Why do Australian companies train their workers? An analysis of the 2005 SEUV data.

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Abstract

Despite the ongoing research carried out into employer training in Australia and overseas (Cully, 2006) and the availability of statistical evidence on training investments by Australian employers (ABS, 2003, NCVER, 2006), the operation of training activities within organisations remains something of a 'black box' for research and policy makers. This is particularly the case for understanding the reasons why employers provide training and their choices about the type of training they provide. Recent work by the Australian Industry Group (Allen Consulting Group, 2006) and the Business Council of Australia (2006) has underlined the increasingly strategic nature of training in modern Australian organisations. These reports highlight the fact that organisations are beginning to realise that their future access to the skills they have identified as necessary for future growth cannot be guaranteed by the outputs of the national vocational education and training (VET) system and they need to increase their own training efforts in-house to ensure the supply of skills. Research overseas has highlighted the prominence of training in the development of new approaches to human resource management and high performance work systems (Butler *et al*, 2004). Here training is important because it enables employers to implement new systems of work organisation that will radically improve business performance. Cappelli (2004) has argued that training plays a key role in building the close human relationships required for high performance work systems often referred to as "social capital". This paper presents an analysis of the 2005 Survey of Employer Use and Views of the VET system to uncover the reasons why

employers provide training in different circumstances and how different organisational characteristics will predispose employers towards discrete training choices.

Introduction

Despite the ongoing research carried out into employer training in Australia and overseas (Cully, 2006) and the availability of statistical evidence on training investments by Australian employers (ABS, 2003, NCVER, 2006), the operation of training activities within organisations remains something of a 'black box' for research and policy makers. This is particularly the case for understanding the reasons why employers provide training and their choices about the type of training they provide. Recent work by the Australian Industry Group (Allen Consulting Group, 2006) and the Business Council of Australia (2006) has underlined the increasingly strategic nature of training in modern Australian organisations. These reports highlight the importance of the current skills shortages arising from full-employment in driving training activities in organisations. Here organisations are beginning to realise that their future access to the skills they have identified as necessary for future growth cannot be guaranteed by the outputs of the national vocational education and training (VET) system and they need to increase their own training efforts in-house to ensure the supply of skills. In other words, skills have become a major driver for employer training. Research overseas has highlighted the prominence of training in the development of new approaches to human resource management and high performance work systems (Butler *et al*, 2004). Here training is important because it enables employers to implement new systems of work organisation that will radically improve business performance. Cappelli (2004) has argued that training plays a key role in building the close human relationships required for high performance work systems often referred to as "social capital". This paper presents an analysis of the 2005 Survey of Employer Use and Views of the VET system to uncover the reasons why employers provide training in different circumstances and how different organisational characteristics will predispose employers towards discrete training choices.

Method

The Survey of Employer Use and Views of the VET System (SEUV) is undertaken on a biennial basis by the National Centre for Vocational Education Research (NCVER) to determine the level of employer satisfaction with the national VET system. In recent years the survey has been considerably modified to include a range of questions on employer use of the VET system and of different forms of accredited and non-accredited training as well as measures of employer satisfaction. The survey was carried out by computer assisted telephone interviewing. Interviews were conducted with the manager best suited to answer questions on training in the organisations concerned. A sample of 25,604 employers was drawn by the ABS from the Australian Business Register which provided 6,418 in-scope employers and a total of 4,601 interviews were carried out. The final response rate achieved was 71.7 percent.

The purpose of this project was to perform further statistical analysis on the 2005 SEUV data with a view to better understanding the dynamics of training in firms and training decision-making by employers. The specific research questions were:

1. How widespread is the use of nationally recognised training and how is it being used to meet the emerging skill needs of firms?
2. What do employers think they get from different forms of training? What determines these perceptions?
3. How are employer training decisions affected by factors such as size, industry and employment/occupational structure and business strategy?
4. What factors make firms decide to use nationally recognised as opposed to non-accredited training and vice versa?

To answer these questions, a two stage analysis process was adopted. The first stage involved a cluster analysis of the reasons that employers gave for using each form of training. This was done because, although the survey had taken multiple reasons from employers as to why

the provided training, employers had not been asked to rank order the reasons. The cluster analysis enabled us to distinguish the more important from the less important reasons for employers providing training.

Numerous reasons were listed for each of the training choices and many employers list more than one reason for a training choice. This data prohibits the mutually exclusive characterisation of employers based on a single (or most important) reason. As a consequence cluster analysis is employed to group employers according to reasons chosen. The role of cluster analysis is to group cases of a similar nature into distinct exhaustive but mutually exclusive categories (Hair et. al., 2006). In modelling the reasons for training we need to be able to categorise the employers into unique non-overlapping categories even though on average 40% of employers cite more than one reason for using a training type. The survey did not ask employers to rank the cited reasons in order of importance and hence this and other types of information cannot be employed to uniquely classify the reasons. To this extent the cluster analysis by definition will produce some clusters which have employers who cite two or more reasons for choosing a training type. Initially we subjected all the individual cited reasons for training choices to cluster analysis, however, this produced clusters which were too complex to understand given the large number of cited reasons for each training choice. To simplify analysis and understanding, we combined reasons *a priori* of similar meaning before undertaking further analysis.

We employed the two-step cluster analysis procedure available in SPSS (ver14). The procedure initially pre-clusters the data using a cluster feature tree into many small sub-clusters. Using these sub-clusters the second step determines the final clusters using an agglomerative hierarchical method. The technique is particularly efficient for large data sets and can handle categorical data such as our cited reasons for

training by using the log-likelihood as a distance measure. Simulation performance reported in SPSS (2001) and Chiu et. al. (2001) suggests the procedure may perform accurately under a variety of conditions. Initially, we employed Schwarz's Bayesian criterion to optimally choose the number of clusters. This resulted in an optimum number of clusters of ten for vocational qualifications, six for apprenticeships/traineeships and five clusters for both unaccredited training and nationally recognised training. A large number of clusters are not particularity useful in our context as it makes the interpretation of the modelling too complex. To maintain consistency across training choices and to get an appropriate balance between complexity and richness we choose five clusters for each training type for modelling purposes.

The second stage involved a statistical modelling process in which the reasons employers had given for providing the different forms of training were modelled against a range of organisational characterises or variables which are commonly cited in the literature as factors influencing training decision-making in organisations. These factors included:

Industry type. These are derived from the standard ANZSIC classification of industries

Organisational status. This refers to whether the employers organisations were private 'for profit', private 'not for profit' or government business enterprises.

Employer size. This refers to the number of employees and is divided into large, medium and small (Small 1-9, Medium 10-99, Large 100+).

Permanence of employees. This refers to employment conditions of the workforce. Low permanence means that fewer than 25 per cent of employees are employed on permanent arrangements, medium permanence that 25-99 per cent of employees are permanent and high permanence that all employees are permanent.

Occupational type. This refers to whether the workforce of the organisation is primarily blue collar, white collar or knowledge-worker.

Strategic and skill variables. This set of characteristics includes a number of strategic and training related variables such as whether staff training is part of the business plan, the importance of training to the organisation, the current level of skills required by the organisation and whether the organisation is experiencing difficulties in recruiting staff.

Each of these characteristics was modelled against the clusters of reasons that employers gave for requiring vocational qualifications for jobs in their organisations. In this report we discuss a simplified version of the results of this modelling. The modelling produced both negative and positive associations. We discuss only the strongest negative and positive statistical association. The four types of training investigated were:

- ✧ having vocational qualifications as a job requirement
- ✧ employing apprentices and/or trainees
- ✧ using nationally recognised training
- ✧ using unaccredited training

In each case we discuss what the cluster analysis and the modelling say about the reasons that employers gave for choosing to use these forms of training.

Results

Vocational qualifications

Table 1 presents the reasons for employers requiring vocational qualifications for jobs.

Table 1: Reasons given by employers for having Vocational Qualifications as a job requirement

	Cluster					
Reasons	1	2	3	4	5	Total
Skills	**451 (100)**			**309 (100)**	125 (63)	885 (50)
Standards			**400 (100)**	236 (76)	88 (44)	724 (41)
Regulations		**402 (100)**	102 (26)	141 (46)	39 (20)	684 (39)
Competition					**198 (100)**	198 (11)
Number of Employers	**451**	**402**	**400**	**309**	**198**	**1760**

Numbers in parentheses represent the percentage of employers in the cluster who cite the stated reason. Numbers and percentages in the final right hand column under total refers to the total numbers of employers giving the reasons on the left. Since many employers gave more than one reason, the totals sum to more than 100 per cent of the total number of responding employers.

The most important set of reasons that employers gave for requiring vocational qualifications for any jobs in their organisations is skills. Half of all the employers who answered the questions on vocational qualifications in the survey responded that they use vocational qualifications to ensure that they have the skills required for the jobs in the organisation. A quarter of the employers cited skills as the sole reason for using vocational qualifications. The other major reason for requiring vocational qualifications was in order to comply with external or internal regulation. External regulation includes legislative, regulatory or licensing requirements; internal regulation refers to the provisions of industrial awards and enterprise agreements. Nearly 40 per cent of employers cited regulatory compliance as the reason for requiring vocational qualifications for jobs in their organisations and 23 per cent cited regulatory compliance alone. Thus, employers appear to require vocational qualifications for jobs in their organisations in order to ensure the supply of skills to jobs and to comply with regulation or the provisions of awards and enterprise agreements. The importance of training to the organisation is an important factor in determining why

employers require vocational qualifications for jobs. Where the organisation has a high level of commitment to training (e.g. training appears in the business plan of the organisation) employers are more likely to require vocational qualifications because they want to comply with regulatory requirements. In this case employers are satisfied that their own training delivers the skills they need. For organisations with a relatively low commitment to training, employers are more likely to use vocational qualifications to secure skills since they do not do enough training themselves to ensure the skills of their workers. The level of workforce skills highlights the same issue. Organisations with a low level of workforce skills are more likely to use vocational qualifications to gain the skills they need and do not generate through training, whereas high skilled organisations are likely to require vocational qualifications in order to comply with professional or industry standards.

Employing apprentices and trainees

Table 2 presents the reasons for employers employing apprentices and trainees.

Table 2: Reasons for using Apprenticeships/Traineeships

	Cluster					
Reasons	**1**	**2**	**3**	**4**	**5**	**Total**
Specific Skills	**290 (100)**	81 (35)	103 (37)	67 (27)	127 (31)	664 (46)
Skilling Staff		**232 (100)**	48 (17)	55 (22)	115 (28)	450 (31)
Specific Role			**280 (100)**	58 (24)	107 (26)	445 (31)
Ethical				**246 (100)**	94 (23)	340 (23)
Cost					**239 (58)**	239 (16)
Practice & Culture					**212 (52)**	212 (15)
Number of Employers	**290**	**232**	**280**	**246**	**411**	**1459**

Numbers in parentheses represent the percentage of employers in the cluster who cite the stated reason. Numbers and percentages in the final right hand column under total refers to the total numbers of employers giving the reasons on the left. Since many

employers gave more than one reason, the totals sum to more than 100 per cent of the total number of responding employers.

The main reason for organisations employing apprentices and trainees was to fill a specific skills gap or a specific job. Nearly half of the employers cited this reason. This is most common in organisations that have a high level of workforce skills and where there is a high level of commitment to training and which are also experiencing difficulties in recruiting skilled staff. Thus, organisations that are confident that their training produces the general level of workforce skills they need but find it difficult to recruit good staff will use apprenticeships and traineeships to fill their specific business-related skills and job needs. Employing apprentices and trainees to improve the overall level of skills in the workforce was also widespread with over 30 per cent of organisations citing this reason. But this is more likely in organisations which do not use training to generate the skills they require internally and are not having problems with recruitment. There is a strong ethical undertow to employing apprentices and trainees. Nearly a quarter of employers responded that they employ apprentices and trainees because they want to give something back to the industry or give young people a head start. But the explanation for this ethical position is not clear from the study and is likely to be related to micro-level factors such as management attitudes. However, the role of financial incentives in the employment of apprentices and trainees, which has been emphasised in recent critiques of policy in this area, was not borne out in this study. Only 16 per cent of employers quoted cost reasons for employing apprentices and trainees and this was nearly always in conjunction with a range of other reasons. The impact of financial incentives in the growth of the apprenticeships and traineeships system has been significantly overstated in recent years.

Nationally recognised training

Table 3 presents the reasons for employers using nationally recognised training.

Table 3: Cluster Analysis: Reasons for using Nationally Recognised Training

	Cluster					
Reasons	**1**	**2**	**3**	**4**	**5**	**Total**
Regulations	52 (25)				**546 (100)**	598 (40)
Skills			**334 (100)**	89 (36)	72 (13)	495 (33)
Standards	**208 (100)**	47 (33)	40 (12)	58 (23)	46 (8)	399 (27)
Competition		**142 (100)**	79 (24)	86 (35)	47 (9)	354 (24)
Human Resources				**249 (100)**	38 (7)	287 (19)
Number of Employers	**208**	**142**	**334**	**249**	**546**	**1479**

Numbers in parentheses represent the percentage of employers in the cluster who cite the stated reason. Numbers and percentages in the final right hand column under total refers to the total numbers of employers giving the reasons on the left. Since many employers gave more than one reason, the totals sum to more than 100 per cent of the total number of responding employers.

The most important reason given by employers for their use of nationally recognised training was to comply with external or internal regulatory requirements. Forty per cent of employers responded that the need to comply with regulation drives their use of nationally recognised training. A further 27 per cent responded that the need to comply with professional or industry standards was a key driver of their adoption of nationally recognised training. Thus, compliance with regulatory requirements or with standards is the key driving factor for the adoption by organisations of nationally recognised training. Providing specific skills for the business was also important with one third of employers citing this reason for their used of nationally recognised training. The use of nationally recognised training was also related closely to improving the competitiveness of organisations. Nearly one quarter of employers said that they use nationally recognised training to improve the quality of their goods and services and respond better to new technology. This might represent the fulfilment of one of the original purposes of Training Packages which was to improve the performance of Australian industry. Employers also appear to use nationally recognised training to achieve

broader human resource management objectives such as improving staff morale and retaining highly skilled staff. One third of employers said that they use nationally recognised training for these reasons. Thus, nationally recognised training seems to be providing the basis for a more strategically integrated approach to training in many Australian organisations.

Unaccredited training

Table 4 presents the reasons for emplo0tyers using unaccredited training

Table 4: Cluster Analysis: Reasons for using Unaccredited Training

	Cluster					
Reasons	**1**	**2**	**3**	**4**	**5**	**Total**
Skills	**654 (100)**	246 (44)	256 (41)	223 (49)	86 (25)	1465 (56)
Competition		**561 (100)**	267 (43)	144 (31)	48 (14)	1020 (39)
Standards			**623 (100)**	103 (22)	80 (24)	806 (31)
Responsive Workforce				**459 (100)**	17 (5)	476 (18)
Regulations					**340 (100)**	340 (13)
Number of Employers	**654**	**561**	**623**	**459**	**340**	**2637**

Numbers in parentheses represent the percentage of employers in the cluster who cite the stated reason. Numbers and percentages in the final right hand column under total refers to the total numbers of employers giving the reasons on the left. Since many employers gave more than one r4saions the totals sum to more than 100 per cent of the total number of responding employers.

The overwhelming reason for employers using unaccredited training is to improve the overall level of skills in their organisations. Fifty-six per cent of employers gave skills-related reasons as the driver behind their use of unaccredited training. The use of unaccredited training to improve the competitiveness of organisations was also quite common. Well over a third of employers (37%) stated that their use of unaccredited training was related to competitive reasons. In particular, employers tend to use unaccredited training to enable them

to respond to new technology. This has implications for the perceived currency of Training Packages. Nationally recognised training tends to be used to improve quality rather than to respond to new technology. The use of unaccredited training also appears to be becoming strategically integrated in the same way as nationally recognised training with nearly a fifth of employers stating that they use unaccredited training to develop and maintain a flexible and responsive workforce. Thus, a significant number of Australian employers appear to be using unaccredited training to develop the overall capability of their workforces to meet the increasingly competitive market in which they find themselves. The level of workforce skills appears to be a very important determinant of organisations' use of unaccredited training. Those organisations with a relatively low skilled workforce will use unaccredited training to improve skills levels. But organisations with a more highly skilled workforce will tend to use unaccredited training for broader, strategic and competitive reasons.

Discussion

This analysis has highlighted the complexity of decision-making about training in organisations. Much of the literature in the area of employer training has tended to take a rather reductionist line when explaining the use and operation of training at the organisational level. Thus, training has been seen as responding to a strategic skills gap (Hendry, 1991), responding to change initiatives (Smith and Hayton, 1999), the development of skills in the workforce (Allen Consulting Group, 2006), part and parcel of implementing other human resource practices in bundles (Butler *et al*, 2004) and so on. From the perspective of these writings, training decision-making is fairly unproblematic. Organisations identify a particular need or set of needs and consciously embark on training programs as part of a solution to those needs. This analysis of the 2005 SEUV data has shown that training decision-making is part of a complex system of managerial decision-making that exists in organisations. The reasons that organisations give for undertaking specific training programs are many and varied, although strong patterns can be detected. Perhaps the best illustration of this inherent complexity of training decision-making can be seen in the number of respondents who fall

into clusters in which employers give a multiplicity of reasons for providing the training – often between a third and a half of employers quote more than three reasons for providing the type of training in each cluster analysis set. Other clusters of employers, although they may have focused on one dominant reason, nevertheless often included other reasons also. Although the 2005 SEUV survey did not ask employers to rank order the reasons for their training choices (hence the reason for our cluster analysis), it is likely that employers would have found it very difficult to undertake such an exercise. The complexity of training decision-making raises the issue of government policy in the area of employer training. It is unlikely that simple policies will not work to significantly increase the overall level of training provided by organisations in the face of this level of complexity. Raising the demand for training has long been a vexed policy questions in developed economies (Keating, Medrich, Volkoff and Perry, 2000). Often responses have tendency to be crude attempts to compel employers to undertake more training without any reference to reasons why employers would provide training in the first place or where training fits into overall, strategic decision making at the organisational level. In most cases these policy solutions have failed (Smith and Billett, 2006). This analysis has underlined the hazardousness of such simple policy solutions. Improving employer demand for training is likely to require subtle, complex and multi-layered policy responses at all levels of government if it is to succeed in such a complex environment.

Allied to this complexity in the reasoning behind employer training decision-making is the difficulty in interpreting the role of industry sector in examining the reasons which employers give for providing different forms of training. In all four of the types of training examined in the 2005 SEUV survey, the statistical modelling process showed that industry sector was often strongly associated, either positively or negatively, with the reasons that employers gave for providing training. However, no simple picture emerges from an analysis of these relationships. For instance in the decision to adopt nationally recognised training over unaccredited training, there are strong positive relationships to four industry sectors either

way. But these sectors do not conform to the presence or absence of enterprise RTOs or to regulations which may drive the adoption of nationally recognised training. It is likely that the reasons for the presence or absence of specific industry sectors in the modelling of the reasons for training provided in our analysis is bound up with cultural and other idiosyncratic factors that cannot be rendered visible by this form of analysis. Hence the industry sector analysis tends to confirm the innate complexity of training decision-making at the organisational level.

Having said this, however, our analysis has also confirmed that there are a number of very important drivers for training decision-making in organisations. As the NCVER (2006) has shown, for each type of training analysed in the 2005 SEUV, up to four dominant reasons can be isolated in most instances. A critical issue to emerge from this analysis is the dominance of skills and skill-related reasons for providing training. Fifty per cent of employers quoted skills as the driver for requiring vocational qualifications in jobs in their organisations; forty-six per cent of employers quoted the need to gain skills specific to their business as the reason for employing apprentices and trainees and a further 31 per cent quoted the need to improve staff skills generally; thirty-three per cent of employers quoted the need to provide staff with skills required for the job as a reason for adopting nationally recognised training and 56 per cent of employers cited skills-related reasons for providing unaccredited training to their employees. The development of skills is overwhelmingly the most important of the reasons that employers gave for providing three out of the four types of training. In the case of nationally recognised training, skills are the second most important reason given after the need to meet regulatory requirements. The dominance of the development of skills as the major reason for providing training fits well with the recent analyses of employer views about the increasing need for skills in most organisations in the future as a source of competitive advantage and the impact of full employment on the ability of organisations to attract and retain skilled workers (Allen Consulting Group, 2006).

Regulation, both external (meeting legislative, licensing requirements etc) and internal (meeting the provisions of enterprise agreements and awards) plays a far less important role in training choices for organisations than the need to develop and acquire skills. The need to meet external or internal regulatory requirements was quoted by 39 per cent of employers for requiring vocational qualifications for jobs in their organisations (third most important reason for this type of training behind the need to develop skills and maintain professional/industry standards), by 40 per cent of employers for providing nationally recognised training (where it is the most important reason) and by only 13 per cent of employers for providing unaccredited training. Regulatory reasons were not quoted at all as important in decisions to employ apprentices and trainees. This suggests that the need for compliance with internal and external regulation may drive organisations to provide training that result in formal qualifications but it is not a universal driver of training. In these circumstances, it is even more unlikely that statutory requirements for organisations to increase their volume of training through training levies and other similar arrangements will trigger across the board improvements in training provision but result in rather simple compliance behaviour from organisations (Smith and Billett, 2006).

Of particular interest in this analysis is the importance of competition in driving the provision of different forms of training. Here competition included the improvement of the quality of goods and services, responding to new technology and helping the business to grow as well as generally remaining competitive. Competition was important in the provision of two forms of training – nationally recognised training and unaccredited training. Thus, organisations appear to use both in-house and often informal training (unaccredited training) as well as formal, accredited training to improve their competitiveness, especially quality and their use of new technologies. A previous analysis undertaken for this project separated out these two elements. For new technology it was clear that organisations tend to use unaccredited training. This suggests strongly that the other three types of training which are associated with the national training system - nationally recognised training, apprenticeship and

traineeship and vocational qualifications - are not seen as viable for effective training to respond to new technology. This finding on the importance of unaccredited training for new technology confirms earlier work that suggested that Australian firms tend not to use the national training system, specifically nationally recognised training, for meeting technology driven training needs (Smith *et al*, 2005). This study found that organisations in dynamic technological sectors felt that Training Packages lagged too far behind developments in technology to be of any use in keeping employees current with new developments. The present analysis appears to confirm that trend. This finding may also have implications for innovation in Australian firms and the role that training can play in enhancing innovation. If Australian organisations are rejecting the national training system as a source of skills for responding to new technology, there may be a significant gap between the training system and the national innovation system. For all the rhetoric around the importance of training for innovation (Toner, Marceau, Hall and Considine, 2004), it appears that Australian organisations are more likely to rely on their own in-house unaccredited training to supply the skills needed for effective innovation. With quality improvement, organisations use both nationally recognised training and unaccredited training. This means that although organisations will look to in-house training (albeit supported by an RTO in the case of nationally recognised training); organisations clearly value qualifications-based training for quality improvement purposes. This may also reflect earlier findings that nationally recognised training is often seen by employers as a means of benchmarking the skills of employees and ensuring a high quality of services and/or production (Smith *et al*, 2005).

Conclusion

This study of the reasons why employers provide training to their workers has emphasised the complexity of the picture of training decision-making that emerges from the data in the 2005 SEUV survey. But what are the lessons from this complexity for those most closely involved in the training system? For government, the complexity of training decision-making at the organisational level revealed in this analysis is salutary. There have been many calls from

researchers and other commentators in recent years that the level of demand for training and for VET from employers has to increase if Australia is to develop a highly skilled workforce. In most cases the solutions proffered to the problem of apparent low employer demand have been simplistic such as requiring all organisations that undertake government contactor work to invest in training, sometimes even punitive – the resurrection of the Training Guarantee or some similar coercive scheme. This analysis has suggested that what we have termed the 'strategy and skill' factors are important here. These include the strategic importance attached to training in organisations, the level of skill in the workforce and the difficulties which organisations are experiencing with recruitment. Policies that leverage theses factors in the organisation are more likely to be successful in raising the quality and skills of the Australian workforce than simple carrots and sticks.

This study has attempted to use data from the 2005 SEUV survey to better understand processes of training decision-making in organisations. The picture that has emerged is complex but the lessons are clear. If governments, employers and RTOs can heed these lessons then an employer-driven renaissance in workforce skills is possible and training might fulfil its long-heralded but seldom achieved role of improving the competitiveness of Australian business and industry.

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