Conducting a Qualitative Return on Investment: Determining Whether to Migrate to Blackboard™

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Abstract

In 1998, a state university received grant funding to convert their Special Education Blindness and Visual Impairment graduate degree program to an online format. At that time, commercial web course management systems were not accessible to blind and visually impaired users. As a result, grant designers developed a custom, accessible platform, which led to accessibility standards for online courses and to an award-winning design and interface. In 2002, the university licensed Blackboard™ and encouraged the migration of all online delivered courses to this standardized system. After determining that the newer version met accessibility standards, the instructional design staff conducted a qualitative return on investment analysis to evaluate whether the migration to Blackboard™ would cause losses in instructional and interface quality. This paper explores the pro cess for developing a qualitative return on investment and how the benefits and tradeoffs were analyzed related to maintaining an internally developed system versus migrating to Blackboard™.

Introduction

Traditional methods for analyzing whether a decision is ultimately a good decision have focused on measures that can be quantified and that ultimately contribute to a financial bottom line. However, in environments that may not be driven by financial bottom lines – educational settings, non-profit organizations or grant activities within a higher education institution – such methods for analyzing an important decision fail to capture the real variables in the decision. Furthermore, increasing demand for attention to assessing social impact of decisions (Barbour, 1993; Kaufman, 2000) is driving the need for newer methods that take into consideration a broader array of variables and the ultimate impact of a decision.

The ability of return on investment (ROI) and cost-benefit analysis (CBA) to accurately and fully analyze the impact of a decision is being called into question. Barbour (1993) explains that ROIs, CBAs and risk assessments are limited because they often leave the real benefits or dangers unassessed since those are qualitative aspects of a project that cannot be quantified. Often those unassessed benefits or dangers are impacts upon human lives or the environment. In response, agencies such as the Office of Technology Assessment and the United Nations Development Program have developed mixed-method analysis procedures, such as the "Human Development Index" (Barbour, 1993, p. 53), that analyze both the quantitative and qualitative factors of decisions or policies. In business and industry, Kaufman (2000) has proposed an Organizational Elements Model as a tool companies can use to assess their ultimate benefit to and impact upon society.

While every decision may not be an earth-shaking one requiring analysis of societal good, there are many instances where qualitative aspects of a project must be assessed and analyzed in order to determine the real costs and benefits. The impact of a decision upon employee attitudes, public perception of quality, and even changes it causes in processes or specific design standards are all examples of more qualitative variables that may be involved in a decision. This paper explores a specific instance where a qualitative 'ROI' process was developed in order to assess a decision about migrating online courses from one platform to another. While some aspects of the migration issue could be quantified, many could not. Still, analysis and data backing the decision were needed by management. We will describe the context of the project and discuss why a qualitative ROI was appropriate. We will also define ROI, the questions we investigated, the methodology developed to conduct the analysis, and the findings the analysis yielded.

Qualitative ROI Project

When a regional funding organization first awarded a state university's Blindness and Visual Impairment Program grant funding in 1998 to convert its Master's degree program to an online format; off-the-shelf, commercial web course management systems were not accessible to blind and visually impaired users. Because 10% of the students enrolled in such a program had visual impairments and one faculty member was

blind, it was imperative that the grant team develop a custom web course management system and identify online synchronous and asynchronous tools that were accessible. Over the length of three years, 15 courses were developed on this custom, internally-developed platform, and a virtual campus web interface was developed to support distance students.

Based upon the success of the program, in 2001 the university was awarded a second federal grant, which significantly increased the scope of the project. It provided the necessary funding to continue the online program in Blindness and Visual Impairment and to convert two other programs, the Deafness and Hard of Hearing and Severe Disabilities Master's degrees to an online format. This federal funding was also used to create a national center related to disability services and education. The online Master's degrees are now a part of the center's expanded teacher training function. Additionally, the center contracts with other universities to support the conversion of their low-incidence disability degree programs to an online format. Clearly, the quality of the online courses and programs – both in terms of instructional design and accessibility – formed a cornerstone of the center's work.

At the same time the center received this federal funding and expanded its efforts, the university in which the center is housed licensed Blackboard™, a commercial web course management system, which is maintained and administered by the university's faculty development center. During the fall of 2001, the center's staff members conducted a research study to determine the practical accessibility of the product. The results showed that the majority of the Blackboard™ interface met accessibility standards (Conn & Ektermanis, 2001).

The federal funding impacted the size and structure of the instructional design team. Three additional instructional designers were hired to support the expanded missions of the center. One challenge was to maximize the impact of the new instructional design team members. Even with an increase in staff members, it was difficult to address the issues of limited faculty control that were an inherent part of the internally-developed system and the increased workload of maintaining courses in the Blind and Visual Impairment program as well as the extensive work needed to convert the Deafness and Hard of Hearing and Severe Disabilities programs.

The new instructional design staff members brought varying degrees of technical expertise thus making it necessary to consider a migration to a commercial web course management system with a graphical user interface. Given the results of the accessibility research study and the changes in size and structure of the instructional design staff, it was determined to be an appropriate time to evaluate the benefits and tradeoffs related to maintaining the internally-developed system versus migrating to Blackboard™. Once the project was determined to be appropriate and necessary, the instructional design staff conducted a review of methods to determine an appropriate process for conducting this analysis.

Literature Review

What is ROI?

ROI is an acronym for return on investment. It is a method for measuring the worth of an investment and has been primarily utilized for businesses purposes. In the 1990s, the use of ROI for calculating the value of training and performance solutions began to be addressed by the human resource development and performance improvement fields (Phillips, 1997). In a human resource development context, "ROI practices are a means of economically connecting the performance goals of efficiency and effectiveness with selected interventions and performance results" (Swanson, 1999). The literature base for these fields advocates using ROI as a means of measuring, documenting, and communicating the value of support interventions to both justify projects as well as to build cases for continued or new funding (Pine & Tingley, 1993; Phillips, 1997; Stolovitch, 2002).

Connecting ROI to Kirkpatrick's Evaluation Model

ROI has been connected to Kirkpatrick's (1998) evaluation model. Kirkpatrick's original model included four levels: 1) Training Reaction, 2) Learning, 3) Behavior, and 4) Business Results. Training Reaction is often gathered through end of training or course evaluations and captures data related to participant satisfaction and comments related to how the training or education may transfer to work situations. Learning evaluation data attempts to capture participant perception of their achievement of objectives related to knowledge, skills, and attitudes. Evaluations of behavior, also referred to as Application, investigate changes in work performance. Business Results evaluates the impact of the interventions on related business variables.

Phillips and Phillips (2003) added two new levels to Kirkpatrick's model placing "ROI" and "Intangible" at the fifth and sixth levels, respectively. As mentioned earlier, ROI is a process for measuring the

costs and benefits of an intervention. Intangible is the documenting and reporting of relevant variables that are not easily converted to a monetary value. Although the levels of Business Results and ROI may appear similar, they differ in that Business Results attempts to measure changes in the business related to the intervention, such as productivity or attitudes of employees or profitability levels. ROI, on the other hand, focuses on comparing these identified benefits (or disadvantages) of the intervention with the costs of implementing the intervention.

Types of ROI Evaluations

There are several different types of ROI evaluations that can be conducted. Phillips, Stone, and Phillips (2001) directly align the ROI evaluation options with Kirkpatrick's original model, which forms a framework for the timing of data collection as well as a consideration of the levels of credibility, accuracy, cost to implement, and difficulty to implement. For example, when conducting an ROI measure related to Kirkpatrick's first level of evaluation, Reaction, data is collected during and/or at the end of the training. Credibility and accuracy of these measures tend to be lower since transfer of training to work settings has not yet occurred, but these evaluation measures are often less expensive and difficult to implement. Collecting evaluation data related to Business Results, Kirkpatrick's fourth level, can be very credible and accurate since the intervention will likely be implemented by this point; however, these types of measures are typically more expensive and difficult to collect.

In addition to aligning ROI evaluations with Kirkpatrick's levels, Phillips, Stone, and Phillips (2001) include one more option --- Forecasted ROI. A Forecasted ROI, also referred to as worth analysis (Stolovitch, 2002) and anticipated ROI (Parkman, 2002), is conducted before an intervention is implemented and is the type of ROI employed in this study. It can help provide justification for a project as well as provide baseline data that can be compared with post-project results. Forecasted ROIs are based on estimations and therefore may be less credible or accurate than ROIs calculated on post-project data. However, they have the benefit of being inexpensive to develop and less difficult to conduct.

Sequence and Criteria for Conducting ROI

Before conducting a ROI, a front-end analysis should be conducted to identify "what the desired business state should be, what the current or actual state is and then [to] characterize the gap between the two states in terms of magnitude, value and urgency" (Stolovitch, 2002). This front-end analysis provides data for determining an appropriate solution and clarifying project goals in terms of business results. The results of the ROI can also be used for developing project evaluations and comparing the benefits of the solutions to the potential costs (Parkman, 2002).

Phillips (1997) describes ten criteria for conducting a traditional ROI. These criteria form a set of guidelines to follow when investigating the ROI of a project, product, or training. These guidelines can be summarized as 1) keep the process simple by employing practical, feasible methodologies; 2) design an economical process that is easy to implement, has the potential of becoming routine, and can be applied to a various types projects as well as to both pre-project and post-project data; 3) choose evaluation techniques or research methodologies that are credible, theoretically sound, and based on accepted practices; and 4) create a process that can utilize all types of data and include the costs of the program.

Qualitative ROI

Financial factors are often not the only variables that need to be considered when gathering data to estimate or judge the value of an intervention. Intangibles are variables that are critical to the overall project or solution but are not easily converted to monetary values. As mentioned earlier, Phillips and Phillips (2003) add 'Intangibles' as a sixth level to Kirkpatrick's original model. Swanson (1999) states "criteria other than ROI are being used to gain support for performance improvement programs. Although there appears a difference of opinion in the literature regarding whether 'Intangibles' are or are not a ROI measure, we chose to adapt procedures to create a qualitative ROI process given the mix of data sources available and the context of our study.

Swanson (1999) describes several qualitative factors that should be considered.
1. Appropriateness of the program to the organizational culture and tradition
2. Availability of the program
3. Perceived quality of the program design
(p. 836)
These are especially important to take into consideration when working with non-profit organizations or educational institutions where economics may not be the key driver and where hard program costs may be

difficult to access or are not directly financed by the project's budget. This was the context for this particular proposed evaluation project.

Purpose of the Qualitative ROI Project

A front-end analysis had been conducted to verify that a course management system was (still) needed to deliver the three low incidence disabilities graduate degree programs and to engage in contract work with other universities. Additionally, the version of Blackboard™ licensed by the university had been thoroughly tested to ensure it was accessible and met Section 508 standards. Given the results of this up front analysis, the question that remained was what would be the benefits and tradeoffs of migrating courses to Blackboard™ versus continuing to use the internally developed web-based course management system. From this key research question, the following secondary questions were developed. Would Blackboard™ (or policies related to Blackboard™):

1) Decrease course development time for the instructional design staff, so that more time could be devoted to the other missions?
2) Allow the center to continue to deliver high quality courses with cutting edge designs?
3) Allow the center to maintain and contribute to quality instruction in the areas of accessibility, increased features, and increased control for instructors?
4) Increase the center's return on monthly fees being paid to the university's information technology and faculty development departments?
5) Enhance campus relationships between the faculty development department and the center, and add value to the university?
6) Support the center's ability to partner with other institutions for delivering courses?

In addition to exploring the questions listed above, the center's instructional design staff also felt the results of this study could prove valuable to other university special education departments with whom the center consulted and who were considering whether to develop a course management system internally or use an off-the-shelf product.

Methodology

Going into the project, the evaluation team realized there would likely be many intangible variables and many other variables that would be difficult to quantify, given the fact that departments within institutions of higher education typically do not charge internal clients for the services they provide and often institutional-wide site licenses are purchased for software. Given this context and the potential variables that would be part of the overall analysis, a methodology that incorporated the ROI criteria and qualitative research techniques was employed. Qualitative inquiry methods are an appropriate approach for descriptive studies and for researching practical problems (Creswell, 1998; Merriam, 1988). Given the descriptive nature of qualitative studies, the findings or results include detailed narratives regarding questions being researched. These descriptions are intended to paint a picture for the reader of the situation or entity studied. This is done through the use of text and images as well as through quotes, examples, or other appropriate artifacts (Wilson, 1979).

Project team

As with many return on investment projects, a team was formed to conduct this study. In qualitative research it is important to inform readers of the biases the researcher or researchers bring to the project. Informing readers of researcher bias allow them to draw their own conclusions regarding the trustworthiness of the findings. The research team for this project consisted of two instructional design center staff members who were also pursuing doctorate degrees in Educational Technology. One of the center's instructional design staff members proposed the project and leaned towards migrating to Blackboard™. The second center instructional design staff member had been with the project since the receipt of the first grant and this staff member's work was central to the creation of the internally developed course management system interface; she was hesitant towards the idea of migrating to Blackboard™. In addition, the project team included five other instructional designers with varying levels of expertise. These consultants had no association with the center.

Data collection

Data collection for qualitative studies often involves multiple sources (Creswell, 1998; Merriam, 1998). These sources can include "documents, archival records, interviews, observation, [or] physical artifacts" (Creswell, 1998, p. 65). Merriam (1998) states, "interviewing is probably the most common form of data collection in qualitative studies in education. In numerous studies it is the only source of data" (p. 70). Using

more than one method for collecting data and verifying emerging themes reinforces the results of qualitative studies. This practice of collecting and analyzing a variety of data sources is called data triangulation (Denzin, 1978).

The data collection for this study involved multiple sources. We interviewed the center's director and conducted two separate interviews with staff members from the faculty development department. We collected documentation including a slide presentation prepared by the center's technology manager, which explored technical implications of using various combinations of servers and courseware for delivering courses online and email correspondence with the Blackboard™ staff member responsible for accessibility issues. We also accessed two websites, the Blackboard™ company website that discusses the accessibility of the tool and the Section 508 website, a federal government site dedicated to the implementation of federal legislation for accessibility of multimedia information. Finally, we utilized the results of the Conn and Ektermanis (2001) study that had been conducted to investigate the practical accessibility of the Blackboard™ interface.

Data analysis

The interview data were analyzed using qualitative coding techniques. A characteristic of qualitative research, as defined by Merriam (1988), is inductive reasoning. Inductive reasoning refers to the emergence of concepts and themes through data analysis. The researcher may begin the data analysis with an outline of possible concepts or themes he or she expects to find, but these initial codes are often revised, eliminated, or added to through the coding process.

The detailed interview notes were transcribed and were read and re-read by the project team. The transcriptions were then analyzed using basic qualitative analysis methods. The basic qualitative analysis method followed by the team included first-level coding, which involves how one differentiates and combines the data the researcher has retrieved and the reflections one makes about the information. These codes are designed to be descriptive labels for identifying chunks of information (Miles & Huberman, 1994). The research questions were used to guide the analysis of the data, and were the basis for the initial list of codes used to analyze the interview transcriptions. A content analysis of the documentation collected was also conducted using a first-level coding method to triangulate the data collected through the interviews.

For first-level coding, the team wrote all the data on large pieces of paper that were then posted on the walls of the room. One member of the team typed these pieces into an electronic format as the group worked. Once all the data was posted on the wall, the group started by simply numbering each piece of data. The first data piece listed received number one. If the next piece was similar to something already numbered, it received that same number. Otherwise, a new number was introduced. In the first round of coding, six categories of data emerged. The person entering it electronically reorganized the pieces into those six categories.

The next step in the analysis process was second-level pattern coding. Second-level pattern coding is a method for grouping first-level codes. Pattern coding is used to identify emergent themes or explanations. The primary purpose of second-level pattern coding is to assist in getting to the next level of analysis – beyond simple description (Miles & Huberman, 1994).

For second-level coding, the team printed out the initial six categories and placed these on the wall. They then discussed what the categories would be called and whether categories should be maintained or whether some overlap still existed between categories. After further analysis, the project team reduced the categories to three core themes: Quality, Time and Cost. Once the first-level coding and second-level pattern coding was complete, the project team analyzed the results and synthesized data into a descriptive report delivered to the center's management team that included quotes, examples, and images to convey the findings and recommendations of the study.

Findings

Based on our analysis, the issues, concerns and solutions collected from all sources were grouped into three key themes: Quality, Time and Cost. Figure 1 visually depicts the relationship that emerged between these three themes. The findings of this study indicate that the main considerations short-term were the issues of the loss of the center's identity and 'sense of place,' and the impact on instructional designers' time. The findings also pointed to concerns related to long-term sustainability of the online courses as well as different roles and time investments for the center's staff. In addition, benefits of the migration to Blackboard™ emerged as well as several specific issues that were documented as Recommendations. Table 1 contains a summary of the findings categorized as 'costs' and 'benefits.'
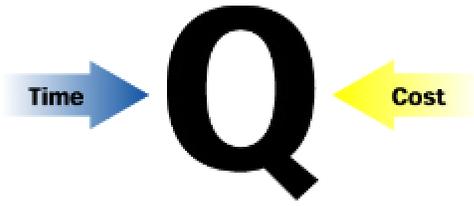
*Figure 1.*Visual representation of the relationship between the three major themes emerging from

Table 1. *Summary of Findings Categorized as Costs and Benefits*

	Variable	Costs	Benefit
Quality	*Accessibility of Blackboard™*	No longer an issue except for minor problems with the interface and the chat room tool	With increased collaboration between the center staff and the faculty development department the center's accessible chat room tool could be made available to the entire university
	Interface Design	Would lose 'sense of place' and community designs	
	Instructor control		Instructors would have more direct control over making changes in their courses; a feature that was not available in the internally developed system
	Instructional Design Quality	Loss of infrastructure that supported webs of information and data pieces	
	Technical Issues	University server less stable, more down time	More portability across programs and universities
	Development Support		Long-term, university funded support for course development and maintenance
Time	*Course Development*		Decrease course development time for the center's staff since the faculty development department could assist with course development
	Collaboration	The center's staff would likely need to spend more time participating in faculty and staff development trainings to address issues of accessibility	This would allow the center to add value to the university community

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	Help Desk Support	Student confusion surrounding the accurate logon and password for a specific course	With the migration to one system for the university, the students would more likely become accustomed to the appropriate logon and password; additionally, the university help desk would be able to assist all students, giving students one central place to contact or for instructors to refer students to
Cost	Multimedia Development		Faculty development department provides (free) audio, video and graphic development services
	Information Technology Fees	The center was required to pay $40 per credit hour to the university's information technology department for support services, but the center was not receiving any value for these fees since all course development and support to students and instructors was provided internally	
	Risk Factors	Unknown outcome of annual contract renegotiations between the university and Blackboard™ which could potentially require distribution of Blackboard™ product fees to the department	

Quality

The migration of courses to the university's web course management system, Blackboard™, raised several concerns related to the quality of current courses, specifically issues of handicapped accessibility and good instructional and visual design. Based on the data analysis, it was determined that these concerns could be addressed through proposed solutions or balanced by gains from the proposed migration.

Accessibility: Earlier accessibility issues related to the Blackboard™ interface had been addressed, and most course components now met federal accessibility guidelines under Section 508 which stipulates that electronic and information technology should be programmed in such a way that individuals with disabilities can access and use the information and data in a way that is comparable to the access and use by individuals without disabilities. Some features of the Blackboard™ interface were still not accessible, though, such as the chat rooms. Interviews conducted for this ROI revealed that university staff were willing to allow the center to link in its own custom, accessible chat rooms and other tools and even make those tools available to users across campus, adding further benefit to the entire campus.

Interface Design: The custom, internally-developed interface featured an identity and 'sense of place' that was designed to be extremely user friendly. The original interface created a sense of community by developing a virtual campus around the online courses and programs, and an infrastructure that allowed students to connect with each other outside of class or with outside experts for informal discussions, much like a physical university center would host social and informal events. Students could also access 'offices' and 'buildings' that they needed to be successful in their studies, such as financial aid, the library and faculty offices. This instructional strategy of community was supported with visuals and identifiers that all created a 'sense of place' where the students felt like they were a part of a program and a university, not just taking online courses. Within classes, a visual interface resembling a classroom had been developed that included pictures of faculty and other features that helped students adapt more quickly to this new innovation of online learning. All this work had been created based on research on learning communities (Wenger, 1998; Palloff & Pratt, 1999) and change facilitation (Rogers, 1995; Hall & Hord, 2000).

A concern that surfaced during this study was that this distinctiveness would likely be lost with the move to Blackboard™. However, benefits to be gained with the migration appeared to offset this concern. For

exa mple, Blackboard™ would allow faculty more control over course changes and updates as well as a wider array of course tools and features. According to the literature base on change, such a form of empowerment would be critical for faculty adoption of the innovation because it fosters buy-in and improves success (Ellsworth, 1995) and allows the stakeholders to participate in the very technology that will impact their work (Ellsworth, 1997; Ely, 1990). A final benefit of offsetting the concern over loss of distinctiveness was that by using the university's official contracted system, long-term support for course development and maintenance was assured, if funding would not be available to support center instructional design staff in the future.

Instructional Design: In addition to accessibility and interface design concerns, were concerns of instructional design quality. Courses had been redesigned for online learning based on cognitive apprenticeship and situated cognition principles (Brown, Collins, & Duguid, 1989; Herrington & Oliver, 2000). Instructional designers had built scavenger hunts using the server technology, created information databases students collaboratively populated as course projects, and even built a set of scaffolded case studies and support tools that all made extensive use of the custom, internally-developed platform. In addition to the concern as to whether these quality learning experiences could be preserved using the Blackboard platform, was the practical consideration that migration of this custom content would not be straightforward, but would require time and expertise to ensure a well-managed process. However, as with the accessibility issues, the qualitative ROI revealed that the center could maintain complex structures on its own server and link to those from within the courses on the Blackboard™ server. Thus, the center could capitalize on the benefits of Blackboard™, but maintain the past work and future flexibility that had contributed to its reputation for quality.

Technical issues: Additional quality concerns centered on technical issues. The university's information technology server was viewed as less stable than the server running the custom, internally-developed course management system. The university's information technology server had been down for two months total out of the year when the center's server was not, one of those downtimes occurring during the critical time when courses started. Furthermore, the listserv functions within Blackboard™ or from information technology were either not as reliable or did not provide the same capabilities as the original server structure. However, the center would be able to institute its own policy and control related to backing up courses.

Portability: One final advantage of migrating the center's online courses to Blackboard™ included cross-institutional portability. By using a common system, other universities' special education departments could partner with the center to develop courses. While a custom solution provided the center a high degree of strength and flexibility, other programs did not have the resources to maintain something similar. Their need to be on a standardized, university-maintained system outweighed the advantage of the internally developed, custom solution.

Time

One of the major issues we investigated was whether switching to Blackboard™ would decrease course development time for the center's staff. Through this process, we discovered that one of the services the faculty development department offers (free of charge) is to do course development for faculty members. To date, mo st faculty members had opted to develop their own courses, so this service was not being widely used. Other issues that surfaced related to time were the requests by the faculty development department for help with training their staff on development techniques related to accessibility as well as assisting with their faculty development courses on issues related to accessibility.

Based on our analysis, it appeared that in the short-term switching to Blackboard™ might increase work for the center's staff to meet the requests made by the faculty development department. Long-term, the data appeared to support the objective of decreasing course development time for the center's staff. Although these results did not support decreased staff workload in the short-term, the migration would likely enhance campus relationships between the faculty development department and the center, and add value to the university.

The final issue related to time that surfaced was the logon/password confusion encountered by students at the beginning of each semester. This was an issue that the faculty development department, the center, and Special Education instructors currently dealt with each semester regardless of the web course management system. The center's internally developed system required unique course passwords that were reset each time the course was taught. By migrating to Blackboard™, students would be able to use their university logon and password. Additionally, the university help desk would be able to respond to requests for help regarding the logon and password, providing another source of help for students beyond the center's staff members and the course instructor.

Cost

Cost is an inevitable issue when considering the use of new tools and services. Upon analysis, it was found that the data pertaining to cost could be organized into three categories or cost issues for this evaluation project, Free Services, Return on Information Technology Fees, and Risk. The data regarding Free Services revealed the faculty development department's willingness to offer free audio, video and graphic development to supplement the instruction. These services would sustain the center's goal for providing students with authentic and innovative learning environments through the utilization of technologically advanced tools.

The factors fitting under the Return on Information Technology Fees exposed a current lack of return for fees paid by the center to the university's information technology department. The center was required to allot $40 per credit hour to the university's information technology department for support services. At the time this qualitative return on investment analysis was conducted, the center had not been able to offer the university's information technology department support to students and faculty since the center staff maintained the custom course management system. Migration to Blackboard™ would provide the opportunity for the center to take advantage of the support services offered by the information technology department, thus creating a better return on investment for the fees paid by the center.

Based on the results of the analysis of cost data, the outcome appeared to be in favor of a migration to Blackboard™, with the exception of the Risk factors. Risk factors associated with cost related to the unknown future outcomes of contract renegotiations between Blackboard™ and the university. Renegotiations occurred annually, and terms of a new contract could at some point include a dispersal of cost onto the departments and organizations that use Blackboard™.

Recommendations

Throughout the data analysis process, 'action items' continued to emerge that would need to be addressed should the center decide to migrate to Blackboard™ for online course delivery. The evaluation project team brainstormed solutions that could be implemented to address the 'costs' (e.g., concerns or disadvantages) highlighted in the findings. Presented in Table 2 is a summary of the issues that emerged from the data as well as recommended solutions.

Table 2. *Summary of Issues Related to Migrating to Blackboard™ and Recommended Solutions*

Issue	Recommended Solution
Loss of identity	▪ Providing a link from the main Blackboard™ page to the center information, stating 'supported by the center' in some fashion – (create a general page for all courses) ▪ Put the center's 'design element' on Blackboard™ page ▪ Support accessibility through training faculty development department staff and instructors
No sense of community	▪ With every center course, create a link for all students to access the center's community (create a general page for all courses) ▪ Encourage faculty to develop community through course design ▪ Use orientation for students at beginning of course to inform them of the center's virtual campus
Managing the load	▪ Migration Plan ⇒ Incorporate change management into the plan ⇒ Limit the number of transitions and course management interfaces for students and instructors
Policies	▪ Negotiate policies related to: ⇒ Courses being taught for other universities ⇒ Continuing support for online courses and migration to any new system(s) if the university drops the contract with Blackboard™
Relationships	▪ Establish and foster clear, positive communication lines

	▪ Support accessibility through trainings sponsored by the faculty development department and through individual consultation with instructors ▪ Extend accessibility support to library and web manager (for entire campus)
Cutting edge design	▪ Not compromised by Blackboard™ if Educational Technology staff mediates between faculty and Blackboard™
Stability of servers/ longevity of Blackboard™ contract	▪ Establish systematic back-up procedure for all courses

Summary of Findings

Thus the findings showed that the migration to and use of Blackboard™ would not jeopardize quality of online courses and would likely increase quality given the additional features of the system. Over time, use of Blackboard™ would translate into more time for the center's Educational Technology staff members to devote to broader instructional design efforts rather than course development issues. Under the university model and contract in place at the time, the migration to and use of Blackboard™ would incur no cost to the center and would actually increase return on monies already being paid to the faculty development department. Additionally, if sources of funding for Educational Technology staff were decreased or cut completely, the use of Blackboard™ would ensure longevity of courses beyond any particular grant. Major and minor issues related to Blackboard™ could be addressed through policies, procedures, or products as identified in the Recommendations section. Therefore, it was the recommendation of the project team that the center migrate its courses to the Blackboard™ system and implement the recommended solutions to make such migration as smooth and beneficial as possible.

Conclusion

Overall, the qualitative approach aligned well with the type of data the team was able to collect for this evaluation project. We were able to address the intangible issues related to delivering quality courses. Only a few hard financial costs were gathered as part of the data for this study; however, this qualitative approach could be easily combined with more traditional financial ROI calculations if it was appropriate for the project and the financial data was available to analyze. The final report did provide the center's management team with detailed analysis of both the benefits and disadvantages, allowing them to make a data-based decision regarding whether or not to migrate to Blackboard™ or remain with the internally developed course management system. The center did choose to migrate to the Blackboard™ server and implemented many of the suggested recommendations for mitigating against lingering costs.

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