

# Economic, psychographic and organisational influences on employees' participation in VET: Preliminary results

**Sue O'Keefe, Lin Crase & Darryl Maybery**

## **Abstract**

Nurturing and enhancing the skills and abilities of the workforce is critical to a firm's ability to sustain a competitive advantage, and to the ability of the economy as a whole to remain competitive. The need to continually develop the skills of employees has become even more of an imperative in the context of rapid technological change, globalisation of production and changing forms of work organization. Education and training confer significant economic and non-economic advantages for the individual, the firm and society, and whilst these gains are notoriously difficult to measure, they are almost universally acknowledged.

Whilst it is almost undeniable that an increasingly globalised economy requires a more highly skilled and malleable workforce, in the current context of reduced government intervention and increasing competitive pressures on enterprises, the provision and funding of education and training has become increasingly problematic. Accordingly, issues surrounding the precise nature of the relationship between the individual, the employer and the government are crucial to the future of VET in Australia.

This paper critically examines both the economic and psychological approaches to the examination of employees' decision to participate in VET, and presents a discussion of the advantages of a cross-disciplinary approach to enhance our understanding in this field. An experimental design process utilising this approach is also reviewed along with an examination of future research applications.

## **1.0 Introduction**

Over the past 25 years Australia has experienced large scale and widespread economic and structural change. These changes have included, but are not limited to, the decreased reliance on agriculture and manufacturing industries, the restructuring of government activities, expanded privatisation of industrial and service sectors, the increasing casualisation of the workforce, the decline of the trade union movement, the emphasis on 'user pays' principles and the like. Not surprisingly, these economic changes have also been associated with increased rhetoric about the importance of education and training, as vehicles to cope with the constant state of flux that typifies the contemporary work environment. Particular emphasis in policy making has been placed on the role of education and training in developing a flexible workforce which is capable of adapting quickly to changing market conditions and thus, capitalising on opportunity as it presents itself (Dawkins, 1988)

Thus, nations have been exhorted to ensure that the workforce is well equipped with the tools to adapt to the concept of a knowledge economy and to embrace change (Hall, Buchanan, & Considine, 2002). The production and distribution of knowledge is hailed as a key determinant of economic development and international competitiveness (OECD, 2001), and education is often seen as an important change agent or, at least, a factor in facilitating strategic change (Samier, 2000).

In this context, it is becoming increasingly important to understand the employees' decision-making processes as they pertain to education and training. It is the purpose of this paper to shed light on the relative importance of factors considered by individual employees in the decision process. The ultimate aim of this project is to develop a model of employee preferences for education and training, and to ascertain their willingness to pay for various education and training products.

The paper specifically describes the initial stages of a choice experiment and the derivation of attributes that constitute a hypothetical training 'product'. The term 'product' is used throughout this paper to denote a specific training course.

The paper itself comprises five parts. Part 2.0 outlines the theoretical foundations of the study, before Part 3.0 outlines the methodology utilised. A brief presentation of initial findings is presented in Part 4.0. The paper concludes in Part 5.0 with some brief remarks and suggestions for future directions for research.

## **2.0 Theoretical background**

The theoretical background for this study borrows from both the economic and psychology literature. In essence, much of the analysis of the decision to participate or invest in education and training draws upon economic reasoning grounded in rational choice. Accordingly, the neoclassical economic paradigm holds that the individual calculates the relative costs and benefits of each alternative before making a decision that maximises individual utility. Consumers are thus said to pursue their own self-interest through stable preferences given the constraints that they confront (Kaufman, 1999). However, we contend that a presumption of rational behaviour, based exclusively on optimisation and maximisation of utility, may grossly

underestimate the complexity of the decision-making environment in relation to participation in education and training. More generally,

[r]esting on its utility driven model of economic behaviour, the thrust of orthodox economics... has largely been a denial of the complexity of human and economic behaviour. It confines itself to the effects of, not the direct roots, of economic behaviour (Wolozin, 2002).

Much of the empirical economic evidence in the training context is retrospective, concentrating on demographic characteristics of those who have received training (Kilpatrick & Allen, 2001; Lilliard & Tan, 1992; Long, Ryan, G.Burke, & Hopkins, 2000), rather than factors that impact on the individual's decision. Emphasis has thus focussed upon demographic factors affecting the distribution of education and training (see for instance Kilpatrick & Allen, 2001), despite Pryor's (1990) contention that an understanding of demographic variables and their contributions to the decision process is of limited use to organisations or policy makers, since these variables are not malleable (Pryor, 1990). Moreover, the examination of the distribution of education and training amongst workers by Long et al. (2000) highlights that 'within person' factors are largely ignored in the economic literature. He specifically notes that:

Attitude or motivation is referred to frequently as an important attribute of employees- but it is nowhere measured in the literature on the incidence of training. We might expect that, all else equal (and possibly even a few

attributes unequal), employers would prefer to train workers with the ‘right’ attitude rather than those who were uninterested (Long et al. 2000, p.39).

The psychology literature, on the other hand, has a number of examples of attempts to understand the individual’s participation in education and training (Bagozzi & Warshaw, 1990; Boshier, 1977; Cookson, 1986; Groteleuschen & Caulley, 1977; Maurer & Tarulli, 1994; R Noe, 1986; R Noe & Schmitt, 1986; R Noe & Wilk, 1993; Yang, Blunt, & Butler, 1994). These empirical studies have identified a number of pertinent constructs, particularly focussing on attitudes, social relationships, and organisational factors. Notably however, these previous empirical studies generally ignore exogenous variables within the education or training product itself whilst the empirical studies from both economic and psychology literature inform the *a priori* expectations of this study;<sup>1</sup> we proffer an alternative mode that endeavours to capture the benefits of the different approaches.

### **3.0 Methodology**

The complexity of the ‘product’ that is education and training and of the individual decision making context suggests that some type of conjoint analysis be used to investigate the problem. Choice modelling, in particular appears to offer significant advantages in this context. In essence, Choice modelling allows for the statistical ‘unbundling’ of those product attributes that impact on individual choice. It can thus determine the relative importance of various factors in a decision context. The technique thus allows researchers to determine for instance, the trade-offs that consumers make between, say, colour, safety and fuel economy in choosing a car.

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<sup>1</sup> For a synoptic discussion of these factors, see O’Keefe, Crase & Dollery, 2004a

Choice modelling draws upon the *homo economicus*<sup>2</sup> assumption, but allows for a number of interaction terms (often consisting of attitudinal and demographic variables) to be specified. It thus will allow us to glean information about the influence of factors, such as attitudes and organisational policies, in addition to the product attributes.

The choice modelling approach suggested in this paper ostensibly utilises an economic approach in that it relies upon random utility theory. However, it also recognises the restricted nature of the individual's decision process and, despite its experimental nature, more closely approximates a 'real life' choice situation than traditional or adaptive conjoint techniques. Moreover, the choice instrument itself allows for the inclusion of both demographic and psychographic data, enabling the addition of factors such as attitudes, subjective social norms, and previous participation: all of which have proved significant in previous research. Furthermore, the iterative experimental design process can accommodate the gathering of information specific to the organisational context which is also likely to play a significant role in determining whether individuals participate in education and training. In sum, this approach proffers an expanded notion of human agency that largely preserves the rational choice paradigm, but seeks to add psychological and social considerations, like social norms.<sup>3</sup>

The first phase in the choice modelling process is to ascertain the salient product attributes, attitudes and organisational factors in the context of the participating

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<sup>2</sup> The assumption that humans are rational utility maximisers.

<sup>3</sup> For a detailed examination of the application of choice modelling to the current context, see O'Keefe, Crase & Dollery, 2004b

organisation. This will ultimately enable the development of a survey instrument from which empirical models will be derived. This research generally follows the iterative process used by (Cookson, 1986; Lockwood & Carberry, 1998; Maurer & Tarulli, 1994), involving focus sessions and interviews and progressive refinement of the survey instrument.

A Victorian public sector organization was chosen to provide the sample for conducting this choice experiment. The organization employs approximately 1700 workers in positions ranging from base level to executive within scientific, administrative and technical fields. Whilst acknowledging the problems for generalisability, confining the sample to one organization affords increased control over some of the variables impacting on the individual's decision. Thus, factors that have previously been identified as significant (see for instance, Bates, 2001; Maurer & Tarulli, 1994), like organizational policies and procedures, remain constant across the sample. The initial stage of this research involved in-depth semi-structured focus interviews of 30 to 40 minutes duration conducted with 16 volunteers at the participants' workplace. The sample varied across a number of demographic and positional factors. Specifically, individual's positions within the organization ranged from base level technical workers with minimal education (most commonly Year 10 level) to research personnel with doctoral degrees. The age range was from 23 to 50. Interviews were taped with participant's permission, and the record of interview was later analysed to delineate the salient attributes and their associated levels. Initially, semi-structured interviews were used to ascertain the main factors that participants considered when deciding whether to participate in education and training programs. The indicative schedule of questions is included in Appendix A. Having collected

data from the interview process, three focus groups were then convened to confirm the salient attributes. Each focus group consisted of 6 to 8 volunteers from a variety of roles within the organisation. Participants were asked to consider the factors that drive their decision to participate in education and training.

#### **4.0 Initial findings**

Independent variables identified in previous research might loosely fall into several categories- attributes of the training program, attitudinal variables and organisational factors. It is further recognised that models of decision making suggest that employees' participation behaviour is determined by external/physical factors, such as access to education and training, and the employees' social attitudes and objectives, like attitudes to education and training in general, which, in turn, affect the intention to participate.<sup>4</sup> The aim of this phase of the research is to facilitate the development of a survey instrument that can then be distributed to a much larger number of participants. This paper now considers the data gathered during the interview and focus group phase, and presents the views of participants about the influences on their decisions to participate. We first consider the product attributes identified, and follow with an exploration of the individual and organisational factors, highlighted in the interview and focus group process.

##### *4.1 Product Attributes*

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<sup>4</sup> Social cognition models of Fishbein & Stassen, (1990) and Bagozzi, (1999) specifically utilize this framework.

Whilst different participants employed a variety of nomenclatures, analysis of the transcripts of interviews and focus groups revealed eleven distinguishable genres of product attributes. The attributes emanating from the interview and focus group process and the frequency with which they were raised in this setting are summarized in Table 1.

**Table 1: Range of attributes emanating from focus interviews and groups**

<b>Attribute</b>	<b>Indicative comments from interview/focus groups</b>	<b>Frequency</b>
Cost to individual	<i>"It's not the cost on its own, but whether the department will pay". "Does work pay"? "It's the private cost that's important".</i>	16
Time	<i>"It's the time out of your life". "You need to look at lost leisure time". "I look at the time commitment after hours". "You have to consider the workload after hours and the impact on family". "It's about investing time". "I like to keep work and play separate so, I really don't want to give up my leisure time". "Is it during work time or out of work time"?</i>	16
Method of payment	<i>"You don't worry so much if you have to pay and there's HECS available". "As long as I don't have to pay up front".</i>	16
Impact on career	<i>"You need to weigh up future benefit against costs". "You look at the economic reward or payback". "I'd look for a course that broadened my choices of career". "I'd want it to offer me more opportunities". "Promise of future pay-back". "You ask yourself is the training transferable?"</i>	14
Duration	<i>"It's about the length of course too".</i>	4
Reputation of provider	<i>"You need to look at the standing of the university and how much support they provide". "Ask around to work out the reputation of the provider".</i>	6
Quality of program	<i>"How good are the lecturers/ teachers"?</i>	8
Expectation of a salary increase	<i>"You need to weigh up future benefit against costs".</i>	8
Site	<i>"In the country, accessibility may be even more important than cost". "I like the idea of studying remotely".</i>	2
Level of interest	<i>"Relevance and interest are the key".</i>	1
Level of recognition	<i>"Is it recognised in the field"? "How valued is the qualification".</i>	8

As demonstrated in Table 1, there was substantial agreement as to the most salient variables in the individual decision making context. The most prominent of the economic variables revealed during interviews and focus groups were cost, time and career impact. The following proffers some explanatory comments about these most important product attributes and how they might be operationalised in a choice experiment.

#### *4.1.1 Time*

All participants mentioned time as an important multi-dimensional attribute of any education and training product. It was conceptualized as the actual duration of the product, or as one respondent put it: *“How long does it take?”* Another aspect of the temporal variable was described as ‘timing’. This related to the individual’s work environment as well as their life cycle stage. Some participants were mindful of the need to schedule the training around their work commitments, stressing that certain times of the year were busier than others, and that the training needed to fit in with their work cycle. For example: *“Even if work says they’ll give you the time, you still have to get your job done. So they might give you four hours, but the job still takes ten”*. In relation to issues such as the individual’s life cycle, family commitments were seen as pertinent. Specifically this related to the ‘leisure time forgone’. For instance: *“As a family person with 4 kids, there’s never enough hours in the week. But if I really wanted to do something, then you just make it fit”*. Whilst life-cycle considerations clearly are not product attributes, previous research suggests that social and demographic factors play an important part in determining the extent of

participation in education and training (see for instance Groot, 1997; Kilpatrick & Allen, 2001; Long et al., 2000).

A fundamental temporal consideration was the concept of 'leisure time forgone' dimension. Respondents were emphatic that not only was the duration of the course important, but also how much leisure time would need to be given up in order to secure a successful outcome. Thus: "*The time you have to give up is really important*" and "*I just don't want to lose any more leisure time*". Forgone leisure was consistently raised as crucial to the individuals' decision process. The inclusion of an attribute entitled 'leisure time forgone' embodies an implicit assumption that there is a bifurcation of employee's time between 'work' and 'leisure'. Thus, it is possible that an individual may give up no time at all, if all the training occurs in the employers' time.

#### *4.1.2 Cost to the individual and payment vehicle*

All participants mentioned the importance of financial cost in the decision process. However, the nomenclature utilised to express the cost and the associated payment vehicle varied considerably. Whilst a monetary measure would appear to be the logical unit of measurement, a small number of participants referred to the Higher Education Contribution Scheme (HECS) or Post-graduate Education Loans Scheme (PELS) as representing standard costs of education courses. Some respondents, when pressed for a realistic value first asked: "*What is HECS these days*"? Nonetheless, in the interests of clarity across a wide sample it was considered preferable to express this attribute in monetary terms. Specifically, it was thought prudent to express this

item in terms of ‘cost to the individual’, since in addition to the cost per se, the overwhelming concern expressed by participants was the direct financial impost on the individual. As with the time variable, it is also possible that the entire cost of the education or training was met by the employer. In fact this is the current status quo for most employees in this organization.

‘Payment vehicle bias’ is a potential flaw of all stated preference methods, and of choice modelling in particular (see for instance Morrison, Blamey, Bennett, & Louviere, 1996). In the current context, participants explained that the existence of HECS or PELS definitely impacted on the decision of the individual. That is, people were prepared to undertake and, in some cases fund, education programs that were quite expensive as long as they could pay through a deferred payment system, such as HECS. For example: *“There is no way at the moment that I could pay up front. If it wasn’t a deferred payment, I just couldn’t consider it”* and: *“Its not that I wouldn’t pay, but I’d have to pay it off”*.

Respondents made little distinction between the various means of securing a deferred payment, such as between a HECS like system, that is paid through taxation, or some other form of government or employer-sponsored loans scheme. That is, the key distinction expressed by respondents was whether the individual had to pay now, or at some time in the future. Interestingly, no respondents displayed any consideration of discounting. Put differently, respondents were solely influenced by the availability of a deferred payment and had no interest in the details (for example the interest rate, the length of time) pertaining to that system.

#### 4.1.3 Impact on career

The Choice Modelling technique allows for the construction of superattributes<sup>5</sup> where there is significant potential for multi-collinearity. The ‘impact on career’ superattribute encapsulates a number of matters gleaned from the interview and focus group process. Specifically, participants saw that the impact on career would subsume attributes such as perceived quality, reputation, portability of the qualification and the ramifications for future salary.

Ultimately, the attributes explained above will form the basis of alternate hypothetical choice sets within the survey instrument. A summary of the attributes and levels revealed through this process is presented in Table 2 below.

**Table 2: Attributes and Levels for Choice Experiment**

<b>Attribute</b>	<b>No of respondents raising</b>	<b>Levels for education</b>	<b>Levels for training</b>
Cost to individual	16	Zero, \$2500, \$5000 and \$8,000 per annum	Zero, \$500, \$ 1000, \$5000 per annum
Leisure time forgone	16	Zero, 6,12 or 15 hours per week	Zero, 6,12 or 15 hours per week
Impact on career	14	Advance in current industry or sector Advance in other industries or sectors	Advance in current industry or sector Advance in other industries or sectors

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<sup>5</sup> A superattribute is indicated where there are potentially significant cross-effects, and it becomes impossible to extricate the effects of one from those of another attribute.

The methodology chosen also allows for the inclusion of other salient non-economic factors in the survey. The interview and focus group phase revealed within person factors such as attitudes and extraneous variables such as organisational practices as exerting important influences on the employees' decision to participate in education and training. We first look at within person influences, although it is sometimes difficult to extricate these factors from one another. For example, an individual's attitude to education and training may conceivably be influenced by their supervisor's attitude and organisational policies and practice. The paper now presents a summary of the influences identified by participants.

#### *4.2 Within Person Factors/ Organisational factors*

Table 3 serves as a synoptic review of the influences raised in the interview and focus group phases. Specifically, a number of constructs were seen as pertinent by participants. Foremost amongst these was the employees' perception of their supervisor's attitude to education and training.

**Table 3. Within person factors emanating from interview and focus group process**

Enjoyment of learning	<p><i>"Some of us don't have a very good experience with school, so we might feel threatened by having to do more training".</i></p> <p><i>"Education and training can help you to maintain professional networks".</i></p>
Importance of education	<p><i>"I have a predisposition to learning. It sort of feels like I need to be constantly learning".</i></p> <p><i>"You need to keep up to date...you know to be forward looking".</i></p> <p><i>"Its importantt so that you stay in the loop".</i></p>

Intrinsic value of education	<p><i>"It [education and training] betters you as a person".</i></p> <p><i>"My reasons for wanting to do more education and training are selfishly personal".</i></p> <p><i>"I have a personal need for learning...I'm always looking to learn something".</i></p>
Perception of organisational factors	<p><i>"This organisation has a good attitude to education and training".</i></p> <p><i>"The amount of training and development that we get is a bonus of working for the government".</i></p> <p><i>The department has an active attitude towards education and training".</i></p> <p><i>"The department's very supportive".</i></p>
Perception of supervisor attitude/support SSN	<p><i>"It's got a lot to do with your supervisor".</i></p> <p><i>"You have to look at what your supervisor thinks".</i></p> <p><i>"You need to look at the support that you'll get from your supervisor, as well as family and friends".</i></p> <p><i>"You have to ask yourself will I be supported by supervisors/"</i></p>
Perceived behavioural control	<p><i>"The supervisor's opinion is important. Often, the decision is out of my hands".</i></p> <p><i>"Family circumstances are really important".</i></p>

Analysis of data collected in interviews and focus groups confirmed the importance of a number of factors that have previously been identified in the literature. For example, the most consistent finding within the social cognition models is that attitudes play a consistent predictor role (see for example Becker & Gibson, 1998; Pryor, 1990; Ray, 1981; Yang et al., 1994) and that the impact of subjective social norm [SSN] and subjective personal norm [SPN]<sup>6</sup> varies (Becker & Gibson, 1998). As illustrated in Table 2 above, individual attitudes were seen by participants as crucial to the decision to participate. The broad concept of attitude has been conceptualised as having three interrelated but distinct components: affect, cognition and behaviour (Rosenberg & Hovland, 1960). Specifically, Bagozzi (1992)

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<sup>6</sup> According to Ray (1981) SPN 'is the belief by the individual whether to participate in continuing education. It is also related to the motivation of that person to comply with beliefs' (p. 68). An example from Ray's study is 'Do you personally believe that you should participate in continuing education?'

demonstrated that the affective component of attitude serves to mediate the relationship between beliefs and behaviour.

The first three rows of table 2 group a disparate range of attitudes according to the previous work of Blunt & Yang (2002) in their Revised Attitude Towards Adult Education Scale (RAACES). This approach centred upon a multi-dimensional structure of attitudes to adult education. Having conducted confirmatory factor analysis, Blunt & Yang (2002) revealed a three dimensional structure of attitudes: 'Enjoyment of learning'; 'Perceived importance of adult education', and 'Intrinsic value of adult education'. In terms of Blunt & Yang's (2002) study, 'Enjoyment of learning' was seen as reflecting an affective component whilst 'Perceived importance' and 'Intrinsic value' represented beliefs and values, as was also shown in Hayes & Darkenwald (1990). Thus, 'Enjoyment of learning' can be seen as a function of 'Intrinsic value' and 'Perceived importance', and the latter two variables (representing the cognitive aspect of attitude) have an indirect influence on behaviour.

The extant literature on participation in education and training highlights the importance of the individual's perception of organisational factors, such as the company's general attitude to employee development, policies, rules and regulations, as significant situational variables (Acemoglu 1997; Cookson, 1986; Maurer & Tarulli, 1994). Maurer and Tarulli (1994) and (Tharenou, 2001) examine the perceived degree of social support from supervisors and peers in their models of participation. This factor is also implied in the literature that draws on the Fishbein and Azjen's (1975) Theory of Reasoned Action which includes SSN as an antecedent variable (see for example Pryor, 1990). The extent of supervisor support has

consistently been recognized to be a powerful predictor of participation (see for instance Maurer & Tarulli, 1994). The majority of respondents stressed the importance of supervisor support and perceived enthusiasm as important considerations, or even, at times, a catalyst in their decision whether to participate. Fishbein & Stassen (1990) found that the best single predictor of attendance was what the boss thought they should do (p.184).

In addition, Maurer & Tarulli (1994) point to the extent to which the organization provides an environment that is seen to facilitate continuous learning (Luce & Tuckey, 1964; Woodall & Winstanley, 1998). Thus, based on previous research and on the results of the interview and focus group phases, an investigation of specific organisational factors appears vital in developing an understanding of the salient variables in the individual's decision making process, and is closely related to within person factors such as attitude. From an organisational policy perspective, these factors are also the most malleable to achieve improved training participation outcomes. In addition, persistent themes within the data gathered related to the extent of perceived behavioural control. Specifically, participants highlighted the importance of 'life-cycle' considerations, such as family commitments, number and age of dependents and the like. This was seen as influencing PBC which is a significant variable within social cognition models (see for example Bagozzi, Gurhan-Canli, & Priester, 2002; Fishbein & Stassen, 1990). In light of information gleaned from focus groups and the attendant literature, a range of attitude items has been developed, and is included in Appendix A.

## **5.0 Concluding remarks and directions for further research**

In sum, results of the interview and focus sessions provide broad support for the psychographic and organisational factors identified in previous research as impacting upon the employees' decision to participate. These factors include the attitudes of employees, supervisors and the work organisation in general, in addition to demographic variables. The great benefit of the cross disciplinary approach to the research problem suggested in this paper, is that the Choice modelling technique allows for the inclusion of these factors as well economic considerations. The results of this iterative process reported in this paper will facilitate the development and administration of a survey that incorporates psychological, organisational and economic factors. The ultimate aim is to develop a model of stated preferences for participating in education and training and in so doing, potentially inform policy makers, training providers and individual organisations wishing to maximise worker participation in education and training.

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## APPENDIX A

I believe that it is important for me to participate in education.
I intend to undertake a structured training and development program in the next 12 months
I dislike participating in structured training and development programs
My supervisor thinks I should undertake further structured training and development programs
When it comes to further training and development, I usually want to do what my supervisor thinks I should do
Whether or not I undertake further training and development is entirely up to me
I enjoy structured training and development programs that allow me to work with others
The expense of a structured training and development program is a waste of employer's money
Continuing my training and development would make me feel better about myself
Study helps people make better use of their lives
This organization values structured training and development programs highly
Workplace policies encourage employees to participate in structured training and development programs
Structured training and development programs can be a waste of time
It is really not up to me whether I undertake further training and development
At this point my family circumstances do not allow me to have any control over whether I undertake training and development
Structured training and development programs will increase my chances of getting a better job
Factors over which I have little control govern whether I undertake training and development
Successful people do not need further training and development
Training and development is mostly for people with little else to do
My supervisor really has little influence over whether I undertake further training and development
Training and development helps people cope with change
I'm fed up with teachers and classes