

Lessons for the future: Where to now for tertiary education policy?

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ABSTRACT

This article highlights the key findings from the previous articles that economic theories provide only a partial explanation of education decision making. This weakness in the theoretical foundation for the tertiary education reforms has diminished the effectiveness of the reforms. We suggest that a more holistic model of education decision making that combines economic theories with consumer behaviour theories should be developed. We note that tertiary education policy is being further reformed by the new Labour / Alliance government who have begun a process of moderating market forces in education.

Introduction

This series of articles seeks to add to the current body of knowledge relating to the ideological and theoretical foundations of the tertiary education reforms which began in the mid 1980s. The articles provide analysis and critique of these foundations and aim to aid understanding of the impact these reforms have had in practice.

As part of the overview of the evolution of the reforms, the articles demonstrate the level of theoretical complexity and overlap in policies which underpin the reforms and the development / operation of a number of state institutions which were established to direct the reform implementation.

Human capital theory / Screening theory

Human capital theory is shown to have a substantial but partial influence on the reform policies and on understanding students' tertiary education decisions. However, while human capital theory explains part of the foundation upon which decisions regarding noncompulsory education and training are made, it is insufficient by itself. The version of human capital theory which occurs in the various education reform documents is somewhat simplistic and does not take into account the complexity and diversity of the relationship between education and national economic performance. Screening theory adds further to the explanation of tertiary education choices, being complementary to, rather than an alternative to human capital theory, as is suggested by writers such as Arrow, cited in Harrold (1985).

The rational economic investment model that appears to have been assumed by policy makers offers only a partial explanation of the tertiary education decision process. Policy makers appear to

have under-estimated the influence of a range of demographic and socioeconomic factors in this process. Inclusion of these factors within a broader theoretical context may help to provide a more complete understanding of the tertiary education decision process.

Limitations on the Reforms' Success

While policy makers may suggest that the impact of the reforms may be limited due to the recalcitrance of education providers (e.g. correspondence New Zealand Qualifications Authority (NZQA) / Association of Polytechnics in New Zealand (APNZ), 1997), the findings presented in earlier articles in this issue have suggested that effectiveness of the reforms may be undermined by a number of incorrect assumptions.

Further limitations on the reforms success may be due to the misapplication of theories that offer incomplete explanations of the tertiary education decision process. We suggest that the links between the intention and the outcomes of the reforms should be re-examined in order to allow future policy and funding decisions to be made on sound empirical foundations.

As already noted, a broadening of the theoretical foundations used to model decision choices could usefully enrich our understanding of the complex processes involved in making tertiary education choices within a range of market segments.

Costs, Return on Investment and Decision Makers

The previous articles suggested that tertiary education provides variable returns on investment, dependent on the type of tertiary programme studied and on the gender of the individual. A problem for policy makers appears to have been the dependence on aggregate information rather than on detailed return on investment data from a range of programmes across a range of demographic categories. The following sections illustrate key issues which should be included in any complete model of student investment decision making.

The costs involved in obtaining a tertiary qualification have been calculated by policy makers and commentators who have used widely different means to estimate individual contributions (e.g. 66% individual contribution from the Watts Report, (Watts et al., 1987) against 25% from the Todd Report, (Ministerial Consultative Group, 1994).

Students are the primary decision-maker in both the decision to undertake tertiary education and the choice of specific programme of study. Students of Asian ethnic origin are, however, influenced more by their parents in these choices than students of non-Asian origin.

While fee increases are of concern to students, it appears that they value their education sufficiently highly to be prepared to make the required investment and to find means of funding this investment.

Employers and recent graduates consider that tertiary education provides both private and public benefits. Less than 10% of either group support the Todd Report's alternative recommendation of students making contribution levels as high as 50% (see Eagle & Shergill, this issue).

Reform Issues

Choice and Diversity

Elite institutions will continue to have the greatest choice of students and top academic students will have, as they have always had, a wider range of choices of programmes of study. Choice of programmes may be constrained by several factors. Larger polytechnics such as the Manukau

Institute of Technology are increasingly concentrating on higher level programmes, especially those at degree level, and are abandoning more expensive lower level traditional trade programmes which generally are not offered by alternative providers.

The development of the National Framework makes it difficult for providers to offer substantially different products. Moves to implement contestable funding for programmes appears to have caused providers not to invest in new plant and equipment and to avoid retendering for programmes where continuity of funding is not certain. These factors may limit choice for potential students, particularly for sub-degree level programmes.

In addition, the legal challenge successfully mounted against the Nelson Polytechnic / Education Training Support Agency (ETSA) funded affirmative action course (see Eagle & de Bruin, this issue) has seen providers reduce the range of affirmative action programmes offered, further curtailing educational opportunities for two main ethnic groups Maori and Pacific Islanders, who have been historically under-represented in tertiary education.

Improved Signals for Customers

The establishment of the New Zealand Qualifications Authority and the development of the National Framework were seen by policy makers as a means of remedying the education system's perceived failure to deliver the skills required by the labour market. Industry was envisaged as playing a central role in the development of the National Framework through determining the content of educational programmes. This was seen as a mechanism by which tertiary education providers could be made more responsive to the needs of both industry and prospective students.

The reform objectives include a focus on transferable skills as part of improving the country's stock of human capital. This is not seen as an important focus or direct benefit of training undertaken by either employers or recent graduates. The focus, particularly for employers, is on skills needed for the specific immediate requirements of an enterprise. However, there are high levels of agreement among both employers and recent graduates that skills gained through either formal education or in-house training are generally readily transferable, even though this is not a priority. A major concern must be the high levels of apathy regarding the reform intentions and implementation across employers, recent graduates and students alike.

The choice of competency-based assessment as the only basis for the development of Framework units became a hotly contested issue. Considerable development investment was expected of education providers at a time when government funding was decreasing. Resistance to Framework implementation grew when attempts were made to force major business programmes on to the Framework. This resistance was based on concerns regarding the applicability of the competence-based assessment model espoused by NZQA for the Framework. In addition, the resources required by providers to implement the Framework in the face of overall funding reductions increased resistance to the Framework's implementation at all but the lowest Framework levels.

Concerted opposition from providers was coupled with opposition from key industry sectors to the replacement of these programmes. This ultimately led NZQA to abandon much of their Framework development plans in the business area and to an acceptance of a more flexible system of programme registration that encompasses 'old world' non-competency-based assessment. Industry has failed to take up the central role envisaged for it in the development and maintenance of the Framework, raising questions regarding the on-going viability of this part of the reform implementation. Given the levels of apathy apparent among both employers and recent graduates regarding the Framework, the expectation of future industry support or resourcing of the Framework's maintenance and development may be unrealistic.

Impact of the Reforms on Historically Under-represented Groups

We have provided evidence of lower returns on vocational education compared to degree level education investment, and on investment for females versus males for similar types of qualifications, although similar direct and opportunity costs may be incurred.

Some of the groups identified as under-represented in tertiary education appear to be the most significantly disadvantaged in terms of return on their educational investment due to the length of time it takes for them to repay their student loans. There is, however, insufficient data to allow assessment of the impact of increasing fees and of the student loan scheme on participation by groups traditionally under-represented in tertiary education. Overseas evidence suggests that the long-term outcome of increasing fees will be a negative impact on participation by these groups.

However, in its first Budget, the new Labour / Alliance government allocated funds to improve the participation of Maori and other groups currently under-represented in universities and polytechnics. The government has also moved to lower the cost to students of tertiary education, a move that will assist under-represented groups and students as a whole. They will write off the interest on student loans while students are studying and decrease the student loan repayment rate. They will increase the tertiary tuition subsidy to institutions in exchange for a freeze on student fees.

One of the key criticisms of the 'old' education system was that it had been 'captured' by the middle classes to the detriment of lower socio-economic groups and some ethnic groups. We have presented evidence of the preponderance of upper and middle classes in tertiary education and of the substantial under-representation of lower socio-economic groups.

However, the reforms do not appear to have redressed historical imbalances. Concerns are increasingly being raised by providers regarding the changing ratios of high versus low socio-economic level students continuing on to tertiary study. Garner (1999) notes that a University of Auckland study shows a drop of 23% in university enrolments by students from poor schools since 1994. Over this same time period, there has been an increase of 25% in university enrolments by students from wealthy areas. This scenario is, unfortunately, consistent with Willyam's (1989:139) prediction regarding unintended consequences of the reform implementation - particularly in relation to fee and loan structures.

We have also reviewed participation by ethnic groups and the evidence presented suggests that the assumption made by policy makers of universal under-representation in tertiary education by Maori and Pacific Islanders is not totally correct and that the differences between university and polytechnic participation by these groups has not been recognised.

The significant increase in fees seen since the introduction of the reforms, the increased add-on costs associated with Framework units and Industry Training Organisation (ITO) coordinated programmes and the cost of obtaining and servicing student loans present multiple disincentives for groups which have not historically had strong commitment to higher education. Upper socio-economic groups appear to regard tertiary, especially university, study as an automatic part of the transition from school to employment. Lower socioeconomic groups do not.

This has probably always been the case, but the reforms have not changed these perceptions. Alternative ways of encouraging participation by lower socio-economic groups are needed, but in order to identify what forms of encouragement (e.g. targeted living allowances and / or scholarships, more on-campus or community based support mechanisms) may be effective, much wider questions must be answered regarding the nature of markets in education.

Failure to address the imbalance in tertiary education participation between upper and lower socio-economic groups will hinder the government's espoused 'knowledge based economy' based on a highly educated and skilled workforce.

Education Markets

In their interpretation of education markets, the policy makers appear to have leant heavily on labour market economic theory and to have accorded economic rationalism a greater role in tertiary education selection than the data presented in the previous two articles would suggest is warranted. It has been demonstrated that theories such as human capital theory are insufficient alone to base policy decisions upon as they oversimplify the complex tertiary education purchase decision.

It is apparent that there is no single education market. Rather there are several markets, possibly each with multiple segments. Furthermore, it is probable that they function in different ways, with consumers using different criteria in their decision processes.

The rational economic investment model assumed by policy makers ignores the concept of market segmentation and assumes that the decision processes are uniform across all sections of the market.

Recommendations for Future Research

What is lacking is adequate research into the characteristics of tertiary education markets in New Zealand and a greater understanding of the processes by which various segments decide on tertiary education. To complement the classical economic theories, consumer behaviour theory, itself based substantially on the social sciences, could prove useful in providing an understanding of the way decisions to purchase tertiary education are made.

For example, a widely accepted model of consumer behaviour is that offered by Hawkins et al. (1995). This model of consumer behaviour as it impacts on marketing strategy (refer figure. 1) considers the influence of the following factors on attitudes and perceived needs regarding potential purchase situations:

- cultural and cross-cultural variations;
- societal values;
- demographics;
- social stratification;
- reference groups; and,
- household structures and life cycles.

These factors, along with a range of internal structures such as the way individuals process information (perception, learning and memory) and motivation and personality factors, are considered to be interrelated and interdependent factors that influence purchase decisions. Past experiences also impact on future purchase decisions. These aspects of the decision process match the shortcomings in policies that were identified by several critics, e.g. Lauder et al. (1990:8).

The Hawkins et al. model (1995) proposes that there should be consideration of the following steps in the purchase decision process.

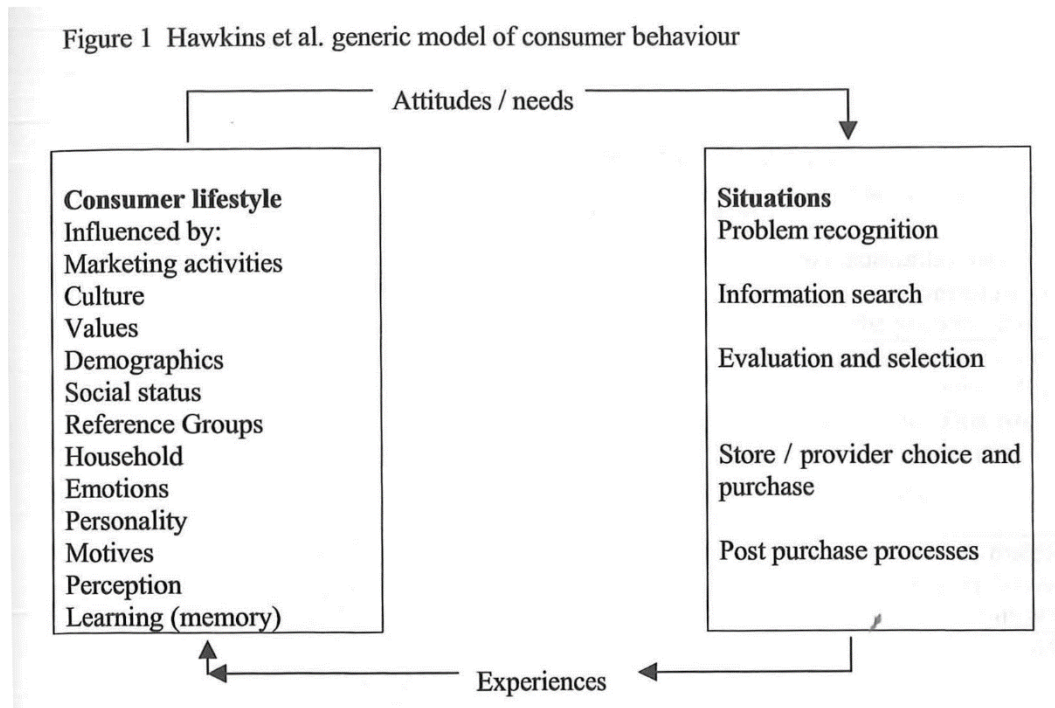
Problem recognition which, as seen in the data presented in the previous two articles, may link to the self-improvement drive in terms of a discrepancy between a desired and perceived condition regarding tertiary education.

Information search including personal experience, and information sources such as friends and family, together with independent sources such as government agencies, marketing sources such as education institution brochures and other promotional material.

Alternative Evaluation and Selection including an understanding of the way alternatives are selected, the evaluative criteria used in comparing the alternative education programmes available and the relative importance of each of the criteria used.

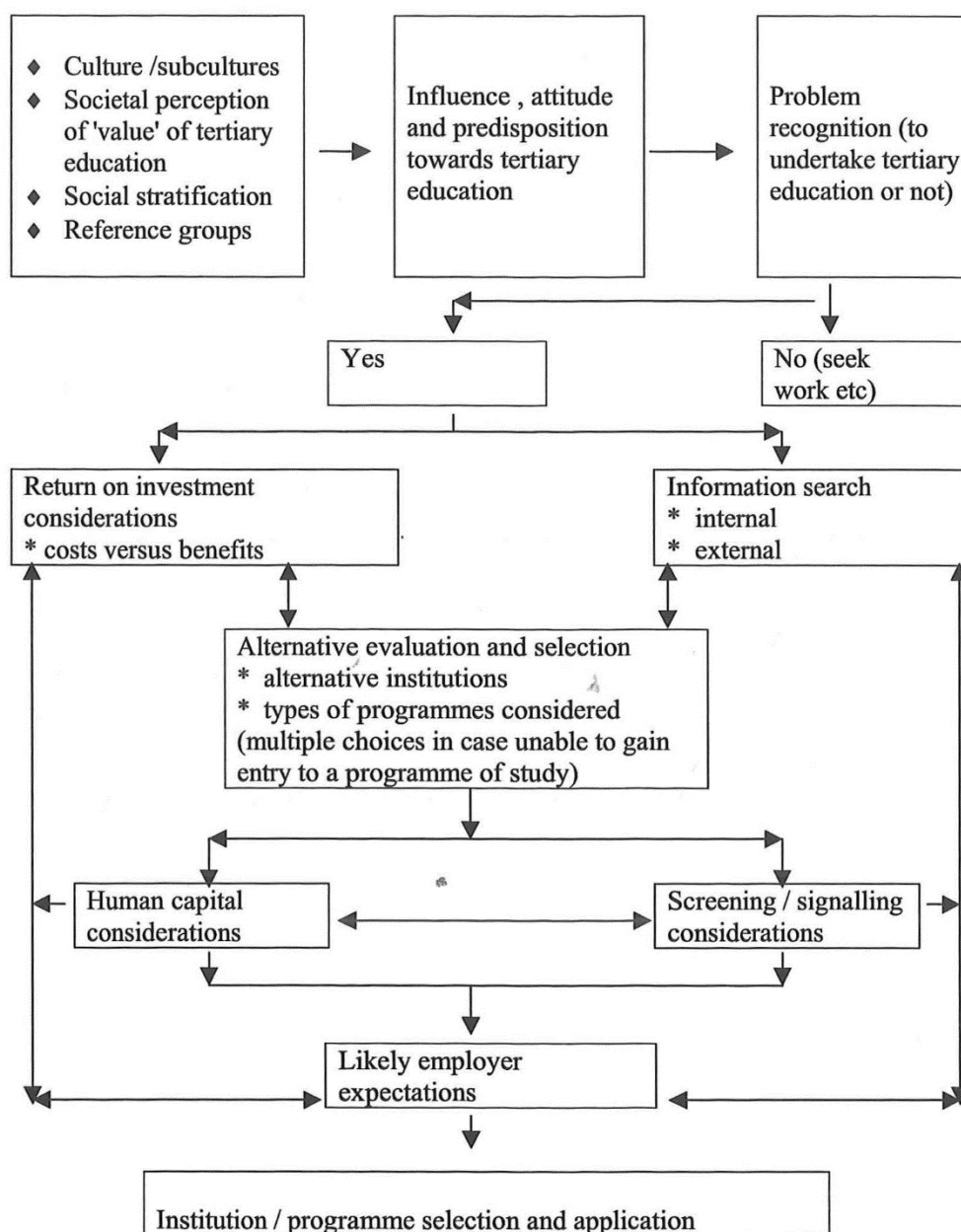
The Hawkins et al generic model is shown in Figure 1 below and is then followed by two new models, shown in Figures 2 and 3, which draw on the Hawkins et al. model and which could be used as a means of reconceptualizing:

1. the complexity of the decision process involved in tertiary education selection through the use of multi-faceted models such as those presented, as opposed to the somewhat simplistic rational economic decision making model used by the reform architects to date;
2. the way that 'products' of tertiary education may themselves be evaluated and selected by potential employers.



We have adapted the Hawkins et al. model to show the complex inter-relationships between a wide variety of factors which may impact on the decision to undertake a particular tertiary education programme (refer Figure 2). The connections between the various factors shown are likely to operate in both directions rather than indicating a single flow from one step to the next. For example, as various alternatives are considered, the return on investment considerations and information search steps may be revisited.

Figure 2 Proposed model of tertiary education decision making:



Model based on Hawkins, Best & Coney (1995) model of Consumer Behaviour (adapted to show specific education decision making).

Problem recognition would include the decision to undertake tertiary education or not, with alternatives such as seeking paid work being considered.

Information search would include internal and external searches. Internal searches would include memory, recalling information acquired during past searches and past experiences. External search for information would include the opinions of others such as family and friends. It would also include database searches, direct experiences such as campus visits, and promotional material such as institutional brochures and other advertising material.

In tandem with information search activity would be a consideration of the potential return on investment in tertiary education. This would include consideration of cost versus benefits, such as

the chances of obtaining employment without a tertiary qualification. Also considered would be the means of being able to make the required investment. This would include personal and / or family contributions and access to, and willingness to take up, student loans or private loans.

Information search and return on investment considerations would merge into alternative evaluation and selection. This would include assessment of the type of institution, i.e. university versus polytechnic or private tertiary institution. It would also include the types of programme of study considered. Where high entry standards are required for some programmes of study, non-acceptance into a preferred programme would be considered and alternative programmes may therefore be determined.

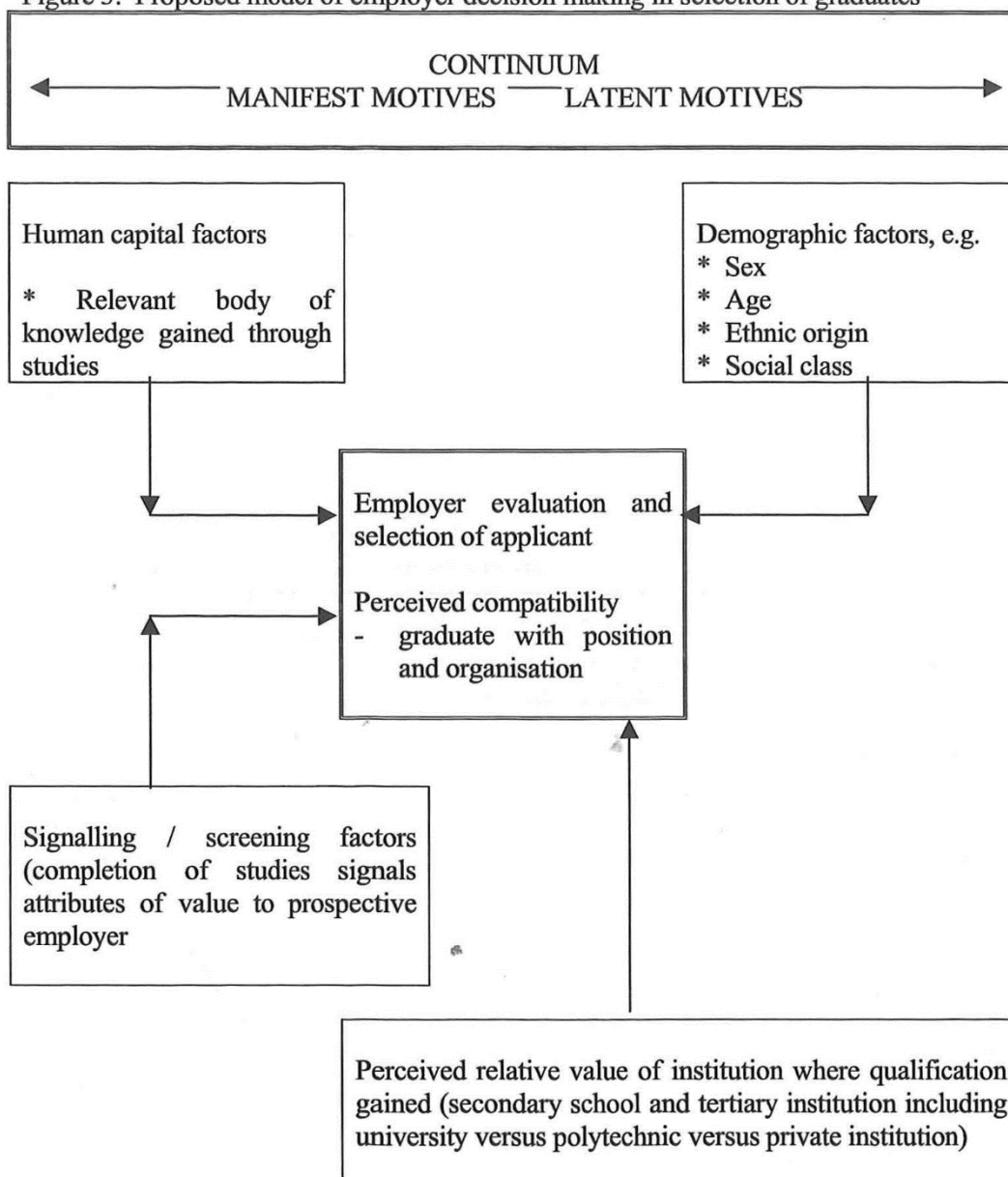
The evaluation of potential programmes of study will be tempered by both human capital and screening / signalling considerations and the likely expectations of future employers. Eventually, both the institution and the programme of study will be decided. It is possible that there is a subsequent stage. Hawkins et al. (1995) describe post-purchase evaluation in the context of use, evaluation, disposition and repurchase behaviour.

It is unlikely that post-purchase evaluation of tertiary education decisions occurs in the same way as a tangible product or even of many services. It is probable, however, that some form of post-enrolment evaluation does occur. It may occur at more than one point during the course of study. The results of this evaluation process may influence decisions to continue studies, to change the programme of study, or to withdraw temporarily or permanently from tertiary study altogether.

Figure 3 identifies the requirement to reconcile employers' stated evaluative criteria used in deciding on employment of graduates and the profile of those who have successfully gained employment. It suggests, via a decision tree style analysis, that a combination of motives are present: both manifest (known and freely admitted) and latent (either unknown or the employers are reluctant to admit to or to reveal them). Motives that are predominantly manifest are shown on the left side of the model and latent motives on the right.

The perceived value of university qualifications versus polytechnic qualifications is shown between manifest and latent as there appears to be elements of both in use by employers.

Figure 3: Proposed model of employer decision making in selection of graduates



An investigation of the use of multi-faceted decision making models should be undertaken to determine whether such models provide a complementary base to the rational economic models used by policy makers in the past for predicting education decision ~g. A combination of these two types of models could provide a more complete explanation of the tertiary education decision process than is currently used.

While the models appear somewhat complex, they are able to be operationalized for the purposes of evaluating their ability to enhance our understanding of the tertiary education decision process.

Models which attempt to both explain and to predict consumer behaviour, such as the Hawkins et al. (1995) generic model shown in Figure 1, are routinely used as a tool to assist in developing marketing strategies. Usage has historically favoured tangible products, especially fast-moving-consumer-goods. This usage focus is changing, with texts such as Hawkins et al. (1995) including a number of services, especially financial and medical institutions in their illustration of the

application of such models. Educational services unfortunately do not form a major part of this literature.

Demographic data are routinely collected at the time of enrolment, both for Ministry of Education reporting purposes and for individual institution's own trend analyses. Institutions are now extending the range of data collected.

For example, Manukau Institute of Technology now regularly surveys new entrants to determine what sources of information were important for students in evaluating programmes of study, and what other institutions and programmes were considered. Also investigated are the primary reasons for choosing the institution and, for students who made programme inquiries but who did not subsequently enrol, why another study path was chosen. Exit interviews and graduate employment studies are also becoming a routine method of data collection for many tertiary institutions.

The foundations for the testing, amendment and refinement of the proposed model of tertiary education decision making outlined in Figure 2 therefore exist. What is needed is a means of co-ordinating the integration of existing data bases for analysis and of expanding the range of data collected to allow examination of aspects such as socio-economic factors for which data are not currently collected.

The models presented in Figures 1, 2 and 3 may have application beyond informing policy debate. Education providers may find them useful in developing and promoting programmes. Graduates seeking to join the workforce could usefully review all the factors likely to be considered by potential employers in the selection process.

Specific Questions for Future Research

The following section provides a number of specific questions which would form the basis for a future research programme to develop a holistic model of education decision making combining economic and consumer behaviour theories.

1. Can a more complete model of tertiary education decision processes be developed?

A number of longitudinal studies are envisaged, commencing in high schools. These studies would explore tertiary education and career aims and aspirations by gender, ethnicity and social stratification. The consumer behaviour models presented in figures 1 - 3 would be used as a foundation for the research programme and would be tested and refined.

Students would be tracked through their tertiary studies and on through their initial years in the workforce. Variations between initial aspirations and actual choices and the causes of this would be examined. Both participation and achievement rates would be examined.

2. Are there differences between school leavers and mature students with regard to their tertiary education decision processes?

Given the marked increase in mature, part time students seen in some institutions (e.g. Manukau Institute of Technology and, to a lesser extent, Massey University at Albany), the learning needs of, and support systems for, these non-traditional students would also be examined. The effect of prior work experience - and of on-going work experience - on the study aspirations, career aspirations and learning experiences of this group would also be examined. As for school leavers, this group would also be tracked throughout their tertiary studies.

3. What support packages and programmes might provide the best means of increasing participation in tertiary education by lower socio-economic groups?

In tandem with the longitudinal studies, the range of possible support packages which might encourage lower socio-economic groups to participate in tertiary education would also be explored to determine which packages, or combination of packages, might be the most efficient and effective. Such support packages might include targeted living allowances or scholarships.

4. Does industry believe that their needs are being met by new graduates? What role does industry play, or wish to play, in education and training?

Industry would be studied to determine whether they perceive graduates are entering the workforce with the skills and attributes desired by their employers. Where identifiable gaps exist, the question of whether these deficiencies can be met by existing education programmes would be explored.

In addition, industry's investment in education and training would be studied to determine if it has changed and if so, whether it has increased, decreased or merely changed form since the reforms' inception.

Industry satisfaction with their existing involvement in tertiary education and training, and desire for any change to their existing level of commitment, would also be examined.

A research programme such as that outlined above would provide a foundation to both explain and to also predict tertiary education decision processes. It would also guide future education policy development.

Summary

In this issue, we have attempted to illustrate that the theories which underpin the education reforms are based on a number of incomplete assumptions. We have also endeavoured to demonstrate that, while the concept of 'the market' has merit both as an instrument of analysis and as a device whereby education may be forced to become more responsive to a rapidly changing environment, the differentiated nature of markets in education are not completely understood by policy makers.

Failure to understand the nature and behaviour of these markets has led to policies having been developed on the basis of assumptions which may not be valid. The consequences may be that some of the reforms actually achieve the opposite of what was intended, especially in terms of equity objectives.

It is interesting to reflect on a comment from a senior NZQA official, the General Manager of the Policy and Development Division, in 1993:

There have been plenty of mistakes. One mistake has been moving too fast for many of those who are experiencing change. Change requires management and too little thought was given to management. That in turn is linked to a second mistake which was to commit too much faith in the market as a mechanism for providing all the answers. What is badly needed in education is a long term strategic plan built around the vision. The vision is there, but only incipient and has spluttered in the darkness. Another and related mistake has been insufficient consultation (Barker, 1993: 10).

In spite of such concerns, none of the issues raised appear to have been acted on from 1993 to 1999. However, there has been action from the newly elected Labour / Alliance government to moderate market forces. In the pre-tertiary sector, they have abolished bulk funding, and in the tertiary sector, they have intervened in the market to lower tertiary education costs for students and have instituted

a review of tertiary education that will examine the appropriate level of competition in the market, among other issues.

The articles in this issue have identified a number of problems with the reform intentions versus the emerging actuality. A number of areas which could benefit from more detailed investigation have been identified, both in terms of informing policy decisions and in the actual implementation of reform instruments themselves. It is hoped that the reviews and research recommended can be undertaken before any further substantial investments are made in reforms which may prove in part to be both inefficient and ineffectual.

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