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Author: A. Smith and E. Oczkowski
Author Address: asmith@csu.edu.au
eoczkowski@csu.edu.au
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Abstract: Much research has been carried out on the supply of skills through the national VET system to industry. This research has often focused on the factors which affect the development and formation of skills within organisations (see for instance Warhurst et al, 2004). But, however effectively skills are developed by the training system or within industry, organisations will not be able to reap the benefits unless they can utilise and retain the skills which they develop and acquire. Little work has been carried out on the factors that influence the use and retention of skills. This paper reports on research that will help to improve the ways in which organisations utilise and retain skills. The research is focused on skills planning at the organisation level rather than the supply of skills through the national VET system and is based on the proposition that the ability of organisations to utilise and retain skills is related to their use of human resource management and high performance work practices.
To have and to hold: Human resource management and skills retention in Australia.

Refereed paper

Professor Andy Smith
School of Commerce
Charles Sturt University
Locked Bag 588
Wagga Wagga
NSW 2678
AUSTRALIA
ph 61 2 6933 2484
fax 61 2 6933 2930
email asmith@csu.edu.au

Professor Eddie Oczkowski
School of Commerce
Charles Sturt University
Locked Bag 588
Wagga Wagga
NSW 2678
AUSTRALIA

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To have and to hold: Human resource management and skills retention in Australia.

Much research has been carried out on the supply of skills through the national VET system to industry. This research has often focused on the factors which affect the development and formation of skills within organisations (see for instance Warhurst et al., 2004). But, however effectively skills are developed by the training system or within industry, organisations will not be able to reap the benefits unless they can utilise and retain the skills which they develop and acquire. Little work has been carried out on the factors that influence the use and retention of skills. This paper reports on research that will help to improve the ways in which organisations utilise and retain skills. The research is focused on skills planning at the organisation level rather than the supply of skills through the national VET system and is based on the proposition that the ability of organisations to utilise and retain skills is related to their use of human resource management and high performance work practices.

The notion of human resource management is very widely used now but it only emerged from the old husk of personnel management in the 1980s. Whereas personnel management was focused on the administration of people in organisations, human resource management is concerned with the effective use of people as a source of sustained competitive advantage (Boxall and Purcell, 2003). Modern human resource management is focused on effective selection of workers, performance management systems, the shaping of organisational culture and strategic integration with business plans. The adoption of lean production methods by western manufacturing and other organisations in the 1990s led to the emergence of the concept of high performance work systems. US researchers (Osterman, 1995; McDuffie and Kochan, 1995) found that the major people management elements of high performance work systems include; extensive use of teamwork, adoption of total quality management methods, job rotation, extensive training of all workers, recruitment for personal rather than technical skills, performance related pay and the reduction of barriers between managers and workers (single status). Another
important aspect of high performance work systems is that high performance work systems practices need to be implemented together as “bundles” of practices in order to gain the maximum effect (Appelbaum et al, 2000). Although much broader than human resource management, in that high performance work systems also encompass the development of new forms of work organisation and the use of technology, nevertheless the human resource management practices adopted under high performance work systems are critical to the success of these systems (Butler et al, 2004)

Despite the importance of training in both high performance work systems and human resource management, little systematic work has been undertaken to find out whether the adoption of these practices by organisations enables them to utilise and retain skills (Lloyd and Payne, 2005). This is a major gap in our understanding of skills in organisations. As skills are primarily developed and utilised within organisations, it is critical to understand what management practices could be implemented to help organisations use and retain skills and thus build competitive advantage.

This research examines the ways in which adopting human resource management and high performance work systems can help organisations to better utilise and retain skills. The aim of the project is to produce guidelines for organisations to adopt improved management practices in order to better utilise and retain skills and reap maximum returns for their investments in training.

The research addressed four research questions of particular interest:

1. What industries (and organisations within) have the most success in utilising skills and retaining staff?
2. Does the adoption of sophisticated management techniques, such as human resource management and high performance work systems, help industries and enterprises to recruit and develop, and particularly to utilise and retain skilled staff; and, if so, through what mechanisms does this improvement occur and how can any improvements be measured?
3. Are there general lessons that all industries and organisations can share in the better utilisation and retention of skills?
4. What specific measures assist in retraining and retaining existing workers?

This research used a mixed qualitative and quantitative methodology (Jean-Lee, 1994).

The qualitative phases (expert interviews and case studies) of the research focused on four industry areas and was conducted largely at the organisation level. The four industry areas were:

- Manufacturing;
- Community Services and health.
- Retail.
- Financial services.

The project methodology included:

Expert interviews. A number of individual interviews were held with key informants. Informants will include:

- Representatives of appropriate industry skills councils from the selected industry sectors
- Representatives of appropriate employer bodies.
- CEOs of selected organisations in the relevant industry sectors

National employer survey. A mailed survey was sent in two waves to about 2,500 organisations economy-wide with details drawn from the Dun and Bradstreet database. The questionnaire measured:

1. the adoption of human resource management approaches including:

2. the adoption of high performance work systems practices including:
3. Levels of skills utilisation and retention. Measures for this will be developed as part of the project and may include:

Case studies. Eight case studies were undertaken in the four industry sectors (2 case studies in each). The case studies enabled the team to investigate the ways in which human resource management and high performance work systems practices work at the organisation level to improve skill development, utilisation and retention.

This paper reports on the findings from the expert interviews and the survey.

**Sampling Frame and Responses**

The sampling frame employed for this study was derived from the Dun and Bradstreet database of Australian organisations, as of October 2006. Each organisation entry includes basic demographic information about the enterprise including contact details, Dun and Bradstreet SIC Australia classification codes, line of business and some basic data referring to employee size and annual turnover. The specific sampling frame used in this study relates to those organisations who have an identified human resources decision maker.

The complete survey instrument was piloted during September and October 2006 with a group of HR decision makers and academics. The instrument was also assessed by the Australian Government statistical clearing house (SCH). The SCH provided substantial feedback and in response significant changes were made to the instrument. The SCH also provided important feedback on the sampling and mail-out methodology.

Overall, the effective sampling frame consists of approximately 2500 organisations who received at least one survey, from which 335 responses were gained. Of the 335 responses, seven where grossly incomplete with more than 25% of questions unanswered and were discarded from the analysis, this resulted in 328 usable responses and translates to an effective response rate of 13.1%. Data on the time
taken to complete the survey was collected resulting in a mean time of 28.3 minutes with a standard deviation of 16.3.

Table 1
Sampling Frame and Responses

<table>
<thead>
<tr>
<th>Mail-Out</th>
<th>Surveys Posted</th>
<th>Return-to-Sender</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2500</td>
<td>148</td>
<td>200</td>
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<tr>
<td>2</td>
<td>2500</td>
<td>71</td>
<td>120</td>
</tr>
<tr>
<td>3</td>
<td>45</td>
<td>0</td>
<td>15</td>
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</tbody>
</table>

Modelling the drivers of Skill turnover, retention and utilisation

Structural equation modelling (SEM) techniques are employed for identifying the statistically important drivers of the skill related variables. Four broad sets of models will be developed: 1) models of skill turnover for each of the four skill categories; 2) models of the extent of skill utilisation for each of the four skill categories; 3) a model of skill retention as it aligns with long-term goals; 4) a model of skill utilisation as it aligns with long term goals. The variables to be examined as potentially important drivers are those listed for management practices, training related variables, human resource practices, and organisational/market characteristics, listed in tables 6 -9.

Skill Turnover Drivers

In order of importance (beta coefficients), the statistically significant drivers for skill turnover are presented in table 2. Only learning orientation and unionisation are important drivers for all skill categories and as expected pursing a learning orientation and having a higher level of unionisation leads to a decrease in turnover. In addition, there are other individual important drivers for the various skill categories which we outline below.

We make the following comments for the skill category of managers, professionals and technicians. Having more employees in teams increases turnover. Having more employees who have received a nationally recognised training qualification reduces
More flexible working time arrangements reduces turnover. After accounting for the other factors the manufacturing sector has a lower turnover rate and the services sectors a higher turnover rate. While compared to other ownership structures, a privately owned organisation has a lower turnover rate.

We make the following comments for the skill category of skilled trades. If more employees do other jobs, turnover increases. After accounting for the other factors the wholesale trade sector and large organisations have a higher turnover.

We make the following comments for the skill category of intermediate skills. Having more employees who have received a nationally recognised training qualification reduces turnover. Those organisations who conduct appraisals frequently reduce turnover. More flexible working time arrangement reduces turnover as does using higher pay as the first ranked retention strategy. After accounting for the other factors the manufacturing sector and privately owned organisations have lower turnover.

We make the following comments for the skill category of elementary skills. More employees being formally appraised reduces turnover. Using more attributes in recruitment reduces turnover. After accounting for the other factors the agriculture and mining sector has a higher turnover and not-for-profit and other organisational structures have a lower turnover.

<table>
<thead>
<tr>
<th>Skill Turnover Models: Significant Drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Managers, Professionals, Technicians Turnover</strong></td>
</tr>
<tr>
<td>Driver</td>
</tr>
<tr>
<td>Nationally recognised</td>
</tr>
</tbody>
</table>

Table 2
<table>
<thead>
<tr>
<th>Training</th>
<th>Jobs</th>
<th>Private Ownership</th>
<th>Agriculture and Mining Sector</th>
<th>Unionisation</th>
<th>Private Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teamwork employed</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexible working time arrangements</td>
<td>-</td>
<td>Large organisations</td>
<td></td>
<td>National recognised training</td>
<td></td>
</tr>
<tr>
<td>Private ownership</td>
<td>-</td>
<td>Learning orientation</td>
<td></td>
<td>Manufacturing sector</td>
<td></td>
</tr>
<tr>
<td>Learning orientation</td>
<td>-</td>
<td>Wholesale trade sector</td>
<td></td>
<td>Learning orientation</td>
<td></td>
</tr>
<tr>
<td>Unionisation</td>
<td>-</td>
<td>Appraisal Frequency</td>
<td></td>
<td>Attribute recruitment</td>
<td></td>
</tr>
<tr>
<td>Services sector</td>
<td>+</td>
<td>Higher pay retention strategy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacturing sector</td>
<td>-</td>
<td>Flexible working time arrangements</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Drivers listed in order of importance as determined by beta coefficients.

**Extent of Skill Utilisation Drivers**

In order of importance (beta coefficients), the statistically significant drivers for the extent of skill utilisation are presented in table 3. There is no single driver which is important for all skill categories. Learning orientation is significant for all categories except elementary skills. We make comment on the other important drivers for the various skill categories below.
For the skill category of managers, professionals and technicians, having more employees formally trained to do other jobs reduces utilisation. More employees being surveyed increases utilisation. Greater technological turbulence reduces utilisation. After accounting for the other factors the manufacturing sector increases utilisation and the retail trade sector reduces utilisation.

For the skill category of skilled trades, having more attributes of teamwork autonomy reduces utilisation. Having more employees who receive national recognised training increases utilisation. An increase in unionisation increases utilisation. After accounting for the other factors the agriculture and mining sector increases utilisation.

For the skill category of intermediate skills, greater technological turbulence reduces utilisation. Foreign based multinational organisations reduce utilisation.

For the skill category of elementary skills, having more employees who have a nationally recognised training qualification increases utilisation, while the services and finance sectors are associated with a reduction in utilisation.

<table>
<thead>
<tr>
<th>Table 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extent of Skill Utilisation Models: Significant Drivers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Drivers</th>
<th>Directions</th>
<th>Drivers</th>
<th>Directions</th>
<th>Drivers</th>
<th>Directions</th>
<th>Drivers</th>
<th>Directions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning orientation</td>
<td>+</td>
<td>Nationally recognised training</td>
<td>+</td>
<td>Learning orientation</td>
<td>+</td>
<td>Services sector</td>
<td>_</td>
</tr>
<tr>
<td>Trained to do other jobs</td>
<td>_</td>
<td>Unionisation</td>
<td>+</td>
<td>Technological turbulence</td>
<td>_</td>
<td>Nationally recognised training</td>
<td>+</td>
</tr>
<tr>
<td>Technological</td>
<td>_</td>
<td>Learning</td>
<td>Foreign based</td>
<td>_</td>
<td>Finance</td>
<td>_</td>
<td></td>
</tr>
</tbody>
</table>
Skill Retention and Utilisation and Long-Term Organisational Goals Drivers

In order of importance (beta coefficients), the statistically significant drivers for the measures of how retention and utilisation align with organisational long-term goals models are presented in table 4.

For skill retention as it aligns with long-term goals, the following impacts have been identified. Learning orientation increases retention. More attributes covered in training for skill objectives increases reduces retention. More attributes used in recruitment increases retention. When appraisals result in the evaluation of training needs retention increases. Those organisations in the growth phase of the life cycle have lower retention. Greater technological turbulence reduces retention. After accounting for the other factors, organisations in the retail trade sector and medium sized organisations have more retention.

For skill utilisation as it aligns with long-term goals, the following impacts have been identified. Learning orientation increases utilisation. Having more specific soft skills covered in training reduces utilisation. Those organisations in the growth phase of the life cycle have lower utilisation. Greater technological turbulence reduces utilisation. After accounting for the other factors, organisations in the public administration sector, small sized organisations and privately owned organisations have lower levels of utilisation.
Table 4
Skill Retention and Utilisation (Alignment with Long-Term Goals) Models:

Significant Drivers

<table>
<thead>
<tr>
<th>Skill Retention</th>
<th>Driver</th>
<th>Direction</th>
<th>Skill Utilisation</th>
<th>Driver</th>
<th>Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning orientation</td>
<td>+</td>
<td>Learning orientation</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technological turbulence</td>
<td>-</td>
<td>Technological turbulence</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growth in life cycle</td>
<td>-</td>
<td>Soft skills training</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training for skill objectives</td>
<td>-</td>
<td>Growth in life cycle</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium sized organisations</td>
<td>+</td>
<td>Public administration sector</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retail trade sector</td>
<td>+</td>
<td>Small organisations</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attribute based recruitment</td>
<td>+</td>
<td>Private ownership</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appraisal resulting in training needs</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Drivers listed in order of importance as determined by beta coefficients.

References


