WHITE PAPER

Universities, colleges and distance learning: objectives, strategies and surmounting the barriers

A paper for tertiary education providers

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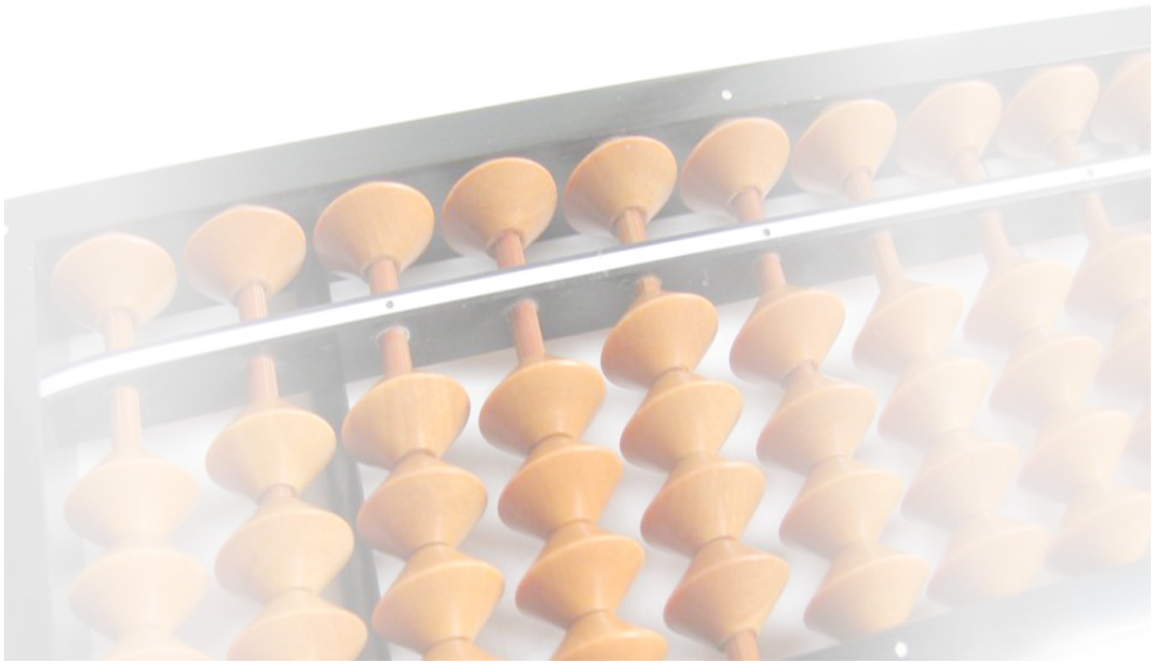

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Executive summary

Universities are faced with a changing environment, changes in expectations, culture, competition and much tougher financial constraints. This whitepaper focuses on one of the opportunities, distance learning, that is available to universities to help them survive and prosper in the face of these changes.

The paper first covers briefly the changes that are taking place in the university sector. It then identifies a set of potential objectives and discusses the possible strategies, one of which is distance learning, that a university could introduce to meet its objectives. It then proceeds to identify the external and internal barriers to entry to the distance learning market, and covers in detail issues around internal barriers and strategies for dealing with them. It concludes by emphasising that it is the internal rather than the external barriers that a university can influence and overcome, thus significantly increasing the chances of a successful entry into the distance learning market.

The new environment faced by higher education institutions

Higher education institutions, and universities in particular, have maintained a relatively stable role and status in society over many decades. Past changes have been mostly evolutionary rather than revolutionary, and usually were in the form of the introduction of new subjects (for example, social sciences in the 1960s and media studies in the 1990s), requiring little change to organisational objectives or structure (Rothblatt 1997).

Traditionally, particularly in Europe, these institutions seldom had an explicit set of objectives but rather a vague set including:

- to supply educational services to society;
- to advance the frontiers of knowledge;
- to implicitly maintain a rather ill-defined financial viability.

Over the last two decades, the environment in which universities operate has changed and is continuing to change at an increasing rate. This process is stimulated by rapid developments in IT, the growth of the global education market, and much more stringent financial constraints. These changes have placed pressure on the traditional university model, not only in terms of its objectives, but also in respect of the strategies it employs to attain those objectives (Partinos 2000).

One of these changes is that there has been increasing pressure for educational institutions to state more rigorously their objectives, particularly for teaching and research. In addition, there has been a growth of external assessments on all aspects of universities' activities to ensure that the objectives are met. Some of these assessments are closely tied with funding. For example, in the UK universities are assessed at subject level every five years. The result of this research evaluation provides the basis for the allocation of future public research funding (HERO 2000).

Finally, as a result of a reduction in public sector funding, these institutions now need to generate a third stream of funds from the private sector, in order to maintain financial viability and to generate surpluses for investment in new developments, markets and infrastructure (Universities UK 2002).

Objectives in the new environment

In the present educational environment, while each university may have its own specific set of operational objectives, the following set reflect in general those adopted by a number of institutions, to:

- enhance the standard of research output;
- increase the number of students, both on and off-campus;
- increase the number of international students;
- produce relevant, interesting and up-to-date educational programmes;

- increase the proportion of online course material;
- increase the revenue while containing cost levels;
- attain financial viability.

While many of the above objectives are held in high esteem for their educational attributes, the ability to fund activities whether for research or teaching is often critical to their success. Therefore, the required levels of attainment for many of these objectives are set to optimise the university's financial standing.

Financial viability is different for each institution. It is an imprecise term that can range from break-even to generating large revenue surpluses. However, there are not many opportunities for universities to increase their net revenue significantly. For instance, an increase in project-specific research funding increases a university's gross income but it does not make a large net contribution. This is because the funding has to be accounted for in expenditure directly related to the project for which the funds are given.

Objectives and strategies

There has been continual pressure on universities, often from the government who have emphasised that the importance of good strategic planning is recognised throughout higher education**.** The Higher Education Funding Council for England (HEFCE) has stated that 'universities and colleges should understand the need to clearly identify their mission and objectives, their priorities and targets for improvement, and the action to be taken to achieve them'. This development and the difficulties mentioned above, have led universities into identifying their objectives in a much more explicit form, often setting hard operational objectives and evaluating how each policy option contributes to them. (HEFCE 2000)

This has resulted in a more focused application of existing policies to improve teaching and to raise the standard of research. Examples of this new focus could include teaching new lecturers in the art of lecturing, and entry by departments into the labour market to buy in top-rated researchers specifically for the research assessment exercise.

At the same time, universities have introduced a number of policies to generate net revenue, some falling outside what might be considered their traditional activities. For example, the nine-month teaching academic year means that student residences and teaching facilities are available for alternative uses in the vacations. They are often used as conference facilities, tourist accommodation and for summer courses.

While these activities generate revenue they are rarely of sufficient impact radically to change the financial position of an institution.

Strategies for significantly increasing financial viability

The options at the disposal of any institution that can make a significant contribution to its financial objectives are limited. A number of research institutions have benefited greatly by the royalties associated with scientific patents obtained by its researchers. However, investment in scientific research with the aim to generate patent income is a high-risk activity (Beshkin 2000).

Looking at the activities of firms in the private sector provides some possible strategies which universities could adopt. The main two are mergers and take-overs, and diversification (Sommerich 2002).

Mergers and take-overs are based on the assumption that economies of scale can be created, therefore the larger the university the lower will be the unit average costs. The two-thirds failure rate of mergers and take-overs in the private sector should be held in mind when evaluating the possible success of this strategy in the university sector. While failure in the private sector is clearly demonstrated in share prices, in the university sector success or failure has always been difficult to assess, and may only manifest over a long timespan.

Diversification implies that a firm or organisation is moving into a new product market. Organisations can diversify in a number of ways. They can

- grow a new business organically
- set up strategic alliances or joint ventures
- take over or merge with another firm producing a different product.

On the teaching side, many universities have diversified into postgraduate qualifications for which there is a large demand. The most prominently successful qualification in this category is the MBA. This has resulted in the proliferation of business schools, meeting the demand of both domestic and international business students. One of the most successful subsets of this diversification strategy, especially financially, has been the development of courses for the global distance-learning MBA market. It has been the ability of a number of universities and business schools to reach out into the global market that has allowed them significantly to increase their revenue from teaching. Further, growth in the global market has generated a demand for good quality distance- learning materials from reputable institutions.

This move into the distance-learning market can be described as ‘related diversification’, as the universities own or employ the relevant critical core assets:

- the ability to award internationally recognised qualifications
- the relevant subject experts
- the necessary managerial and administrative structure.

With the example of a number of highly successful distance-learning programmes before them, many HEIs now view distance learning as a way to increase their student numbers considerably, to extend their educational offering to a world-wide audience and to increase their income while reducing their reliance on government funding (Farrell 2001). Hence, institutional strategic plans which encompass distance learning do not describe small, peripheral distance-learning ventures. They are looking at distance learning for its potential as a broad-spectrum, cost-efficient, mass delivery method. However, this mass delivery does not appear to be what is actually happening on the ground where many institutions are developing 'boutique distance education programmes with small numbers' (Daniel 1997). Even in the blended learning environment, where institutions are looking at using virtual learning environments (VLEs) to support on-campus students, evidence emerging from recent conferences is that this conversion is also happening more slowly than planned.

Developing successful distance-learning programmes

As we have already noted, distance learning is a diversification which has the potential to boost an institution's success in meeting a number of objectives, such as the increase of student numbers, an increase in income and the development and use of more online learning materials. However, in order to be successful, institutions need to approach the introduction of distance learning in a strategic and perceptive way. This requires them to recognise not only the potential distance learning offers, but also the barriers to making a success of a distance learning venture.

External barriers

While we are primarily discussing in this paper organisations which have already taken the decision to move into the distance-learning market, it is worth looking briefly at the kinds of barriers which may cause organisations to decide against this route. Barriers to entering a new market that are external to an organisation are barriers usually described as 'structural' or 'strategic'.

Structural barriers exist when an existing organisation has natural cost or marketing advantages, or when it benefits from favourable regulations. The three main structural entry barriers take the form of:

- economies of scale and scope
- control of essential resources
- marketing advantages.

Strategic entry barriers result when existing organisations take explicit actions aimed at deterring entry. Entry-deterring strategies may include:

- capacity expansion
- limit pricing
- predatory pricing.

The distance-learning market is characterised by a number of these barriers. Structural barriers include a regulatory barrier, the ability to award degrees. Structural barriers favouring large universities include economies of scale and scope, and the natural cost advantage of existing institutions already employing the subject experts who can produce learning materials at the required quality.

The ability to award degrees, a critical competitive resource, precludes the entry of non-educational organisations into a significant part of the distance-learning market, i.e. where internationally recognised academic qualifications are required. One consequence of this is that private firms have had to enter the corporate learning market where accredited qualifications are not always considered essential. The granting of degree awarding status to the private BPP College in September 2007 may signify the beginning of an end to this particular structural barrier.

It is not just the ability to issue accredited qualifications that is critical, but also it is the international perception of the standard of the accrediting body. Even in the academic environment branding is crucial, and so a distance-learning degree from Oxford or Stanford universities will have a greater competitive advantage than those from less renowned universities.

Strategic barriers might also relate to the competitive activities of organisations already in the distance-learning market. For instance, trying to compete with the Open University is a daunting task for institutions that do not have a track record in this area.

The focus of the discussion on external barriers to entry ignores the internal characteristics of a university. This reflects the approach in neo-classical economics where firms, or universities in this case, are perceived as if they are a black box. Nothing is known of the internal mechanisms of the university and all universities are viewed as being homogeneous. The theory continues that it is the market's structure and competitive environment that are the dominating factors of a firm's success or failure and not its internal characteristics and abilities.

However, organisations are not the same and some have superior competencies in particular areas compared with their competitors. These provide them with competitive advantages over their rivals. Universities are no different, they have varying levels of capabilities and efficiencies, whether human or capital, implying that some universities will be better disposed and more able to take advantage of new opportunities than others.

All universities, however well resourced initially, will face challenges that they must overcome, if they are to set up successful distance-learning programmes.

First steps towards a distance-learning strategy

As a first step, a university should consider the kind of structural model which is most appropriate and likely to succeed, in the context of its culture. Examples of the kinds of models which might be applied are discussed below.

Model 1

Some institutions have chosen to separate their distance-learning developments from the core business of the institution, creating an entirely separate department or centre from which all these activities are managed – this can include administration, IT support, materials development and production. These systems may be closely interlinked with existing systems or integration may be limited merely to the exchange of enrolment and matriculation information. This approach has the benefit of circumventing some of the more difficult aspects of traditional university management and culture, but cannot necessarily be expected to have any impact on the day-to-day teaching practice of the institution and its staff as a whole. There are a number of supporters of such a ring-fenced model. Prestera and Moller (2001) subscribe to this view, and King (2002) quotes Yetton as favouring the 'independent centre' as the way in which institutions can successfully introduce distance learning. This model has less applicability as more blended learning is used for on-site students, thus narrowing the gap between off-site and on-site delivery models.

Model 2

Alternatively, institutions may choose to make distance learning an integral part of their core activity, ensuring that all faculties are involved in some way. This approach avoids the duplication of administrative and other systems, but within the current university culture, has a tendency to lead to 'cottage industries' of activity, where departments all try and do everything themselves. King (2002) discusses the fact that innovative developments are often left in the hands of enthusiasts. This results in strategies which do not lead to mass application. In addition, this institution-wide approach can mean that funds set aside for the development of innovative initiatives are diluted to such an extent that no whole programmes are produced, or that the impact on the institution as a whole is limited. While this may be of benefit to on-site students, providing them with flexibility in at least some of their modules, it does mean that any broader goals of off-site delivery to new markets is not achievable in the absence of a complete 'product' to offer.

Model 3

Some institutions have chosen to resource a central department to implement and manage the development of distance-learning activities for the institution, while maintaining the driving force within the faculties. This has the benefit of allowing faculty to concentrate on authoring the materials without having to provide technical input and liaison between departments. This model also means that emerging good practice and successes are recognised centrally and disseminated more widely, preventing some of the reinvention of the wheel found in the cottage industry model. The tendency with this model is to rely on enthusiasts or 'champions' of the new learning mode to take things forward until there is enough critical mass to sustain the development. These champions are needed at all levels of the organisation. However, there must come a point at which this activity must be built in to the processes, strategies and goals of the institution, to avoid a slump and possible failure of the entire endeavour due to the departure of the champions.

One can imagine that models 2 and 3 above could be used as vehicles for radical change across the institution. Model 1, on the other hand, is essentially an autonomous approach which will not necessarily encourage change within the main institution, but will allow rapid and cost-effective entry into the new market. This takes us back to the institution's strategic vision for the introduction of distance learning and what it is trying to achieve. Is a single division achieving good enrolments and significant cashflow running parallel to the rest of the institution's activity a strategic goal, or are there other goals which would be better served by a comprehensive reshaping of the institution's entire practice?

A decision regarding the fundamental model aids the implementation of the first step towards developing a distance education programme, the resource audit. The resource audit's object is to determine what relevant skills and resources a university or college already has in place but also to identify those areas where it is deficient.

Internal barriers

Having completed the exercises above, it will be apparent that there are a number of internal barriers to entering the distance learning market. However, with an appreciation and careful analysis of these barriers it is possible both to anticipate and to mitigate their impact.

Internal barriers to entry can take many forms but below are the most common barriers identified by researchers in the field (Berge and Muilenburg, 2000; Chapnick, 2000; Clark, 1990; Galusha, 1997; National Center for Education Statistics 1997; Spodick 1995; Strain, J. 1987):

- project evaluation process
- resource constraints
- marketing
- technical expertise
- administrative structure
- evaluation/effectiveness
- organisational change
- social interaction
- quality
- student support services
- threatened by technology
- access
- faculty compensation and time
- legal issues.

The project evaluation process

The first problem to overcome is lack of experience in properly assessing the opportunities facing a university. Having determined the operational objectives, it is necessary to evaluate the available various opportunities - distance learning among others - to see how each contributes to the objectives. This implies that project evaluation should take place, similar to that undertaken in the private sector. A rigorous process of evaluation would require the identification of all the costs and benefits generated by each project, both financial, non-financial, over the life of each project. (Doughty 1998)

In the private sector this means the application of a discounted cash flow investment criterion or payback criterion. While the case for discount cash flow criteria is strong, many firms use the payback approach, as they believe it reduces risk and protects their cash flow. It also reduces the degree of uncertainty by limiting the estimation of future revenues and costs to the payback period.

In the university sector, because of the long time horizons for educational projects, the use of one of the discounted cash flow investment criteria is more

appropriate in order that costs and revenues received over a project's life are given their correct weighting. What the correct discount rate should be is a matter of conjecture but at least the minimum rate that should be used is that applied in the public sector. On the other hand if the aim is to attract private sector investment, then the discount rate used in the private sector should be used.

While the costs are relatively easily identified, even over a number of years, the revenues from some education projects are more difficult to identify. This is especially true when entering a new market such as the global distance-learning market. The experience to date of many institutions that have entered this market, providing they have got their product and marketing correct, is that they have attracted a much larger number of students than they had anticipated.

It is the incremental costs and benefits that directly result from the implementation of a project that should be counted. Having identified all the costs and benefits then the correct monetary values have to be assigned to them. All resources used should be assigned a value even if the institution already owns them, i.e. there is always an opportunity cost (Lundin 1994).

Education projects generate large positive externalities, i.e. benefits that do not accrue directly to the institution but to society at large. This is the rationale for government funding. Cost-benefit analysis is used in public sector investment appraisal as this does include all social costs and benefits not just the private ones. However, as the externalities do not accrue in the form of revenue to the institution, the university should include only the private money costs and benefits in its project evaluation thus significantly reducing the complexity of the task in hand (Garson 1999). Therefore, a less than fully comprehensive evaluation will take place and the focus will be on net revenue receipts, as is often the case in the public sector for organisations in a tight budgetary position. This is a familiar position for many universities.

The discussion above implies that, even if the externalities are ignored, a good deal of work has to be done to identify the market potential, to estimate sales, to accurately estimate costs, and forecast the data over the life of the project.

Dealing with project evaluation

The use of an appropriate investment criterion will ensure that projects are consistent with the operational objectives and that each project is evaluated on its own merits. It will facilitate the comparisons of projects, so that in the presence of capital rationing, projects can be ranked in order of their contribution to the institution's objectives.

This process should be undertaken quickly and efficiently. The lags in decision-making in many educational institutions mean that not only does the information on which the decision is to be made become outdated because many educational markets are changing rapidly due to increased competition, but there is also a loss of enthusiasm by those who involved in the project.

The resource constraint

All organisations - private and public sector - face a capital rationing problem. It is not surprising, therefore, that universities face a shortage of funds to invest in new projects. Running with a current revenue deficit means that there are no significant funds to invest in new projects.

More problematic for these institutions is the fact that they do not traditionally have recourse to the range of capital market options that private firms have to resolve the problem. This is despite that a successful entry into the distance learning market could generate large net revenue surpluses.

Strategies for overcoming resource constraints

Universities could attract funds from the private sector by using a well thought out business plan for projects that generate levels of return on investment that would attract private funding. The use of the Public Finance Initiative (PFI) in university funding is an example of this. In knowledge economies, private organisations are fully aware of the value of learning materials and the knowledge market, and can be tempted to invest in what is a fast growing market.

As an alternative strategy, universities could enter the market in the form of a joint venture or strategic alliance either with another educational institute or with a firm in the private sector. This could reduce the cost of entry and reduce and help spread the risk of failure. Though academia and commerce seldom sit comfortably together, a partnership founded on good business practice could attract great interest.

Marketing

Academic institutions entering distance learning must be very clear about how they will market their courses. Institutions in the traditional education sector have often been passive suppliers, waiting for students to apply to them either because they are attracted by the course or by the institution itself. In the UK, there is an informal agreement that universities will not explicitly market their undergraduate degrees in the domestic market. The rationale is that this would only push up the costs to the university sector without increasing the aggregate market size. The competitive marketing that has taken place has been limited to postgraduate degrees and includes adverts for postgraduate degrees and MBA graduate fairs.

The lack of competitive marketing skills and lack of experience with the different target market for distance learning are barriers that universities must overcome if they are to be successful in entering a global market. While domestically there is a level playing field, the global market is dominated by American universities that have much greater marketing skills and experience. This environment will be a much more competitive arena.

The lack of the types of marketing skills noted above, implies that in many cases universities will have to seek new personnel contract out the marketing activity. However, it would, for example, be expensive and difficult for an institution starting from scratch to set up its own global agency network.

Strategies to assist with marketing for distance learning

There are a number of solutions to this problem. The first is to form a joint venture with a company that has experience of marketing. In its early days, the Edinburgh Business School set up an agreement with Pearson Education, which had a world network of agents selling the MBA to individual students.

An alternative approach is to find a partner that is an educational institution located in the proposed market. Providing the local institution is carefully selected (and meets the criteria set by national higher education quality agencies) the distance-learning product can benefit from the reputation of the local institution and any cultural differences in content and form can be mitigated by their participation. This local institution is also able to provide front line academic support to distance learning students. This approach has the advantage that once one course is up and running, it will act as a springboard for attracting students to other courses supplied.

Whatever marketing system is adopted, the university should be aware and utilise the competitive variables which are traditionally part of the marketing mix: pricing policy, quality aspects, advertising, etc.

Finally, given that distance learning can rely heavily on the Internet, the Internet should be harnessed as a marketing tool for the programme. This means that institutions will have to have knowledge of, or hire in knowledge of, how to work with search engines and how best to optimise websites so that they are easily found.

Technical expertise, support and infrastructure

Distance learning is often significantly enhanced by, and supported through, technical innovation and infrastructure. The obvious example is the World Wide Web service. As a result, technical infrastructure and the necessary supporting staff are critical to the success of entry into the distance-learning market.

Universities and colleges are generally relatively well advanced in respect to technological infrastructure and the necessary in-house skills. However, before attempting to prepare and market a distance-learning programme, they should complete a survey of the ability, capacity and availability of their technological infrastructure. All elements of the infrastructure should be up to the necessary standard and this includes the administrative support as well as the production and delivery components.

The existence of the required infrastructure is essential but this does not imply that all staff, support and academic, will have developed the necessary skill levels to convert subject knowledge into high quality distance learning material. There are two main problem areas. The first is to write the learning materials in an appropriate form. The second is to convert the finished material into a form that will allow the learners to benefit from the material in whatever medium is most appropriate.

One problem that must be avoided is that subject experts convert their teaching materials as they stand directly into an on-line form. An important characteristic of distance learning is that the potential of the technology is properly exploited to provide at least as rich an educational experience as the purely on-campus variant. Distance learning should not be a repetition of what went before in form if not content. For example, multi-choice questions are not necessarily enhanced as an educational input simply by virtue of being on-line.

Strategies for increasing technical capacity

Procedures should be put in place to ensure that technical resources are upgraded and that they are continually maintained. The importance of the IT system to distance learning implies that there should be a back-up system and that there should be personnel monitoring the systems constantly, particularly if students will be studying in a number of different time zones.

Given the rapid pace of technological change, many subject experts lack the ability and skills to design and teach distance-learning courses. Bringing together the two sets of skills is difficult. Training subject experts in the IT skills necessary can have a limited effect given that the technology continues to develop and continual retraining is unlikely to be welcome or appropriate. One option is for a materials designer to build technical expertise in a broadly defined subject area that would provide the opportunity to apply innovative ideas across the board in that broad subject area.

If in-house skill cannot produce the quality of distance-learning product necessary, then use should be made of externally supplied materials. Here there is either the option to buy in the fully finished product off the shelf or to adapt a textbook into the institution's own style and integrate it into a course structure created in-house.

Where institutions are focusing on providing a student-centred learning system, they should ensure from the outset that their materials can be produced in a form that guarantees the opportunity to supply in all delivery modes and into all proprietary learning environments. Fortunately, the information structuring standards, SGML and XML, provide a technical starting point for exchange.

It should be borne in mind that the use of in-house skills is not necessarily beneficial if it results in distance-learning material that is inferior to that of the competition. One way to ensure that advantage is taken of the latest technological developments is to outsource either with a partner institution or contractually in the market place. In principle, all parts of the preparation could be outsourced, particularly those areas where the university or college does not have specific competencies such as the production of the learning material and a managed learning environment. In order to ensure future flexibility, care must be taken when choosing a technology partner that an open system with open standards and single-source publishing is selected.

Administrative structure

The requirement that structure follows strategy implies that the diversification into distance education, a strategic move, demands a change in the administrative/organisational structure (Chandler 1962).

It is the relative importance of the decision, the level of resources, and the new demands on the system required to support it that bring about the necessity for a change of structure. In addition, the geographically remote students and, on occasions, academic staff, generate new demands on the administrative system. These differences imply that tasks such as on-line applications, admissions, registration, advice systems and fee payment require a new support system. In addition, the system must be secure and be able to monitor the identity of distance-learning students.

Strategies for rethinking administrative structures

This area takes us back to the concept of models that was discussed earlier in the whitepaper. The impact of the administrative requirements noted above suggests that distance education should be managed centrally from the start. Although working within the university environment it requires a different approach and a new group of skills not found elsewhere in the organisation. A distance-learning division would set the required standards so that there is a consistency in purpose throughout the university and that it is carried out efficiently. The restructured administrative system should also be capable of managing trading relationships both within, dealing with for example, of problems of transfer pricing, and also with alliances and partners outside the organisation.

The difficulty in setting up a central division is that often, in the absence of institutional strategy development for distance learning, the initial distance-learning pilot emanates from one department that adopts its own set of standards. If this department is successful then it will be unwilling to changes its standards and will not wish to see the programme relocated to a division outside its authority. The solution to this is to convince the department of the potential qualitative and financial benefits accruing to the university and to the department, of university-wide common standards.

Evaluation/effectiveness

In distance learning, the physical separation of academics and students means that it is important to obtain student views during the development process. This is especially true in institutions that have no previous experience of producing distance-learning programmes.

Although the effectiveness of traditional class based teaching has been questioned its continuing acceptance is based on the existence of a range of accepted quality assessments and exercises that are seen to regulate standards. The problem for distance learning is that so far there is not the same generally accepted assessments and exercises that form the evaluation process and which would then lead to generally accepted standards. This is a problem that grows in relative importance as the programme proceeds. In the first instance in the early levels of learning the evaluation, following Bloom's Taxonomy, is generally focused on the remembering of basic information. This is generally not difficult to assess. However, as a student proceeds through the educational programme, the demands of a course move away from the need to acquire basic information to that of understanding and analysis. At this level the evaluation process becomes more complex (Bloom & Krathwohl 1956).

The second problem is that because of the initial lack of skills of the subject experts involved in preparing the materials it often means that they are limited to how they can assess the students. However, as their ability and skill increases they are able to produce more sophisticated forms of evaluation that demand more from the students than the presentation of basic information.

Expanding evaluation techniques

The difference between teaching students face to face and teaching at a distance, implies that different pedagogical and presentation skills are required. These need to be thoroughly tested on students to gain their assessment of the quality of the material and to assess the effectiveness of the new learning processes. The whole evaluation process both of the programme and of student views should be thought out well ahead and should involve both on and off campus students. There should be systematic testing of the material with the feedback directed to those preparing the material. Once the material is completed it should again be subject to further student evaluation. Finally, there should be a systematic process of recording of information that provides feedback and updating information to the relevant programme participants.

Organisational change

Educational institutions are generally conservative organisations. While the subject content taught continually changes, the method of delivery and assessment in teaching has remained the same for decades. Even the formation of new universities has not meant a significant increase in the variety in form and content of higher education. The newer institutions, for a number of reasons, one of which is an attempt to gain prestige, have by and large adopted very similar characteristics and approaches to those of the longer established institutions.

Research activity also relies on traditional processes to ensure that the output is the result of internationally agreed and recognised standards. Finally, the dominating culture of institutions, especially in Europe, has been public service orientated with little activity or contact with the private sector

A new culture is always difficult to introduce into an organisation. In universities this is partly due to the resistance of academic employees and partly due to the reluctance of the top management, despite their conversion, to employ the incentives for subject experts that would be available to employees in the private sector, i.e. reasonable salaries, royalty payments, etc. The top management in universities appear to evoke the public service ethos with respect to rewarding academic staff but expect to participate in highly remunerative activities using the same academic staff's expert knowledge and skills.

The introduction of distance learning into an institution where there is no history of distance learning is difficult. It is even difficult to expand distance-learning programmes to other departments in a university that has already had some success in the field, for some of the reasons outlined above.

Without a shared vision for distance learning, a strategic plan and key players within the organisation who are knowledgeable and supportive of distance learning, implementing a distance-learning program is a slow and difficult process. Difficulty in convincing stakeholders of the benefits of distance learning, the often slow pace of implementation, or the lack of an identifiable business need are all barriers to the successful provision of distance education.

The poor financial position of many institutions has, however, persuaded top management that a change in culture and attitude has to be brought about to create an organisation appropriate for the new environment.

Strategies for overcoming institutional inertia

To overcome the barriers to change, it is important that there is a lead from the top. Top management can ease the process of adoption by informing and educating everyone in the organisation of the need to enter into new areas, such as distance learning, and the importance of doing so effectively and efficiently.

One strategy employed by institutions is to recruit market-focused managers and consultants who are less tied by tradition and are able to respond to new opportunities. However, there is the danger that this creates a new parallel organisation in the university: the original public service dominated; the new profit motivated.

For the organisation to change to one sympathetic to distance learning, it is necessary initially to work within the present values and culture of the organisation. Once again, it is worth emphasising that a sound strategic plan must be formulated to make the case for distance-learning programmes. It is during and after this stage that it is important that the executive board of the organisation is seen to be strongly supportive. Any doubts should be exposed and solutions or answers provided to ensure board members' commitment. Distance learning needs to have a powerful champion or champions who can ensure that sufficient resources are made available to implement new programmes. The board view should then be communicated to middle management using the same arguments and material that persuaded the executive board (Marrs 1995).

Information and education is the key at this stage. A series of seminars or internal white papers setting out the pros and cons of distance learning will set the basis for discussion. Each department head should participate in discussion which highlight the benefits of distance learning to the department and cascade them, thus continuing the argument into the body of the university. It is at this stage that it is beneficial to bring in academics that are committed to and able to contribute to distance-learning developments. Ideally they should come from within the organisation, but if it is necessary to recruit from outside, then that option should be kept open.

Overall all staff should be exposed to distance-learning preparation techniques. This helps to create a more sympathetic attitude from those not directly involved in distance learning towards those who are endeavouring to develop new pedagogical techniques for distance learning and need time and space to prepare materials.

Once these initial steps have been taken, as distance learning's relative importance in the organisation grows, critical mass is achieved and its advantages, educational and financial, are seen to outweigh initially perceived disadvantages (Berge & Muilenburg 2001).

Social interaction

Social interaction is an important aspect of learning. As the geographical remoteness of distance learners from each other and from subject experts is usually a feature of distance learning, there is a need to find a means of replacing these interactions. Hence, the traditional social relationships between students and students, students and tutors, tutors and tutors, and students and tutors with the organisation, need to be redefined and to ensure an equally valuable learning experience.

Developing strategies to ensure good communication

While it may not be possible to replicate these relationships fully on-line, it is important that attempts are made to encourage communication. Interaction and participation jointly reflect the involvement, aspiration and possibly the success of students on on-line courses.

Those preparing the learning materials should interact with the students to ascertain the response to their work. Every attempt should be made to build up relationships between all the participating parties.

Because of the lack of experience of all parties in distance-learning education, the construction of a distance-learning manual would help those preparing the programme material to understand the potential problems faced by remote learners. Students should also have access to materials which help them to understand the learning process they are embarking on, and how best to study from a distance. They also need to have details on how to communicate with the institution itself from an administrative point of view, as well as how to access academic assistance.

While it is recognised that not all potential distance-learning students have Internet access, there is a growing community of new learners who do enjoy social interaction via the many collaboration services that can be built online. If this is one of the vehicles used to facilitate communication, students who do not have personal Internet access should be encouraged to use services such as those provided in libraries or by private Internet cafes.

Quality

The problem of quality is a continuing theme in distance learning discussions. The prime question is how distance-learning education compares with traditional, lecture-centred, on-campus education. The assumption often implicit in the discussion is that the traditional method of education is best and anything else would not be as effective or as efficient. It also often assumed that all traditional education is of a high homogeneous standard and appropriate for all students. Clearly, the foregoing is not true. However, it is still to be fully tested that the opportunity of introducing cost-effective, student-centred distance learning can provide an equally rich and effective educational experience for the learner.

Building in quality

Many of the strategies we have already covered deal with issues which contribute to overall quality: familiarity with pedagogical technique appropriate for distance learners, familiarity with technological solutions, systematic evaluation at all stages of development and delivery, and the redevelopment of administration systems. A set of quality standards applying specifically to distance-learning programmes which include such items as timeframes for delivery of materials, the return of marked work and the resolution of queries will be of great benefit, both in guiding administrators and tutors, as well as informing students of what might be considered reasonable expectations in a different learning environment.

Another facet of quality is the ability to present learning materials appropriately both in form and presentation. Technology now provides the opportunity to adopt open standards along with the ability to present material in the medium that each student demands.

Student support services

In the traditional university environment the institutions in their role as *in loco parentis* provide a whole range of support services for students. While the needs for distance learners may vary considerably, their isolation requires that the administrative system, which is their main form of contact with the university, should cover all aspects of support including those elements which in traditional, lectured-centred learning are provided by the lecturer. These services are particularly important for those without any previous experience of higher education.

The provision of on-line advice about the range and content of courses, the application and registration processes are important first contacts with the administrative system (Boyd 2002).

Strategies for extending the student support services function to distance learners

Consideration should be given to whether there should be a separately developed administrative system for distance-learning students which is linked to the current institutional database. In addition, discussions with support departments should be held which highlight ways in which students will be provided with: induction, study skills support, counselling and pastoral care and library services. It may be that many of these features could be provided through paper-based or online information. Where a VLE is used, communication channels for the purposes of counselling and guidance may be more readily available, as long as information can be kept confidential. In the case of the library, if remote borrowing is not possible, the creation of collections of relevant articles, printed and bound for courses is one option, or the provision of a photocopying service. Close liaison between materials development staff and library personnel is required while the materials, learning activities and assessments are being prepared.

If formal examinations are required, systems will have to be developed for remotely administering these and informing students of what is required of them.

The perceived threat of new technology

Change in whatever form will always be seen as a threat to some members of an organisation. The introduction of new information technology is no different and there will be some members of staff who feel that these developments will threaten their position, either because they believe that technology will replace them or that individuals who are more able to exploit the new technology will replace them. In addition, even willing members of staff will find themselves in the difficult position of not knowing enough about what the technology can offer to make full use of its features in developing learning materials. This has the potential to create the kind of situation where lecturers use VLEs to mount their lecture notes, thus simply reproducing the status quo in a different medium, without taking full advantage of the very different and powerful features afforded by the technology.

Strengthening staff familiarity with new teaching tools and media

All academics should be encouraged to attend courses explaining the objectives and pedagogical techniques of teaching at a distance, even in they are not directly involved in the preparation of distance-learning materials. In many cases, there will also be benefits for classroom teaching, as staff re-think their approaches in the light of new information about what tools and techniques are available to them.

In addition, they should be given the opportunity to work through a distance-learning programme as students themselves, to help them understand the benefits of the approach and to see where they can contribute.

If an on campus course is run in parallel to the distance learning course and therefore all the information is available on-line, it is important to encourage and facilitate the change of the contribution of academics, so that they focus on the discursive, analytical and evaluative components of education rather than on the delivery of material.

Access

In the relatively short history of distance learning facilitated by electronic technologies, access has been one of the perennial problems. (Distance learning in print form has, of course, been established for over 100 years, and has often been seen as a form of learning catering specifically to those with access problems when it comes to traditional, classroom-based education.)

The digital divide can become a chasm if it means that only relatively few have access to top quality distance-learning programmes. Access to technology that makes newer forms of distance education possible is still problematical for many students (and faculty). Students who have lacked access to high quality education in the past are just those who will lack access to the newer developments. If this position is allowed to continue it will undermine an important part of the rationale of distance learning (US Department of Commerce 2000).

Facilitating access to the learning experience

One way to limit the impact of this problem is ensure that all distance-learning materials can be used in any technological environment and delivered in any form, including paper. Although access to broadband is growing, only a small proportion of the global market has access to it and therefore care should be taken in preparation of materials to accommodate a range of technical capacities and competencies.

Faculty compensation and time

The problem of compensation and time is closely related to the change in organisational culture. The role of the instructor changes from the main supplier of information to that of a facilitator. This can lead to a lack of satisfaction with the role, a loss of control, a lowering of status and prestige, as well as the fear of being replaced, especially if there is an element of deskilling (Beaudoin 1990).

In all stages of design, development, and evaluation, distance education courses almost always require a greater time commitment than the same instructional objectives or goals when using an in-person classroom. Therefore, faculty compensation, incentives, workload, and release time

become important issues if the system in use assumes running in parallel traditional, in-person classrooms.

Developing ways of overcoming the compensation barrier

A system of incentives, both monetary and non-monetary, should be introduced along with an effective support system to educate subject experts in the new technology. This strategy goes hand in hand with the strategies mentioned above for overcoming the 'fear of technology' barrier.

The use of instructional designers with specific experience in the area of the subject specialist would enable both consistency and the cross-over of useful techniques between similar courses. The model the institution has chosen makes considerable difference to this issue, because it will dictate whether all staff are required to participate in some measure in the development of learning materials, or whether specific posts are set up.

Legal issues

In a world where the cost of delivery of top class innovative educational programmes to any individual can be almost zero, some find it difficult to accept the role of the price system as a rationing device for access to them. Distance-learning programmes are not public goods. Suppliers can and will expect to extract a price, either directly or indirectly. It is important that they are able to do this otherwise there will no incentives in the system to continue the preparation and improvement of distance-education materials.

While there is a large range of information in the public domain, it is not always authoritatively filtered, written or focused. In addition, not all materials will be directly associated with the award of internationally recognised qualifications. Therefore, learning materials that have these characteristics will have a market value that the suppliers will wish to protect via copyright.

Dealing with copyright

One solution to part of the copyright problem is for universities and colleges to write their own learning materials. If this is the solution, then account must be taken of the resources and time that the preparation will take and that the subject experts must work closely with instructional designers. If the materials are prepared in the course of the author's employment, the copyright can be seen to rest with the institution. Where the author prepares materials outside of their normal employment, the institution will need to incorporate copyright permissions into their contract with the author.

Alternatively, institutions could directly license material either from publishers, by adapting their textbooks for their own courses, or from other learning material suppliers.

The relative importance of barriers

Although all the internal barriers can influence the degree of success or failure of a distance-learning programme, there are a number that are more influential than others. The ability to rigorously evaluate projects and prioritise them in relation to the institution's objectives is a critical first step. Another important step is the required change in the administrative structure. In the private sector, the successful development of multi-product enterprises required the change from a unitary to a multi-divisional structure, thus providing a template

for educational organisations planning to extend their range of educational services.

Two further necessary related steps are the change in organisational culture and the adaptation of rewards and incentives for staff. The former must be led from the top and developed in all parts of the organisation, a process which would be significantly aided by an appropriate set of incentives and rewards for the staff.

Two other related and important aspects of internal barriers are technical expertise, support and structure and quality. In a fast-moving technical environment, it is difficult to keep pace with the latest technological developments. While it is not necessary to adopt all new developments, it is important to take on board those which enhance the product quality both in terms of product specification, support, evaluation and open international standards. In this area there are significant advantages to outsourcing technology services from firms already successful in the sector.

Summary and conclusions

Universities have to respond to changes in the higher education market if they are to continue to be successful. The new environment requires first the ability to assess rigorously the opportunities facing them and then to determine and implement those that contribute most to institutional objectives.

Distance learning is one option that can significantly contribute to a number of objectives, but all universities face a number of barriers, external and internal, on entering this market.

The response to external barriers, those not within the control of a university, requires an analysis of the market, its size, the competition, prices and other aspects of non-price competition that may be adopted by competitors. The decision to enter the distance learning market is a strategic decision and the responses to competitors' actions are business operating decisions.

The internal barriers, in contrast, are within the control of the university. Their existence and the success with which they are combated, can significantly influence the degree of success of a distance-learning programme but unlike the external barriers their effect can be reduced or eliminated by the institution itself. It is here that the allocation of resources to mitigate the negative consequences of these barriers can be seen to be most effective without the degree of uncertainly associated with policies implemented to deal with the external barriers.

The greater the ability of a university or college to resolve the internal barriers, the better will be its position to deal with the external barriers. Therefore, a university or college should be aware of their form and consider the options for their resolution presented in this paper. The range of possible solutions to each of the internal barriers reflects that there is not just one right solution for all organisations but a number of options of which one or more may be appropriate for the given circumstances of an organisation.

Recognising internal institutional barriers and developing strategies to compensate them which harmonise with the institutional culture can ensure a strong, successful and, most importantly, sustainable entry into the distance-learning market.

References

Beaudoin, M (1990). The instructor's changing role in distance education. *The American Journal of Distance Education*, 4(2), 21-4

Berge, Z. L. and Muilenburg, L. Y. (2000). Barriers to Distance Education as Perceived by Managers and Administrators: Survey Results. In Melanie Clay (Ed.), *Distance Learning Administration Annual* 2000.

Berge, A.L. and Muilenburg, L.Y. (2001). Barriers to distance education: a factor-analytic study. *The American Journal of Distance Education*. 15(2) 7-22).

Beshkin, A. (2000) Columbia Innovation Enterprise appoint Michael J. Cleare, *Columbia News*, September 2000, Columbia University, New York.

Bloom, B. S. and Krathwohl, D. R. (1956) Taxonomy of educational objectives: the classification of education goals, by a committee of college and university examiners. *Handbook I, Cognitive Domain*. New York: Toronto: Longmans, Green.

Boyd, L. (2002) Infrastructure Investments and Policy Changes Required For Successful Online Program Delivery, SREB WCET Joint Conference, Washington, D.C.

Chandler, A. D. (1962) *Strategy and Structure*, Cambridge, MA: MIT Press.

Chapnick, S. (2000) Are You Ready for E-Learning? ASTD Learning Circuits. www.learningcircuits.org/nov2000/chapnick.html.

Clark, T. (1993) Attitudes of higher education faculty toward distance education: A national survey. *The American Journal of Distance Education*. 7(2): 19-33.

Daniel, J. (1997) *The multi-media mega-university: The hope for the 21st century*. In: Conference proceedings, North of England Education Conference. Sheffield. At: http://www.leeds.ac.uk/educol/documents/000000087.htm.

Doughty, G. (1998) Evaluating Potential Investments in Learning Technology, *Interactions* Vol. 2 No. 2.

Farrell, G. (ed.) (2001) The Changing Faces of Virtual Education. The Commonwealth of Learning. At: http://www.col.org/virtualed/.

Garson, D (1999) Distance Education: Assessing Costs and Benefits. http://ww.nea.org/he/heta99/f99p105.pdf.

Galusha, J.M. (1997) Barriers to learning in distance education. http://www.infrastruction.com/barriers.html.

HERO (2000) Higher Education and Research Opportunities in the United Kingdom. About the RAE.

HEFCE (2000) Higher Education Funding Council for England. Strategic planning in higher education. A guide for heads of institutions, senior managers, and members of governing bodies.

King, B. (2002) Managing institutional change and the pressures for new approaches to teaching and learning. In: Fiona Reeve, Marion Cartwright and Richard Edwards (eds). *Supporting Lifelong Learning*. *Vol 2. Organizing Learning*, Routledge, London.

Lundin, R. (1994) Cost-Benefit Analysis of Flexible Delivery: Case Studies, Report to the Flexible Delivery Working Party, Queensland Distance Education College, Brisbane.

Prestera, G.E and Moller, L. A. (2001) Organizational alignment supporting distance education in post-secondary institutions. *Online Journal of Distance Learning Administration* Vol 4 (4).

Marrs, L. (1995) An analysis of distance education and educational technology. Offices of Continuing Education and Information and Telecommunication Services. Bellingham, Washington: Western Washington University.

MIT News (2001) - MIT to make nearly all course materials available free on the World Wide Web, 4th April., Massachusetts Institute of Technology.

National Center for Education Statistics (1997) Statistical Analysis Report: Distance Education in Higher Education Institutions.

Partinos H (2000) The Global market for Education, Presented by at the Association of Universities and Colleges of Canada - International Conf. Montreal, Canada.

Rothblatt, S. (1999) *The Modern University and Its Discontents : the Fate of Newman's Legacies in Britain and America*. Cambridge, New York: Cambridge University Press.

Sommerich, P. 2002 Universities learn the lexicon of business, *Guardian* 3rd June 2002.

Spodick, E. (1995) The Evolution of Distance Learning. http://sqzm14.ust.hk/distance/evolution-distance-learning.htm

Strain, J. (1987) The role of the faculty member in distance education. *The American Journal of Distance Education*. 1(2): 61-65.

Universities UK (2002) Funding Needs Still Unanswered says Universities UK. http://www.univeristiesuk.ac.uk/mediareleases/show.asp?MR=312.

US Department of Commerce (2000). Falling Through the Net: Toward Digital Inclusion – A report on American's Access to Technology Tools.

