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Tutorial: Distance learning strategies that make sense, part 2: a macro analysis

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Distance learning is often offered up as a panacea for a variety of ills: to leverage scarce faculty or facilities, to increase enrollment by attracting new students, to enhance educational quality [7]. There is evidence that such touted benefits are more than simple "hype." You do not have to search very hard to find success stories that demonstrate nearly every claim that has been made. What you are far less likely to find, however, is examples where all, or even most, desired outcomes have been simultaneously achieved. Simply stated, distance learning—like most other forms of endeavor—is not immune from the classic tradeoffs, such as "quality vs. quantity" or "depth vs. breadth." The central premise of this article, then, is this: If distance learning is to be used effectively, priorities must be set that are consistent with the strategic goals of the institution.

It is widely recognized that institutions frequently have trouble establishing a direction for their distance learning [e.g. 6]. This article focuses on how lessons learned in the field of competitive strategy may be applied to develop a more rational approach to planning for distance learning.

↑ Distance Learning: The Next 10 Years

From a conceptual standpoint, this article views distance learning to be present any time an

instruction technique reduces the need for *spatial* or *temporal* proximity in the education process. Using this definition, we can construct a diagram where the lecture resides in the lower left hand corner (low temporal flexibility, low spatial flexibility) and the correspondence course appears in the upper right hand corner (with its high temporal flexibility and high spatial flexibility). This is illustrated in [Figure 1](#).

The impact of technology on freedom-of-time and freedom-of-place has been dramatic. Technology has provided new tools for presenting and communicating content. E-mail, for example, allows students and faculty members to engage in discussions with minimal space and time proximity requirements. Technology has also altered the characteristics of existing techniques. A TV course in the 1960s, for example, offered freedom of place, but little freedom of time. By the mid-1980s, widespread availability of the VCR eliminated time constraints (provided one could figure out how to operate the timer).

Much distance learning today is conducted using a course delivery environment, such as Blackboard or WebCT. Such environments provide a range of services, including synchronous text chat (chat), asynchronous discussion groups (forums), streaming video (streaming), file sharing, and online testing/evaluation. Other commonly used capabilities include audio/video conferencing (conferencing), remote terminal access and Web broadcasts (Webcasts). While these technologies would seem to eliminate nearly all constraints of "place," such a conclusion is overly optimistic in today's environment. To provide complete flexibility of place, the learner must be able to access the content from anywhere. Today, however, only about 1/3 of U.S. households with Internet access connect using broadband [2], and some unmeasured fraction of students still have no Internet access. For these students, high bandwidth course content still entails a trip to the school's lab—dramatically reducing the practical level freedom-of-place. Thus, a more realistic depiction of today's environment is presented in [Figure 2](#) (with place values being based on blended averages of expected user capabilities).

Within 10 years, the picture will change dramatically for students in the United States. By that time, other technologies, such as broadband over power lines [1] are predicted to make broadband accessible to nearly everyone, at least in the United States. Virtually, universal computer ownership and bandwidth increases—ranging from a factor of 10 to 100—should then eliminate nearly all proximity-of-place constraints. The resulting characterization of selected instructional technologies will then look something like [Figure 3](#).

The key point that should be taken away from this analysis is the following: While the technologies of today may appear to provide freedom-of-place, such freedom can be largely an illusion for many—perhaps most—users. The interpretation of the success or failure of any of today's distance learning efforts must be tempered by this realization. Within a decade, however, universal freedom-of-place in distance learning will become a reality.

↑ **Strategies for Distance Learning**

Given its increasing benefits in terms of freedom-of-place, distance learning should grow more and more attractive as a course delivery alternative. Furthermore, its growth will dramatically reduce barriers to entry in many educational markets. Institutions, once shielded from competition by their geographic location, will find their location-bound students considering alternatives that would not, today, be viable. For these reasons, few institutions can afford to ignore distance learning. What is less obvious is how an institution should go about choosing a strategic direction for its distance learning activities.

The first question that needs to be addressed in this regard is what constitutes a "distance learning strategy"? Such a strategy necessarily involves establishing a consistent set of guidelines for making three types of decisions:

- ◆ What level of resources should be directed towards distance learning?

- ◆ What priorities should be established in terms of getting offerings (courses, programs) online?
- ◆ What types of content are we going to be emphasizing in our online courses?

Once these decisions are made, institutional policies can then be established to ensure the decisions become a reality.

The importance of the first two decisions in forming a strategic plan should be self evident. No institution can, with a snap of the fingers, implement a complete set of distance learning offerings overnight. Thus, choices relating to the level of resources are to be supplied and what departments or programs will be the initial beneficiaries of those resources need to be made.

↑ **Instructors and Content Type**

A detailed analysis of the relationship between content type and faculty willingness to participate in distance learning is the subject of a companion piece that explores strategy at the micro level [3]. Using a set of distance learning case studies, it inductively derives four forms of content commonly incorporated into distance learning courses. These are:

I. *Prepared content*: Materials, such as taped lectures and internet lectures—along with other materials such as assignments, lecture notes, syllabi—that are incorporated into the course as part of its design and require no further instructor intervention as the course proceeds. Such content need not necessarily be one-way in nature—interactive materials, such as practice tests and simulations provided to students, also can be classified as Type I content.

II. *Evolving content*: Materials introduced into the course while it is in progress, often in response to identified deficiencies in existing content or as part of an effort to take a traditional course online. Where courses are repeated, such evolving content often becomes Type I (prepared) content in subsequent offerings.

III. *Support content*: Activities or materials specifically produced in response to requests or queries from students. Responding to e-mail questions and the use of online discussion groups to provide assistance on assignments fall into this category.

IV. *Participative content*: Activities where the principal focus of is on the interaction between students and evaluation is based primarily on the quality of that interaction and participation. Graded asynchronous online case discussions or instructor mediated multiplayer simulations are examples of this content type.

In analyzing the content types, two distinct forms of each type were also identified. The first (Class A) form represents content that is intended as a pure substitute for an in-class equivalent, such as a broadcast lecture (IA) used in place of a live lecture or e-mail (IIIA) support being used in place of office hours. To avoid being viewed as a "poor substitute" by students, the quality (e.g., production values) or amount/flexibility (e.g., availability) of such content may need to be higher than its face-to-face equivalent. The second (Class B) form represents content where the electronic version offers characteristics that are not readily available in in-class form. Examples might include asynchronous discussion groups provided to answer assignment questions (IIIB), interactive computer-based training applications (IB) or graded multiplayer simulation games (IVB).

The importance of content type with respect to distance learning strategy comes from the fact that providing different blends of content in a course can put very different demands on the instructor, both in the present and in the future. Providing Type I (prepared) content, for example, places very few demands on the instructor and—as familiarity with the specific content being used grows—promises even lower demands in the future. Type II (evolving) content places heavy demands on the instructor as it is developed but offers the promise of much lower demands in the future as the content is reused. Type IV (participative) content tends to place heavy demands on the instructor as

it is used, and such demands do not drop significantly over time. Type III (support) content varies in its demands on the instructor, depending upon whether or not teaching assistants are provided as enrollment grows. If assistants are available, demands of support content tend to be modest in the present, although they cannot be expected decline significantly over time.

The fairly typical relationships just described are summarized in [Figure 4](#) [3]. The profile, however, can be very sensitive to institutional policies. For example:

- ◆ Asserting intellectual property ownership of Type I content prepared by the instructor and, potentially, making such content available to other instructors would dramatically reduce the attractiveness of Type II content.
- ◆ Using a strict formula to assign resources (e.g., teaching assistants, credits for course preparation) to distance learning courses that is independent of content type will tend to minimize use of Type III and Type IV content.
- ◆ Viewing distance learning sections of courses as being "unlimited" in enrollment (since they are not constrained by classroom size and availability) will all but eliminate the use of most Type IV content.

Given such sensitivity exists, it is critical that policies be formulated consistent with institutional goals and strategy.

↑ **Choosing a Strategic Direction**

Institutional policies can exert a powerful influence on how distance learning evolves. To ensure that distance learning is beneficial, or at least benign, in its overall impact, an institution needs to know what it wants to achieve with distance learning. Here is where establishing a strategic direction becomes critical.

One approach to thinking about strategic direction can be found in the field of competitive strategy [5], where there is a widely accepted principle that only three generic strategies are viable for an organization over the long run. These strategies are classified according to two dimensions: degree of penetration across all business segments in an industry and relative cost position. They are illustrated in [Figure 5](#).

The *differentiation* strategy involves selling products that can be distinguished from competing products across an entire industry. Because the products are unique, price competition is not terribly fierce and higher costs of production can be sustained. Apple Computer is an example of a company employing this strategy.

The cost *leadership* strategy involves streamlining efficiencies to the point where a company can make profits at prices that are unprofitable for its competitors. Dell has had considerable success with this strategy.

The *focus* strategy involves selecting a small number of market segments within an industry and competing aggressively within those segments, ignoring the remainder of the industry. Toshiba, for example, has established a leadership position in laptop technology without competing for the desktop.

Interpreting [Figures 5](#) in the context of universities is not a trivial matter. Companies can view these strategies in terms of "maximizing shareholder wealth". There is no such one-dimensional performance criterion that makes sense for an educational institution. Instead, universities must strive to meet the objectives of a wide range of stakeholders: students, faculty, local employers, the community, alumni and even taxpayers. Common to all these objectives, however, is the need for resources. The institution that fails to compete effectively in the area of distance learning will find its

resources being drained. In the long run, this will compromise its ability to meet other stakeholder objectives. Thus, an institution needs to choose its generic strategy for distance learning. Each choice has its own pros and cons.

Cost Leadership: Where employed as part of a cost leadership strategy, distance learning can be viewed as a tool for freeing institutional resources for other purposes. The use of Type I content will dominate such a strategy, owing to its low variable cost per enrolled student and its ability to substitute for scarce facilities or faculty. Where such content will come from may depend, in part, upon the speed at which distance learning needs to be deployed. For an institution consisting mainly of "traditional" four-year students attending college full-time, the motivation to grow distance learning may not be terribly strong. Such institutions can probably afford to wait for publishers to start supplying the content—a trend we are already starting to see [4]. For institutions with a large base of working commuter students (who could be attracted by the convenience afforded by other institutions offering distance learning), or where physical facilities are at or above capacity in a growing market, a substantially more proactive approach is called for. In such institutions, investment in the development of Type I content should be made and incentives for courses employing Type II content need to be established. To initiate this strategy, it makes sense to begin by transforming existing "mass lecture" courses to distance learning; particularly focusing on subjects where the material being covered is not changing rapidly (e.g., English Literature is a better candidate than Molecular Biology). These will provide the fastest payback of development costs. Highlights of the cost leadership strategy are presented in [Table 1](#).

Differentiation: Relatively few institutions have the type of national recognition necessary to be successful in the differentiation strategy, which requires a uniform reputation for excellence across an entire spectrum of programs. For institutions having such recognition (e.g., Harvard, Stanford, University of Michigan), distance learning presents a quandary. On the one hand, maintaining a reputation for general excellence will increasingly require excellence in distance learning, as well. On the other hand, benefits of distance learning eagerly sought by other institutions—such as increasing enrollments and reducing costs—are worth much less to schools that have long waiting lists and the ability to "name their own price" for tuition. A sensible strategy for such institutions would be to focus on distance learning as a form of outreach to alumni and individuals of national or global prominence. Offerings with a high level of Type IV (participative) content can be particularly effective in this regard. Collaborative online techniques can enhance the sense of learning from one's peers [3]. Such learning will be particularly prized if one's peers are judged to be outstanding—an incentive for both students and faculty to participate. In addition, since the cost of such offerings is unlikely to be a major concern, it may be possible to split the instructor and e-moderator roles (much as instructor and designer can be different for Type I content), thereby making faculty participation more attractive and improving discussion quality. Highlights of the differentiation strategy are presented in [Table 2](#).

Focus: In the short run, the "focus" strategy would seem to present the greatest opportunity for many institutions. This strategy involves concentrating resources on a small number of specific programs, transforming them to true distance learning offerings. The objective here is to make the program attractive to students on a national or international scale. Since the range of distance learning techniques being employed by most institutions is still relatively limited—for the time being—it is likely that excellence in delivering the content may count as much as the institution's reputation as such programs become established. Over time, however, the skills necessary for effective distance learning will become more widely distributed throughout the academic community. At such time, the importance of teaching technique as a factor impacting a student's choice of a program is likely to decline. The implication here is that institutions wanting to pursue a focus strategy are likely to benefit from acting quickly, particularly if their programs do not already have a national or international reputation for excellence. Naturally, this strategy could entail a large initial investment in making distance learning happen, and policies that encourage faculty experimentation and content development need to be put in place.

It is unlikely that a single teaching approach will dominate when adopting the "focus" strategy (excepting that availability of support content—Type IIIA and IIIB—is likely to be crucial throughout

such programs given the expected geographic diversity of students). Instead, successful programs are likely to employ a range of strategies—the goal being to match the content blend with the objectives of the course. Highlights of the focus strategy are presented in [Table 3](#).

↑ **Stuck in the Middle**

Prior to concluding, it is worth noting the dangers of what Porter refers to as "being stuck in the middle." Attempting to mix generic strategies, either intentionally or through lack of direction, typically leads companies to a loss of profitability. The same is likely to apply to distance learning strategies. An institution pursuing a differentiation strategy that employs distance learning for the purpose of localized cost cutting is likely to see its reputation tarnished without significant benefits. A middle-of-the-road institution that attempts to offer all of its programs in distance learning format in the hope of pursuing a differentiation strategy is likely to find it never gains the enrollment necessary to pay back its large setup costs. An institution that has gotten used to realizing cost savings every time it employs distance learning is likely to find it politically difficult to justify some of the high cost offerings that are likely to be needed if an entire program is to be offered online. Placing too many cost constraints on a focused program in the early stages, however, may preclude it from ever achieving national prominence. Thus, it is critical that institutions both articulate a consistent strategy and formulate policies that lead to its implementation.

↑ **Conclusions**

There is little doubt that distance learning will transform higher education over the coming decades. Institutions that employ it effectively will better meet the needs of their stakeholders. Institutions that do not will find that it squanders resources that could have been used more effectively in other activities. The central argument presented here has been that distance learning comes in many forms and that the most appropriate techniques for a given institution will depend upon that institution's overall strategy. Since mixing strategies or lack of direction usually fails to yield desired results, institutions should assess their capabilities and objectives and then determine an appropriate strategy prior to engaging in widespread distance learning.

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↑ Figures

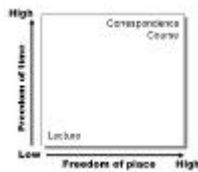


Figure 1. Traditional Instruction Techniques



Figure 2. Selected DL Technologies Today



Figure 3. Selected DL Technologies in a Decade

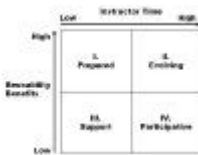


Figure 4. Economic Profile of Content Types

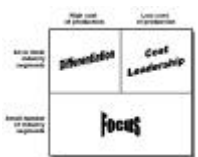


Figure 5. Porter's Three Competitive Strategies

↑ Tables

Costs are low	1. Economies of scale
Quality is high	2. High quality for other cost leaders
Customer focus	3. Customer focus for other cost leaders
Highly visible	4. High visibility for other cost leaders
Strongly branded	5. Strong branding for other cost leaders
Highly visible	6. High visibility for other cost leaders
Highly visible	7. High visibility for other cost leaders
Highly visible	8. High visibility for other cost leaders
Highly visible	9. High visibility for other cost leaders
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Table 1. Highlights of Cost Leader Strategy

Highly visible	1. High visibility for other cost leaders
Highly visible	2. High visibility for other cost leaders
Highly visible	3. High visibility for other cost leaders
Highly visible	4. High visibility for other cost leaders
Highly visible	5. High visibility for other cost leaders
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Table 2. Highlights of Differentiation Strategy



Table 3. Highlights of Focus Strategy



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