Exploring the Trends in Graduate Selection in Australia

ABSTRACT
The top four most important graduate selection methods in Australia were pre-screening via application form and resume, structured interviews with 2 or more interviewers, structured interviews with one interviewer, and assessment centres. The top four methods in terms of usefulness in predicting performance are structured interviews with 2 or more interviewers, structured interviews with 1 interviewer, bio-data, and assessment centres. There were significant gap between perceived importance and usefulness for pre-screening of application form/resume, structured interviews with 2 or more interviewers, and reference checks. Organisational fit had the greatest impact on choice of methods. The quality of graduates selected, attraction and retention, the professionalism of graduate recruiters, and the administration of graduate recruitment and selection program were important success indicators.

Keywords: Australia, Graduate Selection, Reasons for Choice, Success Measures, Perceptual differences

INTRODUCTION
Research into recruitment and selection has received continued attention as researchers and employers sought for the most effective methods of selecting the most suitable person for any vacancy. Despite the numerous studies which have focussed on graduate recruitment from countries such as USA, UK and Europe (e.g., Anderson and Shackleton, 1990; Eleftheriou and Ivan, 1999; Garavan and Morley, 1998; Henderson, Anderson and Rick, 1995; Hodgkinson and Payne, 1998; Keenan, 1995; Rynes and Boudreau, 1986), to-date there is insufficient empirical evidence of the methods used by Australian firms in selecting graduates. For example, the recent study by Di Milia and Smith (1997) focused on the methods used in selecting Australian managers, rather than graduates. Given the lack of empirical evidence into the context of graduate recruitment and selection in Australia, the current study has four main aims, including (i) to identify the selection methods for graduate recruitment; (ii) to identify the most important and useful selection methods in predicting the job performance of graduates; (iii) to identify the factors which impact on the choice of selection methods; and (iv) to identify the most important success measures used by Australian employers in evaluating their graduate recruitment and selection process.

The format of the paper is as follows: first, we will briefly review the literature on the status of graduate recruitment and selection, especially in relation to the selection methods used. Second, we will outline the research methodology. Finally, the findings are reported, together with a discussion of the theoretical and practical implications.

GRADUATE SELECTION
The literature on recruitment and selection has generated a wide body of issues, especially in relation to the best practice in attracting applicants to an organisation (Breaugh and Starke, 2000; Cooper and Robertson, 1995; Smither and Reilly, 1993; Scholarios and Lockyer, 1999), the predictive validity of selection methods (Salgado, 1999; Rynes and Boudreau, 1986; Hough and Oswald, 2000), the preferred methods used by practitioners (Shackleton and Newell, 1989; Judge, Cable and Higgins, 2000; Moscoso, 2000), and the ideal outcomes of recruitment and selection (Rynes and Boudreau, 1986; Breaugh and Starke, 2000; Cooper and Robertson, 1995).

Selection Methods
The literature review showed that recruiters used a variety of selection methods, such as interviews, aptitude tests, graphology and astronomy (Cooper and Robertson, 1995). Selection methods receiving most attention include bio-data, interviews, assessment centres and aptitude tests (e.g., Cooper and Robertson, 1995; Di Milia and Smith, 1997; Rynes and Boudreau, 1986; Salgado 1999; Schmidt, Ones

Yet organisations still continued to rely on unstructured interviews for both experienced hires and graduates (Di Milia and Smith, 1997; Harris, 2000; Hough and Oswald, 2000). Terpstra and Rozell’s (1997) survey on the usage of different methods of selection found that the reasons for not using a particular selection practice varied, based on resource constraints, legal concerns, industry, and the knowledge of the HR professionals in the firm. Based on these descriptive results, they argue that selection in organizations is not scientifically performed and call for additional research on selection practices at the organizational level. Furthermore, there is insufficient empirical evidence to inform us of the methods used by Australian firms in selecting graduates. Hence, our first research objective is to identify the methods used by Australian firms in selecting graduates.

Objectives and Success Measures Used in Selecting Graduates

The evaluation of selection methods by employers is another topic generating concern in the literature. Cooper and Robertson (1995) outline four key methods of evaluating a selection method: reliability (consistency and inter-rater reliability), validity (that is, measuring what is meant to be measured, in terms of content, construct and criterion validity), interpretability (such as ease with which the results can be interpreted to make meaningful selection decisions), and practicality (such as the usefulness and fairness of the method, impacting on organisation resources). While the researchers tend to focus on some or all of these measures when discussing the usefulness of selection methods, employers tend to focus more on the latter two, that is, interpretability and practicality (Brown and Campion, 1994; Caretta and Ree, 2000; Cooper and Robertson, 1995; Hodgkinson and Payne, 1998; Judge, Cable and Higgins, 2000; Moscoso, 2000). Therefore, our second research objective is to identify how Australian firms go about evaluating the methods in selecting graduates.

The choice of selection methods by employers creates some consternation within the research, which suggests that employers may choose selection methods on the basis of expediency rather than technical adequacy (Cooper and Robertson, 1995). For instance, unstructured interview method was perceived to be poor indicators of performance for a number of years as this method suffered from primacy, recency and similarity effects, and non-verbal cues influencing interviewer bias (Judge, Cable and Higgins, 2000; Moscoso, 2000; Shackleton and Newell, 1989). Yet numerous studies have reported their ongoing use in practice, for both experienced hires and graduates (e.g., Di Milia and Smith, 1997; Harris, 2000; Hough and Oswald, 2000; Judge, Cable and Higgins, 2000; Salgado, 1999). Therefore, our third research objective was to identify the perceptual differences in relation to the importance and usefulness of the selection methods in predicting performance. This is because research has shown that what is useful in the research literature might not be considered to be important from the organisational perspective.

Despite the common views within the research of the need to consider each stage in the process, researchers point out that organisations do not set clear objectives when embarking on a recruitment process, leaving them with nothing against which to evaluate their success (Breauge and Starke, 2000; Rynes and Boudreau, 1986). Furthermore, if objectives had been set, they tended to vary from one organisation to the next. The wide variety of success measures creates difficulty for researchers wishing generalise their findings across a range of employers. As a result, researchers may inadvertently focus on criteria that are not important to HR practitioners, resulting in information of little or no relevance to employers in practice (Rynes and Boudreau, 1986; Shackleton and Newell, 1989). Hence, the final research objective is to identify the success measures used by Australian organisations in selecting graduates.

METHODS

The graduate employers’ guide, Graduate Opportunities 2002, was used to identify graduate employers in Australia and New Zealand. A questionnaire was emailed or mailed to the key contacts shown for all organisations listed in Graduate Opportunities. Altogether 219 surveys were distributed. After two follow-up emails and or telephone calls, we received responses from 52 organisations (52
individuals responding or a response rate of 23.7 percent). Two surveys were not used in the final analysis as they did not refer to graduate recruitment conducted in 2001. This sample size is approximately half of a recent industry-wide study by The Australian Association of Graduate Employers (n=117).

The survey gathered background information from the participating organisations and the information sources used for graduate recruitment and selection. In addition, we also asked the respondents to indicate the degree of usage and the perceived importance of the methods. The information sources were adapted from the studies by Rynes and Boudreau (1986) and Pychtin’s Northeast Quadrant 2001 Graduate Recruitment Survey of Australian Graduates. Participants were asked to rate, on a 7-point Likert scale, the degree of importance of each information source used by their organisation, and the degree of usefulness of the information source as a method of attracting graduates to their organisation.

We also asked the respondents to consider the importance and usefulness to employers of a variety of methods such as interviews, assessment centres, aptitude tests and bio-data. The selection methods were adapted from those used by Di Milia and Smith (1997) in their survey of Australian management selection practices, and those used by Keenan (1995) in his survey of UK graduate selection techniques.

Respondents were also asked to rate the impact of a number of factors on their choice of graduate selection methods in 2001. The factors were adopted from those suggested by recent studies on graduate recruitment (Hodgkinson and Payne, 1998; Keenan, 1995; Rynes and Boudreau, 1986; Salgado, 1999; Schmidt, Ones and Hunter, 1992). The factors were rated on a 7-point Likert scale, ranging from ‘1’=No impact to ‘7’=Impacts to a great extent.

Respondents were then requested to use a 7-point Likert scale to indicate the degree to which each success measure provided an indication of the success in graduate recruitment within their organisation. The success measures were adapted from Rynes and Boudreau’s study of graduate recruiters in the USA (1986). Their purpose in asking this question was to gain participants’ subjective evaluations of the success of their program. The question in this survey was worded slightly differently, in order to identify which aspects participants used to indicate their success, “All things considered, please indicate, the extent which the following factors were indicative of the success of your graduate recruitment during 2001?”

RESULTS
We relied on descriptive statistics to identify the selection methods adopted by Australian firms, the factors influencing their choice of methods, and the success measures used in graduate selection. Independent samples T-test analysis was then used to compare the differences in the importance and usefulness of selection methods. We then used factor analysis to reduce the factors impacting on the choice of selection methods and the measures of success.

Respondents were categorised into three industry groups: 70% (or 35 respondents) from Services (professional services, consultancy, financial services, etc), 12% (or 6 respondents) from Mining/Manufacturing/Engineering, and 18% (or 9 respondents) from the Public Sector. Most of the respondents were from large organisations (44%, greater than 1000 employees), followed by 36% from small organisations (0-less than 500 employees) and 20% from medium-sized firms (500 to 1000 employees). The sample characteristics are similar to that of the industry-wide study by The Australian Association of Graduate Employers (Talent Zone Asia Pacific, 2003). Respondents were asked to indicate the number of graduates recruited during 2001 to commence in 2002. Most of these firms were medium recruiter of graduates (21-50 graduates), followed by 32% of small recruiters (less than 20 graduates) and 26% large recruiters (greater than 51 graduates). Within the responding organisations, the responsibility for graduate recruitment was made by HR Director (11%) and HR Managers.
Respondents were also asked to indicate their annual staff turnover and annual graduate turnover during the first year of their employment. The overall level of staff turnover in the sample population was considered to be low (62% or 32 respondents reported 0 to 20% turnover) and 20% respondents (10) reported medium turnover (20 to 50% turnover). For turnover of graduates during their first year of employment, 90% (45) of respondents reported low turnover. Sixty-two percent of respondents indicated that a job analysis was completed for graduate positions. A large number of respondents (86%) reported that this was conducted on an annual basis. Respondents indicated that their graduate recruitment campaign was moderately related to organisation’s business plan (mean=5.4, SD=1.38).

**Graduate Selection Methods**

As reported in Table 1, in order of importance, the top four most important selection methods are pre-screening via application form and resume, structured interviews with 2 or more interviewers, structured interviews with 1 interview and assessment centres. On the other hand, in order of usefulness, the most useful selection methods in predicting performance, the top four methods are structured interviews with 2 or more interviewers (mean=6.03), structured interviews with 1 interviewer (mean=5.97), bio-data (mean=5.74), and assessment centres (mean=5.68).

Table 1: Comparison of Importance and Usefulness of Graduate Selection Methods

<table>
<thead>
<tr>
<th>Selection Method</th>
<th>N</th>
<th>Mean Importance</th>
<th>Mean Usefulness</th>
<th>T test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application form / resume pre-screening</td>
<td>38</td>
<td>6.55</td>
<td>5.03</td>
<td>6.967**</td>
</tr>
<tr>
<td>Structured interview – 2 or more interviewers</td>
<td>29</td>
<td>6.55</td>
<td>6.03</td>
<td>2.353*</td>
</tr>
<tr>
<td>Structured interview – 1 interviewer</td>
<td>30</td>
<td>6.30</td>
<td>5.97</td>
<td>n.s.</td>
</tr>
<tr>
<td>Assessment centres</td>
<td>19</td>
<td>6.05</td>
<td>5.68</td>
<td>n.s.</td>
</tr>
<tr>
<td>Bio data</td>
<td>31</td>
<td>5.94</td>
<td>5.74</td>
<td>n.s.</td>
</tr>
<tr>
<td>Reference checks</td>
<td>26</td>
<td>5.46</td>
<td>5.00</td>
<td>2.379*</td>
</tr>
<tr>
<td>Aptitude tests – paper and pencil</td>
<td>18</td>
<td>5.17</td>
<td>5.00</td>
<td>n.s.</td>
</tr>
<tr>
<td>Phone interview</td>
<td>16</td>
<td>5.06</td>
<td>4.81</td>
<td>n.s.</td>
</tr>
<tr>
<td>Aptitude tests – computerised</td>
<td>10</td>
<td>5.00</td>
<td>4.90</td>
<td>n.s.</td>
</tr>
<tr>
<td>Agency reports</td>
<td>11</td>
<td>4.64</td>
<td>4.64</td>
<td>n.s.</td>
</tr>
<tr>
<td>Personality and/or personal interests tests –</td>
<td>8</td>
<td>4.38</td>
<td>4.00</td>
<td>n.s.</td>
</tr>
<tr>
<td>computerised</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unstructured interview – 1 interviewer</td>
<td>10</td>
<td>3.80</td>
<td>3.50</td>
<td>n.s.</td>
</tr>
<tr>
<td>Unstructured interview – 2 or more interviewers</td>
<td>8</td>
<td>3.63</td>
<td>3.5</td>
<td>n.s.</td>
</tr>
<tr>
<td>Personality and/or personal interests questionnaires – paper and pencil</td>
<td>10</td>
<td>3.40</td>
<td>3.40</td>
<td>n.s.</td>
</tr>
<tr>
<td>Personality and/or personal interests tests – on line</td>
<td>6</td>
<td>3.33</td>
<td>3.50</td>
<td>n.s.</td>
</tr>
<tr>
<td>Aptitude tests – on line</td>
<td>7</td>
<td>3.14</td>
<td>3.29</td>
<td>n.s.</td>
</tr>
</tbody>
</table>

Notes:
*p<0.05 (two tailed); ** p<0.01 (two tailed)

Results showed that there were significant gap in the perceived level of importance and usefulness in predicting performance for only three methods used (see Table 1): pre-screening of application form/resume (t=6.855, p<.001), structured interviews with 2 or more interviewers (t=2.504, p<.05), and reference checks (t=2.379, p<.05). Figure 1 shows the differences in perception.

**Factors Impacting on Choice of Selection Methods**

Factor analysis of the 19 items (e.g., ‘past success in predicting job performance’) influencing the choice of selection methods were carried out with SPSS software (version 11.0), using Principal Component extraction with Varimax rotation. A five factor solution was resulted. Results showed that
the single item 'Organisation Fit' had the greatest impact on the choice of selection methods (mean=6.34, SD=0.85), followed by a four-item 'Candidate Reactions' factor (sample item included 'candidate’s perception of selection techniques', Cronbach’s Alpha = 0.73, mean=4.83, SD=1.11), a five-item ‘Resources’ factor (sample item included ‘available budget’, Cronbach’s Alpha = .89, mean=4.56, SD=1.56), a seven-item ‘Organisational Characteristics’ factor (sample item included ‘number of graduates being sourced’, Cronbach’s Alpha = .83, mean=4.40, SD=1.28) and a two-item ‘Scientific Evidence’ factor (sample item included ‘journals/academic papers on selection methods’, Cronbach’s Alpha = .65, mean=3.59, SD=1.62).

Measures of Success
Factor analysis of the 13 items (sample item included ‘high performance of new recruits’) organisational success measures were carried out with SPSS for Windows software (version 11.0), using Principal Component extraction with Varimax rotation. We derived at a four-factor solution. Most indicative of success in graduation selection was a single-item ‘Quality of Graduates Selected’ factor, followed by five-item ‘Attraction and Retention’ factor (sample item included ‘high retention of new recruits’, Cronbach’s Alpha = .79, mean=5.51, SD=1.00), a two-item ‘Professionalism’ factor (including ‘turnaround time’ and ‘the professionalism of recruiters’, Cronbach’s Alpha = .66, mean=5.17, SD=1.39), and a five-item ‘Administration’ factor (sample item included ‘cost control’ and ‘administrative procedures’, Cronbach’s Alpha = .82, mean=4.55, SD=1.24). All of the factors of success measures were rated above the mid-point of the 7-point Likert scale.

DISCUSSION AND CONCLUSION
This paper reports the findings from an exploratory study into the adoption of selection methods for graduates in Australia. Our study reveals that a wide range of selection methods are used to recruit graduate trainees into Australian firms. The most commonly used methods in this survey included application form pre-screening, bio data and structured interviews. This is not consistent with literature cited in previously (Cooper and Robertson, 1995; Di Milia and Smith, 1997; Harvey-Cook and Taffler, 2000; Hough and Oswald, 2000; Salgado, 1999), especially in the wide-spread use of unstructured interviews and bio-data. However, consistent with literature findings, the Australian findings indicated significant perceptual gap in terms of the level of importance to the recruitment process versus usefulness in predicting performance for pre-screening of application form / resume review, structured interviews with two or more interviewers and reference checking.

Respondents rated structured interviews with two or more interviewers as the highest, in terms of usefulness in predicting performance. It appears that respondents adopted a more conservative approach when scoring selection methods in terms of their usefulness in predicting performance, than when considering the importance of the methods, resulting in the gap between degree of importance and usefulness for certain selection methods. Interestingly, despite the literature arguing that aptitude tests have the highest validity in terms of predicting performance, on-line aptitude tests were rated lowest by graduate employers. Previous research in Australia (Di Milia and Smith, 1997) and Europe (Hodgkinson and Payne, 1998) also reached similar conclusion regarding the over reliance of selection methods which have lower level of validity. The current finding could be caused by the level of technical skills among graduate recruiters in Australia in using scientific selection methods. In addition, anecdotal evidence has demonstrated that practitioners question the usefulness vis-à-vis importance of selection tests in the literature. Research (e.g., Ulrich, 1997) has constantly urged practitioners to improve their technical competencies as a means of enhancing their HRM effectiveness. Perhaps, as suggested by Johnson (2000, 76), the situation in Australia is similar to that in New Zealand whereby employers continued to ignore best practice in employee selection. However, this finding may have been impacted by the relatively small number of respondents using aptitude tests (n=7); the larger sample sizes for paper and pencil aptitude tests (n=18), and computerised aptitude tests (n=10), averaged higher results for both importance and usefulness.

The literature indicates that many employers choose selection methods on the basis of expediency, practicality and ease of interpretation rather than also focussing on validity and reliability in predicting performance (Cooper and Robertson, 1995; Cable and Higgins, 2000). The findings of this study
support this view to some extent, as Scientific Evidence was rated as having the lowest impact on choice of selection methods. However, Organisational Fit was reported as having the highest impact on the choice of selection methods, rather than Resources or Organisational Characteristics, both of which would be expected to have a greater impact if the literature concerns were realised.

Similar to the benchmarking study conducted by The Australian Association of Graduate Employers (Talent Zone Asia Pacific, 2003, 44), organisational fit is a key criteria in influencing the selection of graduates and it has a significant impact reflects the reality and practise of graduate recruiters. Graduates typically have limited work experience, creating difficulty in measuring their specific potential for performance on the job. Furthermore, many organisations offer job rotational programs to graduates. Therefore, of greater interest to employers is the graduates' ability to fit into the organisation and undertake a variety of roles in the future. This finding is consistent with the general trend in selection methods, as concluded by Wilk and Cappelli (2003). Wilk and Cappelli argue that specific work characteristics will affect organisational usage of specific types of selection methods. Further research is therefore needed into both the types of graduate programs offered (e.g., rotational), the variety of roles into which graduates are recruited and the selection methods which best identify organisational fit.

Respondents indicated that the most important indicator of success in a graduate recruitment program was the quality of the graduates selected. This finding implied that graduate recruiters used a variety of methods to select high quality applicants. This was followed by attraction and retention, which comprised success factors such as high performance and retention of new recruits. This finding indicated that at the very least, recruiters recognised the need to measure the ongoing performance of their graduate recruits, as a measure of success of their recruitment and selection programs.

Further research into the methods used to measure the performance is required in order to establish whether practitioners are in fact approaching this objectively rather than subjectively, as suggested by Rynes and Boudreau (1986). Professionalism, consisting of professionalism of recruiters and turnaround time, was also found to be moderately indicative of success in this survey, reflecting the increasingly competitive nature of graduate recruitment in today’s market. High quality candidates consistently receive two or three offers of employment. Decisions between organisations which offer similar benefits and opportunities may be made on the basis of perceived professionalism of the staff candidates have met throughout the process.

Rynes and Boudreau (1986) and Breaugh and Starke (2000) express concerns that employers do not always set objectives when embarking on a recruitment process. Findings of this survey support these views. Planning and goal setting formed part of the Administrative factor of success measures in the factor analysis, and subsequently received the lowest rating in terms of a success indicator. Although practitioners may have improved in terms of their abilities to objectively rather than subjectively measure success, one must question the value of their measures, if they are not matched with initial goals and objectives.

**Limitations and Implications**

The sample size in this study is relatively small and the response rate was low, and therefore results should be generalised to the graduate recruitment population with caution. This is partly reflective of the time of year at which the study was conducted. The surveys were issued during May, which for many organisations is the peak of their graduate recruitment season. A better response rate may have been gained had the survey been issued later in the year. The survey could also be issued to academics to identify whether the literature findings reported earlier match current Australian academic views on recruitment and selection methods and practices. However, given the small population of graduate recruiters, the current study captured the perceptions of less than a quarter of the population. Furthermore, the findings could only be generalised to small and medium sized enterprises in Australia. Therefore, in relation to our research objectives and the exploratory nature of the current study, the findings do allow a snapshot of the level of practices being used in selecting graduate hires in Australia.
Despite the caution in generalising the results, the survey reveals findings which are valuable to both graduate recruiters in practice, and future researchers. For graduate recruiters, key messages include the need to set objectives for their recruitment programs in order to have measurable results. The focus on organisational fit amongst employers indicates an ongoing need for a greater understanding about which selection methods will best identify organisational fit. The perception gap between importance and usefulness of certain selection methods, particularly application form pre-screening, is concerning, although may also be explained by the increased use of on-line application forms amongst employers for graduate recruitment programs. The application form pre-screening may in fact be more akin to bio-data review, as on-line applications allow a greater gathering of all information employers see as relevant to their selection process. Employers may simply not understand the value of bio-data in predicting performance, despite their regular use of same.

Future research should focus on gathering a more in-depth understanding of the graduate recruitment market and in particular, how employers form views of the predictive nature of selection methods. Future graduate recruitment surveys should be issued outside of peak graduate recruitment periods in order to encourage a greater response rate, and employers continue to need to be made aware of the value they will gain from participating in such research. Future research should collect organizational level data so that subjective and objective performance indicators could be used in the analysis. For instance, independent (for example, selection methods) and dependent variables (for example, graduation retention rate, graduate performance indicators) from successful graduate recruits should be collected to minimize common method bias. In addition, the analysis should also be carried out to compare the adoption of graduate selection methods used in different industry sectors. Hence, our findings should be considered with caution when generalizing about the status of graduate recruitment and selection in Australia.

In conclusion, the current study identified a variety of methods used by Australian firms in selecting graduate hires. We have also identified the most important and useful selection methods used in predicting the job performance of graduates. There were significant gap between perceived importance and usefulness for pre-screening of application form/resume, structured interviews with 2 or more interviewers, and reference checks. Graduate recruiters also reported that organisational fit had the greatest impact on the choice of selection methods. They would use the quality of graduates selected, attraction and retention, the professionalism of graduate recruiters, and the administration of graduate recruitment and selection program as key success indicators.

REFERENCES


Exploring the Trends in Graduate Selection in Australia

Ms Katrina Moriarty
PricewaterhouseCoopers, Sydney, Australia
Email: katrina.moriarty@au.pwcglobal.com

Dr Stephen T.T. Teo**
School of Management, University of Technology, Sydney, Australia
Email: stephen.teo@uts.edu.au

Refereed Paper

Stream P

** Please contact the second author for all future correspondence.
Surfing the Waves
Management Challenges • Management Solutions

Proceedings of the
17th ANZAM Conference
Refereed Papers presented at the Conference
Editor: Professor Alan Brown

ISBN: 1 86308 108 9