A. Introduction

Online compliance training programs are increasingly used as an antitrust compliance tool.

They offer many potential advantages:

- **Evidencing effective training:** An online testing procedure can be used to demonstrate that employees have been trained in and have a basic understanding of the antitrust laws. This may assist corporate governance, negotiations with enforcement agencies, and mitigation of penalty.

- **Access:** Internet and Intranet based compliance training systems are accessible to users 24 hours a day. Users may use these systems when their schedules allow.

- **Reach:** Internet and Intranet based systems enable compliance training to be deployed to users anywhere, including users in business units overseas.

- **Flexible and consistent content:** Online materials can be updated quickly and easily. The problem of inconsistency that arises from outdated versions of hard copy materials is avoided.

- **Interactivity:** Interactive online compliance training programs are more likely to gain and retain the attention of employees than statically presented compliance information.

- **Performance tracking:** Online systems can test employees and track their performance.

- **Ongoing improvement:** Online systems can generate readily usable feedback for modifying and improving the compliance training program.
• **Cost:** An online compliance training program can be a highly cost effective means of training large numbers of employees.¹

These potential advantages of online compliance training programs are well known. Much less widely appreciated are the issues involved in developing and implementing an effective online antitrust compliance training program. There are four fundamental issues:

• management objectives;

• key design parameters;

• operational requirements; and

• technology.

Our aim here is to canvas these issues from the standpoint of best practice. The perspectives offered are based on our experience and a selective review of the extensive relevant literature on antitrust compliance training, educational psychology, and information technology.² This overview is only a starting point but we hope that it will be a useful

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baseline for corporations when assessing which direction to take and the cost/benefit of different possible approaches.

B. Management Objectives

1. What Kind of “Compliance Training”? 

A threshold question of management objectives is the type of “compliance training” program to be adopted. There are four main possibilities:

1. a program that focuses on training employees so that they have a basic understanding of the antitrust rules relevant to their work;
2. a program that focuses on training employees so that they have a basic understanding of the antitrust rules relevant to their work; and serves as a readily accessible and easy to use day-to-day guide for handling situations that may raise antitrust questions;
3. a Type 2 program plus links to a corporation’s antitrust compliance procedures; and
4. a Type 3 program that also incorporates antitrust compliance procedures designed to achieve “learning by doing” wherever feasible.

Type 1 compliance training programs are often promoted by service providers specialising in training programs and/or by internal human relations managers whose focus is also on training rather than broader organizational objectives. Such programs may be adopted for budgetary reasons or by force of bureaucratic politics within a corporation but are one-dimensional and of limited use or attraction to employees.

Type 2 compliance training programs are an expedient way of delivering basic guidance or advice as well as training. They reflect the thinking of in-house legal counsel as well as that of the training profession: the role of in-house counsel is hardly limited to training but is more concerned with resolving day-to-day questions about the application of antitrust laws.

Type 3 compliance training programs complement training and guidance or advisory functions by including gateways to a corporation’s operating procedures for managing compliance with antitrust laws. This is usually done by simply including links to the relevant corporate procedures accessible on an Intranet. This is an obvious extension of Type 2 compliance programs and is widely favored by in-house counsel, especially those involved in the development of internal legal portals.

Type 4 compliance training programs reflect the view that “learning by doing” or “on-the-job” learning is more likely to be effective than learning through training or merely reading through instructional materials. This type of program makes extensive use of checklists and step-through procedures. The aim is to integrate training with standard operating procedures in a way that dispenses as far as possible with the need for stand-alone training. This approach is facilitated by the increasing use of Intranet portals as a platform and control point authors); Luvai F. Motiwalia, Mobile Learning: A Framework and Evaluation, 49 COMPUTERS & EDUCATION 581 (2007).

3. This is the central argument of Schank, supra note 2. See also Milton C Regan, Jr., Moral Intuitions and Organizational Culture, 51 ST. LOUIS U. L.J. 941 (2007).
for administering standard operating procedures.\textsuperscript{4} However, Type 4 still remains more of an ideal type than a reality.

Which type of compliance training program will best suit a particular corporation will depend on various factors, including the likelihood of breaching the antitrust laws unless compliance training precautions are undertaken; the size of the corporation; the budget for compliance training and related IT development; the nature and extent of the online management systems used by or planned for the corporation; and whether someone with the relevant experience, skill, interest and power is prepared to champion the development of e.g., a Type 4 antitrust compliance training program.

2. **Risk Assessment and Risk Management**

The scope and focus of an online antitrust compliance training program also depends fundamentally on management decisions about the relevant risks and how those risks are to be managed.\textsuperscript{5}

These risk-related questions of scope and focus need to be decided by management:

1. the particular risks within the corporation of breaching the antitrust laws that need to be covered;
2. the priority if any to be given to any particular risks of breaching the antitrust laws;
3. the priority if any to be given to particular risks of breaching the antitrust laws within different business units or other selected target groups;
4. the choice of instructional model (see section C below);
5. the content of key points, do’s and don’ts, case studies or scenarios, and Q&A used for training purposes;
6. the selection of the employees who are to be trained;
7. the version of the compliance training program to be used for different groups of selected employees;
8. the nature and extent of standard operating procedures for managing antitrust compliance (e.g., reporting procedures, handling inquiries/investigations by enforcement agencies, handling sensitive internal investigations, management of emails and other records, and administration of antitrust compliance training);
9. the allocation of responsibility for managing antitrust compliance training, including the role of senior management; and
10. the risks of the compliance training program being in issue on enforcement proceedings or other litigation and the implications for the design of the program.

A risk assessment and risk management matrix can readily be developed when working through these questions and is advisable as a core part of the framework for the design and development of the online antitrust compliance training program.

3. **Management Commitment**

The effectiveness of antitrust compliance programs depends greatly on the degree of commitment to them shown by management, including senior management. The same is true of online antitrust compliance training programs. For example, an online program rolled out in formal compliance with an undertaking to the Department of Justice or Federal Trade Commission but which has little or no backing from managers with clout has little prospect of being taken seriously by employees.

Management commitment can readily be reflected and demonstrated in the design and operation of an online program. These are the main possibilities for senior management:

- sign off by senior management on statements of compliance policy and key messages in the program, accompanied by a suitable photo or reinforced by a personal video or sound clip;
- authorship of email notifications to users about the need to do and pass online test within specified time and any reminders;
- authorship of regular news items about recent significant case law or other noteworthy developments;
- involvement in the launch of the online program and mention of the program at employee meetings where antitrust issues are on the agenda; and
- involvement in praise or other incentives for employees to offer ideas for improving the program.

C. **Key Design Parameters**

1. **Choice of Instructional Model**

Instructional models for online training programs are the subject of a rich literature and the online compliance training programs available from service providers reflect various underlying instructional models. What instructional model should be chosen? These are the main areas of choice:

- **Animating Conceptions of a “Compliance Training” Program:** As outlined in the typology of compliance training programs in section B above, a “compliance training” program may focus on training, training and advisory functions, training advisory functions with links to compliance procedures, or learning by doing wherever feasible by means of step-through and other online procedures. The type of “compliance

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training” program chosen as the relevant design parameter has obvious implications for the scope, content, and focus of the program to be developed.

- **Extent of Reliance on Online Delivery:** Online antitrust compliance training programs may be treated, and sometimes are deployed, as complete substitutes for face-to-face training and workshop sessions. The orthodox view, however, is that online programs should complement rather than displace face to face sessions. Many corporations adopt the compromise of running face-to-face sessions for a select range of managers and an online program for a wider range of employees including those who participate in face to face training sessions. Whether or not face to face training is used, care needs to be taken to help ensure that employees have sufficient rapport with management or the legal department to telephone them when issues arise. There are various ways of doing this, including: inviting and encouraging questions as part of a company’s antitrust compliance policy; publicising the person to whom any antitrust concerns or queries are to be reported (not only in the antitrust policy but also in emails about antitrust compliance issues); and reinforcing the importance of asking questions on occasions such as regional sales conferences where employees do have face to face contact with senior management or representatives of the legal department.

- **Extent of Online-Specific Presentation of Content:** It is possible to construct online antitrust compliance training programs by putting existing content online (e.g., a .pdf version of a corporation’s antitrust compliance guide, antitrust agency news releases, Word versions of case summaries) with a set of questions about issues raised by that existing content. However, this is a makeshift approach and can be off-putting to users (e.g., where the .pdf or Word document is lengthy and incompatible with the principle of online instructional design that information be presented in small “chunks” displayed on one screen). Experts in online instructional design recommend the online-specific design and presentation of content, graphical and audio elements, Q&A and other interactive elements.

- **Extent of Graphical and Interactive Elements:** The greater the number and range of well designed graphical and interactive elements, the more interesting and attractive an online training program is likely to be for users. User engagement can be encouraged by the use of non-textual and interactive content. Page elements can be animated and include diagrams, cartoons, photographs and Flash components. Copies of misleading advertisements can readily be incorporated with flags that point out the particular problems. Interactive devices can include simple “discovery diagrams”

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10. See Stone & Koskinen, supra note 2, ch 7; Schank, supra note 2, ch 8; Bonime & Pohlmann, supra note 9.
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(mouse click or roll-over effects), “drag and drop” activities, layering devices to increase information “chunking” and quizzes. More complex interactions are possible with simulations and games.\(^\text{11}\)

- **Extent of Audio and Video Elements:** Audio and visual elements can significantly increase the educational impact and user acceptance of online compliance training programs.\(^\text{12}\) While audio and video enhancements are desirable, they raise issues of cost, hardware capability and bandwidth.\(^\text{13}\) Nonetheless, it is readily possible today to add animated scenarios with voiceovers, an approach with which we have experimented and now use in our programs.

- **Extent of Influence of Enforcement Agency Precepts of Compliance:** Online antitrust compliance training programs based on guidelines and other compliance material generated by enforcement agencies tend to be oriented towards compliance issues.\(^\text{14}\) However, business corporations developing online compliance programs need to gear those programs to liability control as well as to compliance. This means coverage of such liability control issues as: handling inquiries and investigations by enforcement agencies; attending to the possible need for immunity and leniency applications; managing sensitive internal inquiries in such a way as to achieve and preserve legal professional privilege where possible; electronic records management; and guarding against the creation of “smoking guns” in emails, memoranda, and correspondence.\(^\text{15}\)

- **Contextual Constraints on Instructional Design:** Experts in online instructional design have often advocated the use of online tutorials and “chat rooms.”\(^\text{16}\) This


\(^{12}\) See, e.g., Stone & Koskinen, *supra* note 2, ch 8.

\(^{13}\) See the discussion *infra*, section 5.1.

\(^{14}\) This is evident from the Australian Standard AS 3806 COMPLIANCE PROGRAMS (2006). The development of this Standard was strongly promoted by the Australian Competition and Consumer Commission. AS 3806 does not deal with the handling of sensitive inquiries into possible antitrust problems within an organization nor other important liability control dimensions of “compliance.” See Brent Fisse, *Implementing an Efficient Compliance Program* (2003), available at http://www.brentfisse.com.


\(^{16}\) See Lee R. Alley & Kathryn E. Jansak, *APPLYING THE PRINCIPLES OF LEARNING SCIENCE TO WEB-BASED INSTRUCTION* 12-13 (2001) (copy on file with authors); Anne Stuart, *Virtual Corporate Learning*, Woods & Cortada, *supra* note 9, 143; Kate Harrison & Lauren Eade,
approach is rarely adopted by corporations in the context of antitrust compliance programs. Chat rooms can easily disseminate misleading information or circulate incriminating evidence. Tutorials also require additional resources to run and supervision to help ensure consistency of approach.

2. **Customized Content**

The more customized the content of an online antitrust compliance training program, the higher the likelihood that the program will be effective.\(^{17}\) Off-the-shelf programs are a second best solution and, for some if not all corporations, may give employees inadequate guidance. Varying degrees of customization are apparent from current approaches:

1. **Changes to Names, Logos and Policy Statements:** Off-the-shelf programs can usually be customized to the extent of changing such variables as the names of the corporation, its CEO and business units, corporate logos and corporate statements of antitrust compliance policy. This approach alone is unsatisfactory, largely because the case studies and Q&A will not specifically reflect a corporation’s business operations or the particular antitrust risks to which those operations may be exposed.

2. **Changes to Names, Logos and Policy Statements plus Industry-Specific Examples:** This approach offers a closer reflection of a corporation’s business operations and covers the antitrust risks likely to be encountered in the same industry. However, the customization is generated by a software engine from examples created by third-party authors. It is not based on the assessment of managers with relevant knowledge and experience and to that extent is fallible.

3. **Customization of All Training & Advisory Content:** This approach offers the advantage of customization of key points, do’s and don’ts, case studies, Q&A, simulations, FAQ and all other training or advisory content. If based on a risk assessment by managers with relevant knowledge and experience, this approach is preferable to approach 2 above. However, approach 3 suffers from a “one size fits all” conception insofar as it is assumed that the content need not be varied to suit different business units of different target groups within business units. A “one size fits all” conception may work in very small companies but is unlikely to be well received by users performing widely different roles in larger corporations.

4. **Different Customized Versions of Training & Advisory Content for Different Target Groups within Corporation:** This approach is preferable to approach 3 for the reason indicated above. The operational dimensions of this approach are elaborated in section D.2 below.

5. **Approach 4 plus “Learn by Doing” Standard Operating Procedures:** This approach extends approach 4 by relying on learning by doing wherever possible through standard operating procedures, including online step-through procedures. This approach may require additional customization in the sense of redesign or enhancement of existing procedures in a way designed to facilitate learning by doing.\(^{18}\)

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\(^{17}\) See Schank, supra note 2, at 108.

\(^{18}\) See generally Schank, supra note 2; chs. 1-2; Burke, supra note 2, 86; Stuart, supra note 11.
D. Operational Issues

1. Administering Online Training Systems

As with face to face training, a significant administrative effort is required for the effective management of online compliance training programs. A strong administration system is essential for operational reasons, including registration, tracking, reporting, user notification, audit trails and record retention.

A strong administration system will also underpin an effective compliance program which may provide a “due diligence” defence (where available) or may help to persuade courts, enforcement agencies, and other authorities that any lapse is isolated and uncharacteristic. This may assist in securing favorable settlements or mitigation of penalty.

In our experience the training administration effort required is often underestimated. The sponsors and “drivers” for compliance training are generally internal legal counsel or risk and compliance managers. Training is not their primary focus and their training administration experience is likely to be limited.

Internal human resource (HR) and training systems frequently provide less functionality that anticipated by compliance training project managers. Less than 10% of our corporate clients have been able to provide a consolidated database of user information that has facilitated the identification and capture of target user data. The majority of our clients manually collate user data on a divisional basis and provide multiple spreadsheets which are then consolidated, edited, and loaded.

Learner management systems (LMS) are promoted by wide range of vendors as the solution for managing compliance training. Ideally, an LMS should be viewed as an extension of an organization’s human resources systems and utilize the same data as that contained in those systems. A well-developed HR system should be a prerequisite for an LMS. Implementing a complex LMS in an organization with under-developed HR systems is a misallocation of resources.

The LMS is an important part of an online training initiative but its cost and complexity needs to be considered alongside the requirements of other organizational systems. Failure to do so can lead to a duplication of data and effort that can become institutionalized with the LMS deployment and its consequent life cycle.

A report by SRIC-BI and a news article by Wilson, suggest that buyers may be driven away from complex LMS systems due to their high cost and their failure to meet customer expectations. Both comment that providers of low-cost systems benefit from this trend. LMS purchasers are likely to match their LMS needs to their overall state of HR systems

sophistication as well as their level of online training uptake. In our experience, clients are generally willing to accept a stand-alone LMS that is provided as part of an online compliance training initiative where it does not involve significant cost.21

How is user data loaded into a stand alone LMS?

- Spreadsheets are commonly used to assemble user lists. These are easy to distribute and collate. Transferring data to the LMS database is done with simple scripts. This method lacks validation of user details and relies on manual procedures to ensure completeness. Subsequent uploads can be problematic as the unique user key field is often assigned by the LMS and cross matching existing users can be difficult. Use of an external key to guarantee uniqueness (e.g., employee number) can help.

- ASCII dumps provide a machine-readable format for data exported from other systems, such as payroll. This works reasonably well where all users within particular departments are required to be trained. Manual intervention is required where, as is typically the position, target users need to be identified.

- In some cases there may be no practical alternative other than using a self-registration system but this is a most imperfect solution.

- Programmatic interfaces to other systems can often be put in place with only a minimal effort, particularly if the LMS provides an object or XML interface for data interchange.

Generally, the initial loading of user details is performed in a semi-automated manner and an administrator attends to ongoing user maintenance. The LMS needs to provide screen based maintenance processes that are fast and easy to use. The administrator must also be able to identify staff moving in and out of the organization and have clear guidelines for the assignment of employees to the program or the version of the program relevant to his or her target group. This is an essential requirement for an effective compliance training system.

While an ideal system may provide an established, integrated employee database, and a transparent user login process, it will probably still require a significant human effort to explicitly identify those users who require the training. For example, the criteria for selecting the employees required to complete antitrust training might be partly as follows:

Managers and employees with involvement in tendering, purchasing, negotiating deals, looking after relationships with customers, sub-contractors or other third parties, or in a position where they could make representations to third parties on our behalf.

We have yet to discover an HR database that is able adequately to identify employees for antitrust compliance training on the basis of the functional roles they perform. For instance,

salary and role designations within databases are not sufficient to automatically match users against the criterion given above. In our experience, clients often take a simpler, blanket approach such as requiring “All staff at or above Salary Grade C ...” to complete the online antitrust training.

The management of antitrust compliance training can be assisted by integrating it with mainstream corporate training administration rather than treating it as a special administrative function.

An LMS that supports automated email notification and follow up of users has proved to be highly effective in the management of large groups of users. The launch message is typically a keynote message from the CEO or other senior executive explaining the purpose and importance of the program. This message usually includes the URL of the compliance training site, the user’s account details, deadlines for taking and passing an online test and help-desk contacts. A follow up message is sent automatically to users who have not complied with the initial email request and a copy sent automatically to the user’s responsible manager.

A detailed reporting system is an essential part of a LMS. The system needs to be able to create reports covering user progress and test results as well as providing an analysis of performance across content categories and individual test questions.

2. Customized and Selective Content

Generic antitrust compliance training can never be fully effective.\(^{22}\)

The majority of our clients have had antitrust compliance training content customized to suit the particular nature of their business operations and the particular antitrust risks that arise from those operations. This requires the drafting of tailored case studies, Q&A, explanations, simulations and other content. Client specific policy documents, sample advertisements, and contact details are also included.

Some corporations have multiple versions of the compliance training content, each for different target groups within the organization. In one instance of which we are aware, there are six versions of the content. Different versions vary in the number of risk areas covered as well as in the case studies, Q&A, and other material used. The development of multiple versions has been greatly assisted by the use of programmatically generated content using a database. Our focus has been on using the database for case studies, interactive quizzes, and test assessments subject, however, to checking and revision by a lawyer familiar with the particular risks that may be encountered by the corporation.

Access to different content modules is controlled programmatically. A “short” course can be configured, with minimal effort, for users who are not exposed to the full range of antitrust risks. Specialist modules, such as mergers and acquisition, would unnecessarily lengthen the

\(^{22}\) Most fundamentally, a generic program will not be attuned to the particular antitrust risks and the particular risky situations that any given corporation will face.
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compliance training for many employees and increase the likelihood of users “tuning out.” Selection of the appropriate modules for each version of the compliance program is normally undertaken by the corporation’s legal advisers.

Where there are multiple versions of the online antitrust compliance training program, administration is complicated by the need to assign users to the relevant version of the program. The compliance officer needs to provide clear guidelines for the assignment of users to the relevant version. For example:

<table>
<thead>
<tr>
<th>Course Variant</th>
<th>Selection Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Version 2</td>
<td>Middle managers extensively involved in tendering, purchasing, negotiating deals, or looking after relationships with customers, sub-contractors and other third parties</td>
</tr>
</tbody>
</table>

Often, this information is not available to training administrators and the decision needs to be made by a manager or supervisor who has knowledge of the user’s role within the organization. Looking ahead, this information should be codified and included in job descriptions and training plans, as part of an organization’s online records for human resources and LMS purposes.

3. Testing

Is online testing valid? In 2001 we attended a presentation at a Fortune 500 electronics company where the speaker was frank enough to admit that he didn’t know if online assessment worked, but the company still used it in most of their (extensive) internal online training. At a minimum, a formal assessment provides a clear milestone that is easily tracked by an LMS.

Cheating is sometimes raised as a concern.\textsuperscript{23} Countermeasures are available to help resolve the technical, procedural, and cultural issues.\textsuperscript{24}

Supervision of test candidates is not a realistic option for large scale online compliance training. The “per head” cost of this type of training is typically very low when compared to (say) an online Microsoft certification program. High cost training programs more easily justify the use of specialist testing centers.

\textsuperscript{23} Salvatore Valenti, Alessandro Cucchiarelli & Maurizio Panti, \textit{Relevant Aspects for Test Delivery Systems Evaluation}, Khosrow-Pour, \textit{supra} note 2, 211.

\textsuperscript{24} Valenti, Cucchiarelli & Panti, \textit{supra} note 23, 212-213. Technical approaches are low level and include programming techniques such as server side marking of quizzes, randomizing test sets and disabling back button functionality. Procedural methods might limit the testing to certain times or enforce the completion of (or at least access to) content modules prior to allowing the user to sit the test. Cultural approaches can be a mix of the “carrot and stick,” including an explanation to users that penalties for breaches of antitrust laws may apply to them as well as to the corporation. Visible commitment to compliance by senior management is important in this context as well as generally.
Unlike traditional assessments, our approach to online compliance training programs is to allow the user to undertake the practice and final tests as many times as necessary to reach an acceptable result. Users are told that their practice results are not recorded and they can generally be assured of passing the final assessment if they can pass the practice test. Assuming the test sets are thoughtfully prepared, this repeated testing can form an important part of the learning process.

Ideally, test questions are randomly generated from a database and can be selectively targeted at different user groups within the organization. With a sufficiently large test database the “sharing” of answers among users can be made difficult.

The practice test we use has explanations for each question. Answers can be partially correct and the questions are presented in a range of formats. Users can review any incorrect questions at the end of the practice test but these are not retained after the session. All answers to final test questions are stored in a database and can be reviewed in later sessions along with explanations.

All user activity is logged to the database to provide an audit trail. This data is kept as a permanent record to be produced, if required, as evidence to support a “due diligence” defense (where available). This data has also been invaluable in assisting administrators in dealing with the occasional claims from users such as the “system has lost my results.”

Until 2005, we made the activity log available only in the administration system. We now make this visible to users in an “activity map” that graphically shows their progress through every part of the training program with the dates and times of initial and recent access to each module. The advantages are:

- users can readily see and grasp their overall progress;
- users are informed that they are being “tracked” throughout their use of the program, and not only during the assessment;
- access to the assessment can be blocked until sufficient “effort” is shown, and users can be notified accordingly.

4. Review & Feedback Loop

Evaluation and feedback mechanisms are an important part of an online antitrust compliance training initiative. Feedback forms should be included in the online program and the results recorded in the database. This enables structured reporting and facilitates review of the feedback. To date we have made the completion of feedback forms optional in our online training programs. Approximately 10% of users have completed evaluations.

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25. Traditional "one-shot" assessment is unnecessary in this context and may be counterproductive (eg by discouraging users from engaging with the program).
26. Review mechanisms are required under e.g., Australian Standard AS 3806 COMPLIANCE PROGRAMS (2006).
Program content should be regularly reviewed for accuracy and relevance. Where users report bugs, content errors, or dead links, these need be corrected quickly.

Where database generated content is used, as in randomized test questions, then reports need to be provided to present this in a complete and structured format for those who review the content. Reports that can drill down to performance by individual questions can assist in identifying questions that are poorly worded, ambiguous or incorrect. Analysis of performance by question categories can identify those areas that are not well understood.

We have not included collaboration tools (e.g., chat rooms, forums or mentoring) in online compliance training programs for the reason explained in section C.1 above. Links are provided to compliance officers and legal departments and users are advised to raise compliance issues with them.

5. **Timing**

Typical practice is to require employees in the selected target groups of users to take and pass the test in the online antitrust compliance training program within a specified period. This process is undertaken at varying intervals within corporations (e.g., annually, bi-annually, or more frequently where staff turnover is high or where there are other risk-related reasons for running the program more than annually). New employees are often required to take and pass the test (or a simplified and shortened version of the test) upon induction.

E. **Technology**

1. **Establishing an Appropriate Technology Base**

The Internet and related technologies have had an enormous impact on the delivery of online compliance systems. The Internet has provided accessibility via a relatively low-cost global network infrastructure. A web-based application can be deployed nationally or internationally with minimal effort. For online compliance training systems, the web browser has removed the need to install software on client machines. The web browser provides a “thin client” capable of running in-house or outsourced applications. This removes what was previously a significant cost barrier. Having a single point at which to update or revise content greatly simplifies maintenance.

However, web-based applications still require planning and the choice of appropriate technology. Users are extremely intolerant of poorly performing technology. Web pages that are slow to load or unresponsive will quickly provide users with an excuse for not completing the training.

This is a basic checklist of highly advisable steps to be taken in establishing an appropriate technology base:

- Involve the IT and HR groups and test the program prior to launch.

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27. As confirmed by a review of approximately 9140 user responses recorded in Tankstream’s ComplianceNet database as at May 2008.
• Provide highly reliable servers (web, database and email) with multi-homed Internet connections that can handle peak loads.

• Ensure adequate bandwidth is available to and within the user organization.

• Use appropriate media. Text and static or animated graphical elements can consume relatively modest bandwidth. Adding sound can increase this ten-fold and video much more. Build to suit the organization’s standards. Are there browser restrictions? Are browser plug-ins such as the Adobe Flash player available and in the required version?

• Build to allow cost-effective and timely content updating.

• Provide contacts for an IT help desk and ensure that support staff are informed and involved in the program launch.

• Stagger program releases to spread the network traffic.

2. Using Technology to Simplify and Facilitate Administration

Email systems that are part of the LMS can much simplify user administration by automating notifications to users of training requirements and any other information about the training required of them. An email system can also be used to follow up with users automatically if they fail to complete the test. Reports to managers about any aspect of the operation of the online compliance training system (e.g., the test results of employees under their supervision; details of questions that have been incorrectly answered by an unexpectedly large number of users) can also be automated.

3. A Balanced Perspective on eLearning Standards

Unfortunately, the eLearning standards promulgated to date apply to the sharing and reuse of course content and cover administrative data only to a limited extent. For example, the user tracking required to meet the SCORM standards is minimal and does not require performance analysis for each test question. The limited extent to which the standards cover the sharing of administrative data has been described by one commentator as “the dirty little secret of the e-learning industry.”

The need for sharing administrative data between systems is immediate and more important than the need to share content. Online antitrust compliance training programs often have customized content and that customized content is rarely suitable for use in exactly the same form by another corporation. Online programs offered by service providers are often subject to licence conditions that restrict the opportunities for sharing or reusing the content.

28. The two major standards are AICC (Aviation Industry Computer-Based Training Committee) and SCORM (Sharable Content Object Reference Model) initiated by the U.S. Department of Defense. Our experience has shown the AICC model to be more suitable than SCORM for cross-domain operation such as when the training system resides on an external, outsourced system.

29. Wilson, supra note 20.
4. **Learning is Nonetheless Hard Work**

Online delivery is well suited to antitrust compliance programs. However, it is important not to exaggerate what modern technology can achieve. One commentator has washed online education and training in this skeptical acid:

People learn; electrons do not. Accordingly, the dust will eventually settle from the flurry of activity related to ‘e-Learning’ in all of its manifestations, and the foregone conclusion will stand out: learning is hard work.  

**F. Conclusion**

In this overview, we have outlined what we regard as fundamental issues and best practices in the development and implementation of online antitrust compliance training programs.

The challenge remains to develop and implement online antitrust compliance training tools that:

- are interesting and informative and attractive to users;
- capture in a realistic way all the situations of potential antitrust risk that users may run into in their particular jobs;
- explain exactly how the user should handle such situations;
- make greater use of simulations as a way of achieving realism and the allure of scenario-driven computer games;
- use well-designed standard operating procedures to achieve learning by doing wherever feasible;
- continue to exploit emerging advances in web-based technology;
- are reinforced and well supported by management and the legal team; and
- are cost effective.
