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An Interpretive Study of New Apprenticeship Participation among Small Firms in the IT Industry

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Abstract

This paper presents the findings of an interpretive study of eight small and medium sized enterprise's (SME's) experiences when deciding to participate with Australia's New Apprenticeship system for the first time. The study focused on contextual and processual elements as well as the action of key players associated with participation. A series of case studies were designed around semi-structured in-depth interviews with owner/managers. Grounded theory analysis of the case text produced a structure of conceptual categories and themes related to the participation process within the context of the information technology industry.

Keywords

IS education, interpretive research, small business training

INTRODUCTION

This paper reports on a field based research investigation into the process of participation by small business with Australia's New Apprenticeship scheme from an owner/manager perspective. The form of New Apprenticeship of interest here are twelve-month on-the-job traineeships targeted among the information technology industry. The aim is to explain how and why contextual conditions and processual elements interact to influence owner/managers to adopt or reject New Apprenticeships for the first time. In particular, the focus is theory building and adopts an interpretive approach to the case method.

To provide context to the study, it is important to acknowledge the emphasis successive governments have placed on promoting employment and training initiatives such as New Apprenticeships within small firms. Over the past two decades, the Australian economy has experienced a pronounced trend towards the concentration of employment in smaller firms, and it has been observed that the quality of jobs (including skill content) and the conditions of employment (including wages and on-going skill development) have continued to be generally inferior in small firms. For these reasons, governments are now searching for ways of promoting employment opportunities and training within small firms as a policy means concerned with sustaining economic prosperity.

Federal government support for meeting the needs of enterprises through vocational education began in the mid 1980s with a succession of new entry-level training schemes. With the 1998 New Apprenticeship system, the federal government is attempting to reinvent what many still regard as a tried and tested format for youth training, but also reconstruct a work-based alternative for those young people who do not want to remain in full-time education. However, the fundamental challenge facing New Apprenticeships (from a government perspective) is to extend apprenticeship style training beyond the traditional trades into the growing occupational areas and increasing their relevance to emerging patterns of work organisation.

Research Problem

In terms of policy, it was envisaged that New Apprenticeships would appeal to small employers by invoking the notion of a return to a 'traditional' apprenticeship system. A crucial element of this initiative was that it would introduce the idea of apprenticeship to occupations and emerging industries where apprenticeships had not been customary. Occupations in the information technology industry and the introduction of the certificate IV in user support are good examples of this intention.

While interest and participation rates in New Apprenticeships overall have been rising steadily (Freeland, 2000), actual experiences in some sectors of the IT industry have exhibited some ambiguity. For instance, an article appeared in a national daily newspaper under the following headline, "No Takers for Info Tech Trainees" (The Australian, 21/3/2000). Furthermore, successive reviews of the literature have confirmed that small employers do not have a propensity to train, have limitations in terms of resources, and prefer the labour market as the most important source of skills (Field, 1997). Accordingly, the small business sector continues to remain an enigma for successive governments in gaining their participation in formal training schemes. The uptake rate among SMEs in the IT industry requires a better understanding of how employers perceive traineeships and the

demands it places on employers. Why has a strategy that seems so attractive to many educators, policy-makers, and students been so slow to spread? Knowing what encourages or discourages its take up, and how the participation decision is arrived at, are two of the most challenging problems facing the New Apprenticeship scheme. The remainder of the paper focuses on these crucial issues.

A number of organisational and labour-market researchers have produced models of enterprise training. Smith *et al's* (1995) model of the interaction of global, industry and enterprise factors; and Hayton *et al's* (1996) further refinement of this model, provide a general understanding of enterprise involvement in training within an Australian context. While not specifically addressing apprenticeship decision making, their models do provide an initial identification of factors and contextual conditions influencing employer participation in workplace training. The work of Smith, Hayton and colleagues, have shortcomings in terms of the goals of this research. The main limitation is that these models frame the problem as a set of factors to be identified, and explain participation in terms of correlations between groups of variables and a specific outcome. However, the problem with factor analytic or variance type studies is that we don't know how the factors emerge, evolve and interact over time to produce a training outcome. In fact, these models infer or deduce that a combination of factors produce a training outcome, but they don't explicitly describe how. This constitutes a gap in the literature to which this research addresses.

This paper argues that the factor analytic or variance approach does not and cannot describe the process issues or the dynamics involved. Accordingly, the next section will argue a case for process oriented research and proposes to explore the following related research questions: How do contextual conditions and factors (the antecedents) interact to ensure participation? What are the processes SMEs go through when participating with New Apprenticeships for the first time? And, how are these processes depicted in a model?

METHODOLOGICAL ISSUES

There is a need for *process oriented* research to compliment existing research in the field. Of the research that has been undertaken, the dominant paradigm has been positivist with an emphasis on factor analytic studies and surveys as the main methods of analysis and data collection. Even though factor studies have contributed to our understanding of skill formation practices (Smith *et al, 1995*; McIntyre *et al, 1996*), fundamental problems are associated with empirical research that follows this paradigm. First, most studies following this approach only focus on a small number of pieces of the problem. Second, and most important, the factor analytic approach does not provide insight into the dynamics of the decision-making process, that is, how and why contextual elements interact and effect skill participation outcomes. While some progress has been made (Hayton *et al, 1996*), researchers should admit that all we have developed so far is a fragmented, static, and narrow understanding of participation.

This study takes the *position* that a more dynamic view of new apprentice participation is needed to enhance the understanding of the phenomenon, and to develop a unified and coherent body of knowledge. To develop a more realistic model of new apprenticeship participation, this study advocates the need for *process oriented research*. Accordingly, through a series of interpretive case studies, this research enters the world of the small business owner/manager, interprets their world from the inside, and provides an exploratory illustration of adopter/supplier factors through a grounded description of their impact on the New Apprenticeship participation (non-participation) process.

By adopting an interpretive approach this paper construes knowledge as gained through social constructions such as language, shared meanings, or documents; and is a changing and relative phenomenon (Klein & Myers, 1999). This paper also assumes that the participation decision-making process with and perceived meaning of New Apprenticeships are not objective phenomena with known properties or dimensions. The research approach, accordingly, is consistent and compatible with the epistemological assumption that the world and reality are interpreted by people in the context of historical and social practices. That is, experience of the world is subjective and best understood in terms of individuals' subjective meanings rather than the researcher's objective definitions. Therefore, the paper proposes a method capable of capturing social meanings of participation, as generated by owner/managers of SMEs. The proposed method is the case study.

Researchers working with the case method can employ either a positivist or interpretivist approach, or a combination of both, irrespective of whether the intent is to test or develop theory (Cavaye, 1996). However, interpretivism and positivism rely on quite different assumptions about the nature of knowledge and demand different approaches to research. Positivism for instance, assumes government funded training initiatives to be an objective, external force that have relatively deterministic impacts on organisations. Positivist studies assume an objective physical and social world that exists independently of humans, and whose nature can be relatively unproblematically apprehended, characterised and measured. The researcher is seen to play a passive, neutral role in the investigation, and does not intervene in the phenomenon of interest.

In contrast, an *interpretive study* – such as this research – focuses on the human action aspect of government initiated training initiatives, seeing participation as a product of interpretations, interventions and individual decisions. Interpretive studies assume people create and associate their own subjective and inter-subjective meanings as they interact with the world around them. Interpretive researchers thus attempt to understand phenomena through accessing the meanings that participants assign to them. In direct contrast to the positivist studies, interpretive researchers reject the possibility of an ‘objective’ or ‘factual’ account of events and situations, seeking instead a relativistic, albeit shared (between the researcher and the interviewee) understanding of phenomena. Generalisations from the setting, usually from a small number of case studies, to a population is not sought; rather, the intent is to understand the deeper structure of a phenomenon, which it is believed can then be used to inform other settings. For a more detailed account of the positivist and interpretivist research philosophy, see Orlikowski & Baroudi (1991), Lee (1991) or Klein & Myers (1999).

Next, methods capable of developing theory from the decision maker’s interpretation of New Apprenticeships, are described. The method of analysis is grounded theorising.

Grounded Theorising

According to Strauss & Corbin (1990), grounded theorising is well suited to capturing the interpretive experiences of owner/managers and developing theoretical propositions from them. The rationale for using a grounded theory approach is to generate a descriptive and explanatory theory of the participation processes rooted in the experiences of owner managers. This approach has been effectively used in organisational research, and is adopted here for three primary reasons.

First, grounded theory is an inductive approach that allows the researcher to develop a theoretical account of the general features of a topic while simultaneously grounding the account in empirical observations or data (Strauss & Corbin, 1990). This generative approach seemed particularly useful here given that no process theory of New Apprenticeship participation has been established to date. Second, a major premise of grounded theory is that to produce accurate and useful results the complexities of the organisational context have to be incorporated into an understanding of the phenomenon, rather than be simplified or ignored (Pettigrew, 1990). Third, grounded theory facilitates the generation of theories of process, sequence, and change pertaining to organisations, positions, and social interaction (Glaser and Strauss, 1967). As indicated above, the process an organisation undergoes and the decision making that owners/managers engage in, have tended to be neglected in research about Australia’s apprenticeship and traineeship system. A research approach that specifically includes elements of process and decision making is particularly appropriate here.

These three characteristics of grounded theory – inductive, contextual, and processual – fit with the primarily interpretive rather than positivist orientation of this research. The focus is on developing a context-based, process-oriented description and explanation of the phenomenon, rather than an objective, static description expressed strictly in terms of causality (Orlikowski and Baroudi, 1991). In the language of Markus and Robey (1988), the paper develops a process not a variance theory. Such a theory describes and explains the process of participation with New Apprenticeships for the first time in terms of an interaction of contextual conditions, actions, and consequences, rather than explaining variance using independent and dependent variables.

Lastly, the details of the application of grounded theory (Strauss & Corbin, 1990) cannot be separated from its general strategy of constant or continuous comparative analysis which drives this approach; and the specific terminology of its analysis tools and techniques. This terminology includes a wide variety of notions such as: conceptual category, theme, coding of individual data-items or “instances”, data slice, strength and saturation of category, and so on. A conceptual category – the pivotal notion for generation of a grounded theory – is defined as a concept which seems relevant to the research problem, and clearly “emerges” from the research data. In addition, such concepts should be sufficiently “analytic” – that is, generalising or abstracting, as well as “sensitising” – that is, easy to grasp for a layman.

In summary, the methodology of grounded theory is iterative, requiring a steady movement between concept and data, as well as comparative, requiring a constant comparison across types of evidence to control the conceptual level and scope of the emerging theory. As Pettigrew (1990) notes, this provides an opportunity to examine continuous processes in context in order to draw out the significance of various levels of analysis and thereby reveal the multiple sources of loops of causation and connectivity so crucial to identifying and explaining patterns in the process of change. To facilitate this iteration and comparison, eight field sites were studied, with the research procedures expanded upon in the next section.

Research Procedures

The section describes how the participants were selected, how the data was collected, and how the data was managed, analysed, and displayed. The research used: purposeful sampling, in-depth semi-structured interviews, the conduct of a pilot study, the development of a coding scheme, the storage and retrieval of text using a

computerised database, within-case and cross-case analysis using techniques such as displaying data in summary tables, the identification of critical incidents, and the development of a logical chain of evidence, and lastly the combining of the qualitative responses into narratives or decision 'stories'.

The population of interest were owner/managers of SMEs in the IT industry who had recently adopted a trainee for the first time, or those that had been approached to hire a trainee but declined. The focus, therefore was a retrospective analysis of the decisions made. This involved 'snap shots' or slices of time being obtained from the eight cases. The cases were purposely selected based on the researcher's knowledge of the industry, and from discussions with industry figures with vast knowledge of local business.

Inspired by the work of Miles & Huberman (1994) for data presentation and Strauss & Corbin (1990) for an application of grounded theory, the approach to data analysis included three steps: early steps in data analysis, within case analysis and cross case analysis. The *early steps* in analysis include use of the contact summary form for reviewing the interview, the development of a computerised database for storage and easy retrieval of text, the arranging and displaying of data in tables, and the development of a coding scheme to organise the text. *Within case* steps involved detailed write-ups for each case assisted by the identification of critical incidents, a time line displaying stages of the participation process, the development of a logical chain of evidence, and the writing of a narrative story. *Cross case analysis* involved the search for cross-case patterns by combining information from several cases into a single table. From that, a new set of process oriented codes were developed, using a form of content analysis known as 'open coding' and 'axial coding' (Strauss & Corbin, 1990) making connections between sub-categories of text into a more comprehensive set of concepts.

The final paragraphs of this section describe the issues involved and procedures used to evaluate the credibility of the subsequent research findings.

Interpretive Concepts of Credibility

The traditional criteria used for evaluation of research (internal validity, external validity, and reliability) are difficult to apply to interpretive research, and are particularly problematic in case research. Consequently, different standards and criteria have been developed to apply to research outside the positivist tradition. An alternative criteria appropriate to this approach are *credibility*, *transferability*, and *dependability* (Hirschman, 1986). These three concepts have an evaluative role in interpretive research analogous to that of the concepts of internal validity, external validity, and reliability, in positivist science according to Lincoln & Guba (1985).

The requirement, then, is to demonstrate that the descriptions of the different social interpretations have been derived in a credible manner. A number of strategies were employed to ensure *credibility*. The first tactic consisted of developing a logical chain of evidence. In this study, such a chain was established firstly by having sufficient citations in the full report (Rowlands, 2001) relating to the relevant portions of the case study data base. Secondly, by developing a case study *protocol* in which all firms and all interviewees were subject to the same entry and exit procedures and interview questions; and by creating similarly organised case databases for each firm interviewed. A second tactic was to submit the interpretations to the scrutiny of the individuals upon whom they are based, and to seek their responses to its authenticity – known as member checking. A third tactic was the use of comparative or collective case analysis. Multiple case studies enabled a higher degree of corroboration of findings to take place. The last tactic involved the researcher clarifying his assumptions, worldview, and theoretical orientation at the outset of the paper, as suggested by Merriam (1988).

The second criteria, *transferability* deals with the problem of knowing whether a study's findings are generalisable beyond the immediate set of cases. Interpretive studies, however, do not seek to produce results that are universally applicable. This paper only attempts to generalise a particular set of results to some broader theory or research proposition. Secondly, transferability can be viewed as reader or user generalisability, where the extent to which findings can be applied to another situation is determined by the people in these situations (Merriam & Simpson, 1995). Consequently, it is not up to the researcher to specify how findings can be applied; it is up to the consumer of the research.

The third criteria, *dependability* relates to repeating the operations of the study with similar expected results. In social science, the notion of reliability is problematic because human behaviour is never static, nor is what many experience necessarily more reliable than what another person experiences (Merriam & Simpson, 1995). In other words, there can be numerous interpretations of the same data. In interpretivist inquiry therefore, the issue is whether the researcher's judgements are dependable or consistent with the available data and free from bias and errors. In this research, the researcher sought dependability (reliability) through the use of three tactics. First, a case study protocol, containing each of the interview guides was used. Second, a case study data base was maintained. Each of the eight cases (plus the pilot case) contained the following elements, as recommended by Miles & Huberman (1994): (1) raw materials (including interview transcripts, researcher's field notes, other documents collected from the field); (2) partially processed text (including edited transcriptions and

“commented-on” versions); (3) coded text (write-ups with specific codes attached); (4) coding scheme; (5) memos and other analytical material (researcher’s reflections on the conceptual meaning of text); and (6) data displays (matrices used to display retrieved information). Third, an audit trail described how the data were collected, how categories were derived, and how decisions were made.

THE FINDINGS

It is important to give some background to the eight cases conducted in SE Queensland. What was common was that the business environment was highly volatile and competitive. A key business challenge among all SMEs, at the time of interviews, was keeping up to date with technology as the rate of change in products and services within the industry was changing rapidly. Many of the participating firms viewed existing worker traineeships as a vehicle for staying abreast of technology and for up-skilling their workforce. Four firms were selected from each of the following two categories: firms that had adopted a trainee – referred to as *participants*; and firms that chose to reject traineeships outright and not participate – referred to as *non-participants*. Within the eight businesses, a sub-group were classified as highly specialist providers of IT software and services, with identified narrow niche markets. These are Cases 1, 4, 5, and 7. Another distinctive sub-grouping consisted of firms whose main activity was in supplying proprietary business information technology and software, together with implementation and maintenance services. Cases 2, 3, 6, 8 in this group could be described as retailing organisations dealing in computer products and services.

The Participation Process

This section documents and builds a grounded process model of New Apprenticeship participation that emerged from the analysis of the text. The interviews asked respondents to describe the sequence of events that took place up to the point of signing the registration forms for the traineeship and to name the critical incidents. The assumption was that this would reveal a ‘process of participation’. The responses to this request regarding ‘events’ tended to elicit descriptions of ‘later processes’ such as negotiations with training providers, or attempted dealings with government departments. They did not throw much light on matters such as their initial reasons for considering New Apprenticeships so as to illustrate what commenced participation. It seemed that in these firms, the early commitment decision was a rather informal process where owner/manager’s were themselves not be able to easily identify the moment of ‘commitment’. In fact, the true nature of the ‘decision’ to participate was difficult to identify in practice, although there seemed to be a combination of facilitating factors intertwined over time that lead to a decision to participate.

At the same time, when questioning owner/managers in all eight firms, it became obvious that a number of different phases occur. Commitment to the scheme had often occurred before any real discussion about new apprenticeships had taken place. In fact, all the participant owner/managers expressed prior personal commitment to training young people even though they had not recruited a trainee before. Similarly, non-participants had formed a perception to what they associated with new apprenticeships (young people, welfare recipients, poor work attitudes etc), and never really entered the decision-making process. As a result, the line of questioning pursuing a ‘sequence of events’ concept led the author to two key emerging understandings concerning the structure of new apprenticeship participation processes in smaller firms.

The first emerging understanding is that new apprenticeship participation involves several interacting sub-processes, different in nature, that need to be distinguished from one another. The use of the notion of a simple ‘sequence’ to encompass all of the decisions in a single sequential process, as assumed in some of the literature (Rogers, 95), is confusing. In fact, between them, the following quotations refer to three different types of ‘decisions’ that occurred both in sequence and in parallel. Firstly, a *psychological* ‘decision’ to develop a favorable disposition towards new apprentices from a participating owner/manager said:

We like to get young people who are keen to learn. Trainees are keen to learn [166].

Conversely, a response from a non-participant owner/manager said:

It's hard to find young people with a work attitude. Many also don't have people skills. I get sent resumes everyday, but they're not happy people and don't want to work [207].

Secondly, a *financial justification* ‘decision’ involved in ‘justifying it’. A comment from a participant said:

Look I never thought initially of traineeships, but now I'm thinking of saving money; and I'm thinking in terms of next years' staffing - it's a way of reducing the number of casual staff [61].

And thirdly, an *operational* ‘decision’ concerning the choices involved in implementation of New Apprenticeships, *vis a vis* selecting a training provider and trainee. A comment from a participant said:

The training provider was very helpful and answered all our questions. Their mode of delivery also suited us, and as a result we formed a relationship with them [49].

Conversely, a response from a non-participant owner/manager said:

It's an anxiety problem for me. The training providers don't have the experience in or knowledge of the industry. [134].

Although it was tempting conceptually to define the processes associated with these ‘decisions’ as sequential stages, evidence suggests that a better representation of the overall process is as a set of three *parallel*, partially *iterative*, and *interlocking* processes. While different in nature they culminate in a decision to adopt new apprentices. To avoid the confusion associated with the word ‘decision’, the cross-case analysis phase labeled these three sub-processes as ‘psychological commitment’ (early), ‘financial justification’ (middle), and ‘operational choice’ (later) respectively. The sub-processes are *iterative* because the financial justification and operational choice processes are temporally embedded within the psychological commitment process. Financial justification and operational choice are also *parallel* rather than strictly sequential because they take place at least partly simultaneously. Figure 1 provides a simplified representation of the three sub-processes.

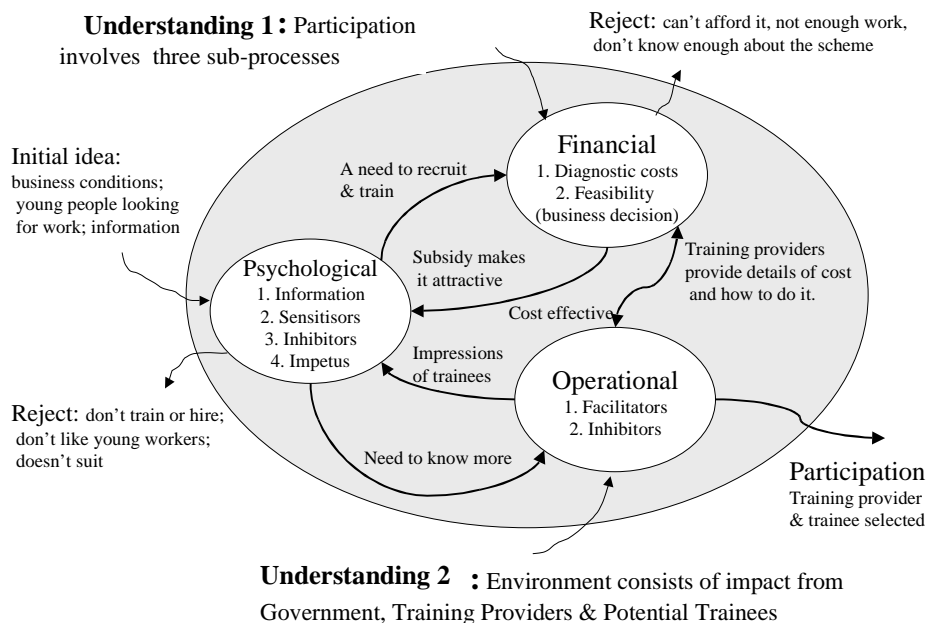


Figure 1: The participation process - a set of three interconnecting sub-processes

The second emerging understanding concerning New Apprenticeship participation is that viewing the process as a ‘decision’ tends to over-emphasise the role of managerial deliberation. The findings suggest that taking on a new apprentice is not an objective decision made by a single person evaluating the individual merits of the scheme in terms of its characteristics. The full understanding of new apprenticeship participation processes requires placing them in their organisational and environmental context. In other words, we need to look beyond specific functional activities to a variety of dynamic contextual factors and conditions affecting new apprenticeship participation. As illustrated in Figure 1, contextual elements influence or impact on the three inter-locking ‘decision’ processes in several different ways, and include events outside the direct control of the firm. These events include: a change in government funding; recruitment decisions by the owner/managers in other areas; and interactions with registered training organisations and potential trainees. The remainder of this section will be devoted to a detailed presentation of the components of this model.

Psychological Commitment Process

Psychological commitment refers to the process by which managers develop a commitment to one or more facets of New Apprenticeships. It is a process of developing a favorable disposition based on attitudes towards young people, a willingness to deal with government departments and perhaps TAFE, etc. It is also a process of gaining knowledge. Knowledge about traineeships can be influenced by prior experiences with government training

schemes or hiring a young worker, and is influenced considerably by suppliers of training and potential trainees seeking employment, as the following two excerpts illustrate.

A participant commenting on why he did it, said:

I have taken on young people before. Young people are enthusiastic. If you train them up from scratch, you get loyalty [Case 2, 41].

Conversely, the owner of Case 8 put it like this when describing why she didn't participate:

I've had plenty of work experience kids here. I know what it's like dealing with young kids - I could have done it myself [238].

Although this psychological sub-process is the first and most crucial step in determining whether an owner/manager will, or will not adopt a trainee, it was also the most difficult of the three sub-processes to document. This is because it is largely an informal 'incubation' process in the manager's mind that has no clearly identified beginning or end. To illustrate this, the process is represented in Figure 1 'beginning' with an initial idea, and continues through a loop prior to the starting of the 'financial justification' process, but may continue to evolve even after this.

Four types of contextual categories assisted in explaining how owner/managers come to develop sufficient psychological commitment enabling their openness to New Apprenticeship options. The four categories are:

(a) *Information elements*: Among the participants, and many of the non-participants, owners were presented with ample information bringing the concept of new apprenticeships to their attention. Such information came from a variety of sources including potential trainees, training providers, government agencies, and business consultants. This information provided new knowledge to owner/managers and/or supplemented an existing knowledge bank about traineeships and on-the-job training schemes. In many of the non-participating cases there existed a lack of information, or mis-information that resulted in a response, terminating the process.

(b) *Sensitising elements*: In parallel with the accumulation of knowledge and information, various attitudes towards young people in general, and training on the job (rather than hiring people already trained), served to sensitise owner/managers to the idea of new apprenticeships. These attitudes were often not sufficient in themselves to produce a participation decision, however they increased the potential for an eventual positive response. In addition to a positive attitude towards young people, the firm had to be prepared and willing to train on the job, which quite often was boosted by a number of impetus elements described below.

(c) *Impetus elements*: In order for semi-formal consideration of New Apprenticeship participation to begin, some kind of impetus was often necessary. Again, the precise nature varied from firm to firm, and with several such elements accumulating over time, increased the potential for an eventual positive response. Both Case 2 and Case 3 reported that without trained staff, they could not compete. In this industry, constant, on-going training was required. For Case 2, a key impetus was the need to obtain formal qualifications for the staff. The owner perceived the need for qualified staff to enable them to diversify into local area networking.

(d) *Inhibiting elements*: Finally, the positive impact of impetus elements was however often negated by inhibiting elements leaving participation in a state of 'limbo'. Such inhibiting elements were frequently related to issues of government bureaucracy (Case 3, Case 7 & Case 5) or a lack of knowledge how to do it (in the case of Case 2 and Case 3).

The process of interaction between the four types of elements represents the author's description of how sufficient *psychological commitment* is developed to facilitate the more visible activities of semi-formal investigation of new apprenticeships that compose the next stages of the participation process.

Financial Justification Process

Financial justification refers to the process where concrete activities and decisions dealing directly with cost and financial justification are made. This process is initiated through impetus elements described above that lead eventually to concrete activities and decisions. These financial activities originated, at least in part, from an external source (eg. discussions with a training provider or government agency about training wage arrangements, government subsidies, etc). Activities include the calculation of a salaries budget, and other negotiations involved officers from government departments or training providers. In all participation cases, considerations of recruitment and financial aspects relating to subsidy and training wage arrangements preceded the working out of technical details such as choice of supplier and trainee. This was necessary because the cost of recruitment had to be justified in financial terms as the following excerpt illustrates:

In this industry we need trained people. To me traineeships are a cost-effective way to train. The subsidy was the cream on the cake. If

there was no subsidy, I wouldn't have done it [Case 2, 40].

All cases followed slightly different paths, but the activities can be classified according to two different but related themes, with some cases falling into both themes. These themes are:

(a) *Diagnostic activities - defining/confirming costs*: Several firms began the financial justification process by seeking out costs involved and the amount of government subsidy available. Cost and potential savings played a major part in the process towards participation. As the following extracts demonstrate, the cost of hiring a trainee was not an issue for participants, rather the predicted cost-savings were seen as more important. In fact, the cost-saving came in two forms: the training wage (which is less than an adult wage), and the government incentive in the form of a subsidy at commencement and the end of the twelve-month apprenticeship program. Once owner/managers were aware of the significant cost savings available, they were keen to progress further. However, the subsidy wasn't the determining factor – it was important and helped – but for many participants it wasn't the sole determining factor as Case 3 describes:

The specific part of the course that appealed to us was the NT component. The training provider could offer the course at night - that was attractive. We can also get someone who is partly trained, who can help us in teaching other employees [173].

(b) *Feasibility studies*

The second theme involved the consideration of feasibility and the impact of an apprentice on the firm. Financial considerations generally dominated this exercise, although the impact of other resources such as time available and how apprentices might fit into current operations were considered. Having the resources to train – defined for non-participants in terms of time – was a major factor in their decision not to partake, as the following extract from Case 1 (a non-participant) illustrates:

Look, the time factor is our biggest hurdle to overcome. To take time out for introducing someone else is a liability at this stage. I would envisage spending a lot of time on showing them how to do things and bringing them up to speed [33].

However, for participants, participation can and was justified through an informal feasibility process, albeit nothing more than weighing up a few factors in its favor. Apart from: “it was a source of cheap labour” other non-financial factors that influenced participation included: the trainee can be trained up specifically for the job; the concept of new apprentices fitted in with business operations given that these firms were accustomed to training on the job. In summary, *Financial Justification* is semi-formal, based on business objectives and is profit seeking. It is also heavily influenced by government incentives.

Operational Choice Process

Finally, given that all of the firms approached had not participated with a new apprentice before, the operational activities required for involvement were considerable. Consequently, a third process involved (i) finding out about how the scheme worked, and (ii) the selection of the apprentice and the training partner. Unlike the process of psychological commitment, *operational processes* were usually explicit, purposeful, and formal (they left concrete traces in the form of documents).

In order to begin the *operational choice* process, managers had to have reached a certain level of commitment. They had to be fairly sure that this was the direction they wanted to pursue. Yet for many firms with no prior experience and little knowledge of new apprenticeships, it was difficult to progress forward. For many SMEs, this was a stumbling block. This situation was confirmed by Case 7, who told:

In the first instance, there was a lack of information. There was no information at all. It was difficult to become involved. There was a lack of cohesion among the [training] bodies [219].

Because of the frustrations experienced, the focus for many owner/managers moved from one of information, understanding and choice to forming relationships with training providers. The focus moved away from ‘financial elements’ concerned with justification in financial terms, to ‘interpersonal components’ related to the personal credibility and mobilisation of support around the project by a training provider. This study found the role of the training provider to be crucial in the overall participation process. Training providers answered questions that greatly aided participation. This sub-process provided the first instance on which a positive ‘rational’ decision on participation could be based.

Informal contacts with individual training providers or group training companies generally continued throughout the participation process, as training providers were a key source of information. During this process, contacts with providers naturally intensified and became less passive, culminating in participation. What was common, was that the firm could not undertake the training themselves in-house. For example, Case 2 admitted:

I was worried about us all being self-taught and perceived the need for training. I need qualified people. I'm getting networking and administration skills which enhances the business. Also, we need a combination of on and off the job training. I can't teach high-end networking here because of technical and resource limitations [42].

Operational choice involved two themes:

(a) *Facilitating elements*: These are similar to the sensitising elements noted earlier in that they exerted a positive influence on the ongoing process. However, their effect is to facilitate supplier and apprentice choice. This meant that the operational choice process became easier to make for some firms, e.g. when employees with appropriate expertise existed within the firm. Or, more commonly, when training providers stepped in and provided information, service, and meet the needs of the firm. Or thirdly, the process itself may have been accelerated, e.g. through the positive impression generated by initial contact with potential apprentices looking for placement.

(b) *Interrupting or slowing elements*: Forces can also interrupt or slow down operational choice processes. They include events such as the difficulty in finding a suitable training provider; the preferred training provider withdraws from the approved provider list, or a private training provider was deceptive about the program and costs. Such events had multiple ramifications for participation: they distracted management attention, often delayed participation directly, and sometimes reduced the organisation's commitment to participation. In summary, *operational choice* is a process heavily influenced by suppliers of training seeking to initiate a business transaction and job seekers providing tacit knowledge while actively seeking employment.

CONCLUSION AND FURTHER RESEARCH

This paper has examined the nature of New Apprenticeship participation processes in smaller firms in the emerging IT industry. It developed a conception of New Apprenticeship participation as a set of sub-processes, intertwined with other decision processes in the firm, and influenced by a dynamic set of contextual elements. The model depicted in Figure 1 provides a simplified representation of the three sub-processes.

The model suggests there is no distinct participation decision, or sequential decision making process. New Apprenticeship participation involves three interacting sub-processes. The model also suggests a psychological commitment to hiring young workers and predisposition towards training is essential and precedes participation, otherwise the process terminates. Knowledge (or lack of knowledge) about New Apprenticeships are facilitators (or inhibiting elements) in the process. Business factors such as profit seeking and government financial incentives are highly influential. The role of training providers is crucial to facilitate the process to a successful participation outcome.

In terms of data analysis, the grounded theory approach was particularly useful here because it allowed both a focus on contextual and processual elements as well as the action of key players associated with organisational change. These elements have been omitted in prior research on New Apprenticeships so far. While the findings of this grounded theory study are detailed and particularistic, a more general explanation can also be produced from the results. Eisenhardt (1989) refers to this technique as 'analytic generalisation' to distinguish it from the more typical statistical generalisation that generalises from a sample to a population. Here the generalisation is of theoretical concepts and patterns. Further research can extend this generalisation by combining the inductive model generated by this study with insights from existing formal theory, in this case, from the innovation and organisational decision making literature (a strategy recommended by Glaser and Strauss, 1967). The outcome will be a general conceptualisation of the organisational change associated with adopting New Apprenticeships that both contributes to our research knowledge and informs practice.

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