

Chapter

E-Learning and the Future of Distance Education

Abstract

This paper will argue that the future of distance education will be decided at least as much by economic factors as by technical ones. Distance education will need to demonstrate that it is a good solution in financial terms to the education needs of students facing the labour market in the 21st century and in fiscal terms to governments investing in educational systems.

The paper explores the economic concepts of ‘return on investment’, ‘willing to pay’, ‘resale value of an education’ and ‘investment risk’ as they apply to distance education. In particular it will suggest that distance education, both as it stands today and in terms of current trends towards e-learning, may be either too inaccessible or too risky an investment for most potential students, and that distance education will fail to reach its potential unless it can increase its availability in the market and its rate of student success.

1.1 Introduction

Anyone embarking on any kind of study of distance education that involves economics, even if in an elementary sense as in this paper, must immediately acknowledge the seminal work of Rumble [RUM97] Hulsmann [HUL00] and Perraton [PER00].

Their work remains important because even in the rush to explore technical solutions to issues facing distance education such as e-learning, it is likely that the future of distance education will be decided as much by economic factors as by technical advances. Unless distance educators can persuade governments and potential students that distance education is a sound investment then ultimately it will remain a minority activity. Whilst distance educators may argue about the relative merits of various Virtual Learning Environments or the role of e-learning in developing digital cultures, in the end whether a government or student invests in distance education will depend largely on the oldest question of all – is it value for money?

Both Rumble and Hulsman agree that distance education is cheaper in terms of the production of graduates than conventional education. But as Rumble [RUM01] in discussing e-learning and quoting Franklin notes ‘Whenever someone talks to you about the benefits and costs of a particular project, don’t ask ‘What benefits and costs?’ ask ‘*Whose* benefits and *whose* costs?’” [FRA92]. In other words ultimately it is the student who pays either as an investor or as a tax payer and it is critically important to take their perspective and ask what the benefits and costs are to them.

In order to answer the cost-benefits question it is necessary to explore economic concepts such as ‘return on investment’, the ‘willing to pay factor’, ‘resale value of qualifications’ and, above all, ‘investment risk’.

1.1.1 Return on investment.

The widening of participation in higher education is means that increasingly students have to pick up more and more of the direct cost of their education upfront. This is true not only in the UK where tuition fees of £3000 (€3500) a year were introduced in 2006, but in countries where higher education has traditionally been free to the student. Whilst many students will continue to enter higher education whatever the costs, there will be increasing numbers who will need to look at the money they will need to find up front to fund their studies, and compare it with how

much they will get back in increased earnings over their lifetime as a result of gaining the qualification from those studies (the 'Graduate Premium').

Because of the importance of this calculation considerable research has been conducted into the cost benefits of conventional fulltime education. For example both Walker et al [WAL03] and Grugulis [GRU03] found that in the UK conventional graduates benefited financially from their education although the benefit depended on the subject of their degree. They estimated that the graduate premium for a full-time degree in 2003 was of the order of £400,000 (€450,000). Current estimates are now much lower as the proportion of graduates in the population increases and the UK government now uses a figure of around £150,000 (€180,000).

Much less work has been conducted in the distance education equivalent. However Woodley et al [WOO01] found that on average UKOU graduates increased their earnings over the remainder of their working life times by around 15%. This does not sound a large benefit but distance education has two important advantages over conventional higher education:

- **Upfront fees generally tend to be lower.** For example the total cost of a UKOU degree may be of the order of £2500 (€3000) depending on the courses chosen. The total cost of a conventional UK undergraduate degree from 2006 will be at least £12,000 (€15,000).

- **Distance education students can and generally do continue to earn whilst studying.** This is a very important financial factor. Conventional students in the UK can experience anything up to £20,000 (€25,000) a year in lost earnings whilst studying, which amounts to £60,000 (€75,000) over a three year course. This sum dwarfs the tuition fee costs so that the total cost of a full-time degree maybe of the order of £70,000 (€80,000) compared with the cost of a distance education degree at around £2500 (€3000).

Taken together these factors mean that a distance education student has a distinct financial advantage over a conventional student. Calculations based on Woodley et al (op cit) and Walker (op cit) comparative figures suggest that distance education may have had a return on investment of around 3200% (i.e. they will receive in increased income over their working life of around 32 times their original investment) in 2003, compared with a return on investment for conventional graduates of 600% (i.e. a return of just six times their original investment) [SIM05] although both figures are now likely to be lower in proportion. However such calculations are not only very approximate but also depend on the 'resale value' of particular qualifications.

1.1.2 Resale value of qualifications.

Clearly many students graduating with a higher education qualification will do so in the expectation that they will be able to use that qualification to gain higher earnings. In other words the qualification will have a 'resale value' to prospective employers – the amount in salary that an employer will pay in order to take on someone with that qualification.

However not all qualifications are equal in that respect. Research in the UK for example suggests that degrees in numerate subjects in general have a higher resale value than non-numerate subjects particularly in economic fields such as business economics (that said, the highest resale values tend to be for law-related subjects). In addition some universities' qualifications (in the UK Oxford, Cambridge and a few others) tend to have higher resale values than the same subjects studied in other universities. Current figures also suggest that certain subjects have quite low resale values – art history for example, where the return on investment in some individual cases can be less than 100%, although there are clearly a few public exceptions where art historians can break into the lucrative media business as television presenters.

Thus a very important factor in a prospective student's economic calculations is likely to be how valuable their qualification will be when they have obtained it. If a degree through distance education is held to be of inferior quality to a conventional degree, then that will reduce its desirability and its resale value. In economic terms this will reduce a prospective student's 'willing to pay' (WTP) factor. In other words the amount a student is willing to pay for their qualification will be less if the qualification is perceived as being worth less. Indeed if the WTP is reduced to below the cost of the qualification the student will not enrol. Students will also have a low WTP if the authenticity of their qualification is low - see 'Markets for e-learning' in a later section.

1.1.3 Risk

The final factor that may effect a student's economic decision to invest in study towards a qualification will be the risk to that investment. This in turn depends on the retention rates in whatever course or programme a student enrolls. In what follows I assume that a student who enrolls in a programme and fails or withdraws from that programme does not enjoy the full financial benefits that graduating from

that programme would have given him or her. This is clearly not true for some students:

- **students who switch or restart studies.** Some students will switch to another programme and be successful (although they will presumably lose the investment they have made into the first programme). Other students may restart their programme successfully (again losing only their initial investment).

- **students studying for enjoyment.** Some students will be studying without any financial benefit in mind and may withdraw when they feel that they have gained the knowledge and skills they wanted without going forward for the final qualification (although informal surveys in the UKOU suggest that this number is only of the order of 5-10% of the total enrolment in that institution).

- **students who do not complete a full qualification** but nevertheless gain some financial advantages through increased promotion prospects due to the study they have completed. It is difficult to estimate the number of such students. But an employer able to choose between fully or partly qualified students is likely to choose the former.

- **students unconcerned by economic arguments.** Of course individual students are not purely guided by economic considerations when choosing when where and how to study. Nevertheless I would argue that economic considerations will become very much more important in driving student decisions in the future if not individually then in the mass.

- **students who succeed anyway.** Finally it is not difficult to think of examples of students who have withdrawn from education only to go on and be hugely successful – Bill Gates who withdrew from Harvard, Albert Einstein who dropped out of high school, Mick Jagger who withdrew from university and founded a successful rock band and so on.

However if we assume that a substantial majority of the students who start courses wish to finish them, then the ultimate financial advantage of distance education over conventional education becomes much less. This is because of one salient characteristic of distance education – its lower retention rates in both conventional and e-learning modes.

1.2 Retention in conventional distance education

It is quite difficult to get clear retention data for distance education. But taking the UKOU as an example the overall retention from start to finish over a degree

course is of the order of 35% or less [UKOU04]. This compares with an average retention rate in conventional UK higher education of around 80%. Thus a student 'investing' in distance education in the UK has more than twice the risk of losing his or her money as a student investing in conventional education. In fact for some students the risk attached to investing in distance education may be worse than the risk of investing in a wildcat oil drilling venture [MON99].

Consequently although the long terms return on investment in distance education may be higher than conventional education a student would be well-advised to consider the higher risk of losing their investment very carefully in choosing between them. In other words a student's 'willing to pay' investment into distance education may be considerably reduced – possibly to zero – if the risk of a nil return is seen as too high.

1.2.1 Retention in e-learning

If it is difficult to get clear retention data in conventional distance education then the problem of accessing retention information in e-learning is even harder. This may be due in part to the competitive nature of e-learning so that institutions may be reluctant to release data which may put them at an economic disadvantage against other players in the field. Some data is available from the US where the consultants Corporate Xchange found dropout rates from e-learning of around 71% [COR02]. Other data is drawn from more accidental sources such as the fact that the UKOU's 'flagship' e-learning course 'You, your computer and the Net' is also the course with the highest dropout in the University.

Such random data cannot be said to add up to clear evidence of the comparative failure of e-learning and indeed there is some counter evidence that e-learning is effective at post graduate level. But for undergraduate and lower level courses the implication of the evidence is that e-learning is no more effective than conventional distance education in promoting student success and may be considerably worse.

Nevertheless if e-learning could be provided at lower cost than conventional distance education then students might be willing to accept the higher risks involved. But the cost advantages of e-learning are not clear either to students or institutions. Both Rumble and Hulsmann (op cit) agree that the full cost of an e-learning programme to an institution may well be greater than that of conventional distance education courses. In addition Bishop (2002) points out that the costs to students can be considerable in amortised computing equipment expenditure, consumables and phone charges (the costs are lower if a pc is shared or used at work. But those situations can involve other study problems). She estimates that

such costs can be around £500 (€700) a year over and above course fees which, if costs are greater to institutions, will also inevitably be greater to students.

1.2.2 Markets for e-learning

Of course one of the drivers behind e-learning is its availability world-wide with consequent competitive advantages to successful institutions. However such globalisation will only be effective if there is some way of authenticating qualifications awarded by e-institutions. Students may have a low willing to pay rate for qualifications whose resale value is doubtful because they are awarded by institutions unfamiliar to employers.

In addition the market for e-learning is more restricted than that for conventional distance education. In the UK in 2009 more than 35% of the population still do not have internet access at home and although internet access is growing the rate of that growth is slowing. It is assumed by some governments that internet access can be provided through computer centres in local libraries and elsewhere. However it is not yet clear that such centres can provide suitable environments for sustained study of the kind needed to get significant qualifications such as a university degree [DRI01]. There is also some evidence that populations without internet access are not particularly attracted to e-learning and do not see its potential in their lives [SEL04].

Whilst the lack of internet access restricts the potential market for e-learning in all distance education institutions, it is a particular problem for open learning organisations who will have to find ways of reconciling their moves into e-learning with their mission to widen access to education amongst the underprivileged. This problem is now an acute one for the UKOU where the UK government has recently (2006) announced its intention to restrict funding for students studying for equivalent or lower qualifications than the ones they already possess (the so-called ELQ policy). The Government's intention is to direct funding more towards educationally disadvantaged students studying for their first qualification. But such students are exactly those who are far less likely to have internet access at home. This the UKOU's dash for e-learning and its consequent requirement that all its students have internet access may turn out to be recruitment vulnerability instead of a competitive advantage.

1.3 Returns on Government investment

Finally it is worth bearing in mind that it is not just students who have a financial interest in comparing distance and conventional education. Many distance education institutions receive substantial government funding either directly or indirectly from government grants to students. Governments will therefore have a direct fiscal interest in how much it costs them to produce graduates by different means. Astonishingly the UK Government does not yet collect comparative data on the costs of producing graduates by full-time, part-time and distance study, but it can only be a matter of time before it does so. At that point the markedly higher dropout rates from distance education will show up as a very considerable inefficiency in the sector. Further work on this is a matter of urgency if distance education institutions are not to be penalised for this ineffectiveness as it will be perceived.

1.4 Conclusions

It is the contention of this paper that until the problem of the lower retention in distance education is firmly tackled, distance education will not compete successfully with conventional education either in terms of student recruitment or funding from government or employers. What is more this paper suggests that the signs are that current trends to move to e-learning in distance education are likely to worsen both retention and market penetration at least in the short term unless urgent action is taken to address both issues.

There is evidence [SIM03. SIM08] that retention in distance education can be improved through measures such as 'proactive motivational support' and that such student support can be cost-effective for both institutions and students. It will be vital for the future of distance education that effective student retention processes are implemented in both the conventional and e-learning environments.

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SUGGESTED KEY WORDS

Investment

Return on investment

Willing to pay

Resale value of qualifications

Qualifications – resale value

Investment

Investment risk

Risk

Retention

Retention in e-learning

Retention in conventional learning

E-learning – retention in

E-learning –access to

Costs

Costs of conventional learning

Costs of distance learning

Cost benefits

Resale value

Resale value of qualifications

Internet access

Access to Internet

Benefits

Graduate premium

Student support

Proactive motivational support

Fiscal costs

Dropout

Student dropout

