agencies altogether is another innovative solution that is proposed.

Collaboration with larger firms, where experienced and capable IT specialists could be seconded to work on projects or ongoing builds or provide guidance and training to graduate and junior developers as part of an apprenticeship or mentoring arrangement may yield broader benefits across the market. Corporate sponsors, such as successful firms like *Xero* and *Trade Me* could be good organisations to approach for this purpose. Design and implementation issues could be addressed through industry focus groups to determine the benefits to larger firms and how they could strategically align this type of arrangement with their own organisational goals in the medium and long term context.

Recruitment agencies could spend more time with their clients, getting to know the business requirements that will form the basis of their recruitment needs. They could also

gather additional information from candidates understand the roles and tasks they can perform well to better understand in and understand the 'fit' between different types of IT qualifications and work requirements. This could also mitigate the risks of misrepresenting candidates' qualifications and references.

Another area that can be improved upon is to address the deficit of graduate programs available with firms. Many small IT firms operate on tight margins and have relatively high fixed costs for high-tech equipment as well as the salaries for staff. This means finding additional, forward-looking initiatives like investment in future generations of talent to make it more affordable is essential. Firms that have grown out of the "small-medium sized category" report having strategically aligned business and HR policies. Some offer interns from the Summer of Tech program work in the firm on an ongoing basis. Smaller firms responded that retaining them is a challenge when they want to seek better conditions. Rectifying this issue could be achieved by partnering with universities and providing internships in a GAP type scheme for international recruits and graduates from New Zealand looking to gain more experience overseas.

Potential Solutions

At the industry level, three potential approaches that could contribute to a better equilibrium between supply of and demand for IT skills and hence a reduction in the barriers to industry growth.

- a) Better linkages between government, education and private sector business, including recognition and redefinition of the IT area and its constituent parts as a cohesive sector in New Zealand’s “Knowledge Economy” – a status it does not currently have⁵.
- b) Better awareness and coordination between firms and recruitment agencies of international recruitment processes and training opportunities for managers in order to find affordable solutions for small IT firms, including the adoption of strategic HR management policies.
- c) Creating an industry collective body of key stakeholders that aligns the needs of small IT firms in Wellington- in accordance with the Grow Wellington initiative and “Summer of Tech” IT student internship programme.

⁵Personal communication – Employee, Statistics New Zealand 2014.

Section 7

Conclusion

Retaining the status quo for small IT firms would mean that they will continue to rely on agencies and their own resources and innovative solutions. Recruitment agencies will continue to service the industry but concentrate on larger clients such as government departments, where the need for more innovative IT staff may be lower.

Adopting a collaborative approach could see small IT firms cooperate with each other through their own organisation or by using a single collective agency and work with it to streamline recruitment processes through extensive information sharing. They could work with industry organisations such as Business New Zealand or Chamber of Commerce and Immigration New Zealand to improve immigration processes specifically to support small IT firms in recognition of their reduced capacity for in-house HR capabilities.

The exploration of new models could assist small IT firms. Based on the respondents own individual innovative practices, contracting or hiring an in-house recruitment agent to specialise in HR functions may resolve the issue of managers without the necessary experience engaging in the recruitment process. This could work across the sector with companies to determine further success factors. Providing incentives to staff to perform recruitment and act as company brand ambassadors as an alternative to the current reliance on recruitment agencies has already been identified as a cost saving option.

Commissioning funds for further research into the issues outlined here and the inclusion of a wider sample of participants to gain a broader picture of innovative practices and select the most viable options for investigation and development may also benefit the industry.

This paper has attempted to identify the critical requirements for successful recruitment and retention in Wellington's small IT firm and has proposed some alternative approaches to address ongoing challenges. Some of these are structural and some are behavioural. Further work could be done with IT firms and recruitment agencies and relevant government and regional organisations to test the validity of the proposed approaches, including to refine them into an industry strategy and to develop plans and practical steps to implement this.

The credibility of research findings were determined by the relevance and applicability of the findings to firms in the Wellington IT sector. In particular, the findings should help to develop realistic solutions and approaches to the challenges of domestic and international recruitment for small IT firms. This has been demonstrated through the level of interest by respondents and others to recommendations derived from the findings and by their willingness to implement these or test them through pilot projects that could be scaled up to meet the current needs of the Wellington IT industry.

Participants in this study:

#	Name	Firm	Role
1	Nick Calavrias	Find IT Recruitment	Recruitment Consultant
2	Simon Dartford	Nspire	Solutions Architect
3	David Hill	Davanti Consulting	IT Consultant
5	Jay Daley	Dot.NZ Registry Services	CEO
6	Florent Mara	Re:Gen	Solutions Architect
7	Anton Marsden	Insight NG Solutions	Software Developer
8	Mike Lowe	Activate NZ	Managing Principal
9	Jayne Stewart	Activate NZ	Managing Director

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