The Optimal Reference Book: 

Project Management Success Factors

Extraordinary insight™ into today’s education information topics
## Table of Contents

**Why 70% of Government IT Projects Fail, Quality Project Management for Education Agencies**......................................................... 5
- About the Author.......................................................... 8
- Foreword........................................................................... 9
- Selecting the Right Vendor to Manage Your Project.................. 11
  - Project Governance..................................................... 13
  - Project Risk ............................................................... 14
  - Issue Management....................................................... 14
  - Education Agency Uniqueness......................................... 14
  - Unfunded Mandates and Local Control............................ 15

**ESP’s Quality Project Management (QPM) for Education Agencies**.......... 16
- QPM Overview........................................................... 16
- QPM Principles............................................................ 17
- QPM Best Practice Characteristics..................................... 18
- QPM Tools ................................................................. 26
- QPM Lifecycle ............................................................ 28
- QPM Phases.................................................................... 29
  - High Level QPM Phase Sequence Diagram ..................... 34
- Conclusion ........................................................................ 36
- Glossary of Key Terms .................................................. 38

**From RISk to Reward: A Guide to Risk Management**.............................. 41
- About the Author........................................................ 42
- Introduction ................................................................. 43
  - The Risk-Reward Rabbit Tale......................................... 43
- Risk in Your IS Projects .................................................. 45
  - What do decision makers (e.g., policy makers, finance managers, elected officials) fear the most?................. 45
- Differentiating Project Risk from Security............................ 47
  - Proclaim the Risks....................................................... 48
  - STEP 1: Acknowledge that risks are real and demonstrate that they will be taken seriously.......................... 48
An Education Agency’s Nightmare Risks

STEP 2: Identify all possible risks up front

Risk Factors

Knowledge Transfer—Day 366

Disaster Prevention and Recovery—Business Continuation

Rating the Risk Factors

STEP 3: Analyze and prioritize risks using a “risk index”

Defining Risk

Remember the Rewards—Benefits?

Risk vs. Reward

Risk vs. Caution

Uncertainty

Risk Assessment Profile (RAP Sheet)

Impact Indicator

Impact Indicator

Risk Mitigation Indicator

Risk Tolerance

Too Complicated?

Buy vs. Build

Confront the Risks (Impress decision makers with the priority that risk mitigation receives throughout the project)

STEP 4: Mitigate priority risks with a specific plan

Risk Mitigation Strategies

Proactive Strategies vs. Reactive Ones

STEP 5: Monitor and report on risks consistently

Risk Priorities

Conclusion

ATTACHMENT A – Security Risk Resources

Recommended Resources for IS Risk Assessment and Information Security by the American Bankers Association

Other Recommended Web Sites for General Information Security Information

U.S. Government and Law Enforcement Organizations

Marketing Your Field of Dreams – The Process of Obtaining and Sustaining Buy-In
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contributors</td>
<td>80</td>
</tr>
<tr>
<td>Foreword</td>
<td>81</td>
</tr>
<tr>
<td>Selling a Project</td>
<td>82</td>
</tr>
<tr>
<td>If You Build It, Will They Come?</td>
<td>85</td>
</tr>
<tr>
<td>Targeting the Right Audience</td>
<td>86</td>
</tr>
<tr>
<td>Communication Tactics</td>
<td>89</td>
</tr>
<tr>
<td>Email Campaigns</td>
<td>89</td>
</tr>
<tr>
<td>Direct Mail</td>
<td>89</td>
</tr>
<tr>
<td>Conferences/Stakeholder Meetings</td>
<td>90</td>
</tr>
<tr>
<td>Training</td>
<td>91</td>
</tr>
<tr>
<td>Media Coverage</td>
<td>91</td>
</tr>
<tr>
<td>Conducting Pilots</td>
<td>92</td>
</tr>
<tr>
<td>When to Market?</td>
<td>94</td>
</tr>
<tr>
<td>Budgeting</td>
<td>95</td>
</tr>
<tr>
<td>Measuring Success</td>
<td>97</td>
</tr>
<tr>
<td>Conclusion</td>
<td>98</td>
</tr>
<tr>
<td>Appendix A: An Iowa Case Study</td>
<td>99</td>
</tr>
</tbody>
</table>
About ESP Solutions Group

ESP Solutions Group provides its clients with Extraordinary Insight™ into PK-12 education data systems and psychometrics. Our team is comprised of industry experts who pioneered the concept of “data-driven decision making” and now help optimize the management of our clients’ state and local education agencies.

ESP personnel have advised school districts, all 52 state education agencies, and the U.S. Department of Education on the practice of K-12 school data management. We are regarded as leading experts in understanding the data and technology implications of the No Child Left Behind Act (NCLB), EDFacts, and the Schools Interoperability Framework (SIF).

Since 1993, we have provided education consulting services for large-scale implementation projects. We also develop products and services that help put quality data into the hands of decision makers. We have authored over 30 Optimal Reference Guides on topics relevant to education technology such as data quality and reporting, confidentiality, assessment, accountability, project management, growth models, etc.

To learn how ESP can give your agency Extraordinary Insight into your PK-12 education data, email info@espsg.com.
Why 70% of Government IT Projects Fail, Quality Project Management for Education Agencies

Project Management Series – Part I
“State computer projects fail seventy percent of the time.”

http://www.channel3000.com/technology/11391111/detail.html

“With less than thirty percent of our projects successful, those of us who are software professionals have little to be proud of.”


“A full 66 percent of large-scale projects fail to achieve their stated business objectives, are delivered late, or are substantially over budget.”

http://www.gartner.com/it/products/consulting/critical_program_mgmt.jsp

Quality Project Management™ and QPM™ are trademarks of ESP Solutions Group.
About the Author

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Mr. Goodman serves as a senior project manager at ESP Solutions Group. He coordinates a majority of ESP client projects and manages their related workflow and deliverables. Mr. Goodman created ESP’s project management methodology, Quality Project Management (QPM), by which all ESP projects are managed. He has over 8 years of experience in project management and earned his PMP (Project Management Professional) certification in 2005. His responsibilities include requirements gathering, documentation, task scheduling, and risk management for large-scale IT implementations. He prides himself on developing long-term collaborative relationships with his clients that produce effective results.

Mr. Goodman’s previous publishing and state government experience have helped him develop a vast range of project management skills in areas such as communications management, data analysis, technical writing, and risk management.
Foreword
By Glynn D. Ligon, Ph.D.
President and CEO, ESP Solutions Group

Business experts just don’t know enough about how an education agency operates. So how could we expect business-oriented professionals to be the best project managers for a large-scale state education agency project? That education agencies are different from other businesses is a fact. The special blend of public politics, divergent stakeholder groups, and technical challenges makes education agencies unique. Successful project management within such an organization can be elusive—but far from unachievable. In fact, this reference guide is going to show how quality project management can be achieved within an education agency.

One first must get away from the conventional wisdom that says we can have only two of the three components of project success: on time delivery, affordable cost, or quality. The right project management methodology will deliver all three for an education agency. In fact, that is exactly what an agency should expect.

The attribute that makes project management by ESP Solutions Group (ESP) most successful for an education agency is our teamwork and constant communications. We have built an exceptional group of experts with the full range of experiences required for large-scale state-level implementations. Their Extraordinary Insight™ is incorporated into our own project management methodology—Quality Project Management (QPM)™ for Education Agencies.

The conventional wisdom is that large-scale technology projects fail for one or more of the following reasons:
1. Insufficient high-level support
2. Inadequate funding
3. Incapable commercial software products

This is incorrect!

In fact, these are typically not reasons for failure at all. Our analysis of high-profile, failed education information system projects concluded that two factors often combine for failure.
1. Lack of buy-in from stakeholders, especially those burdened with providing the data.
2. Lack of interoperability of the project’s components, old and new, that make up the total solution.

Buy-In
When there is insufficient buy-in by the data providers (e.g., schools and districts), it likely occurs because they are unwilling to change their processes to provide data in a new way. In The Change Function (Coburn, Pip, 2006), two variables work with each other to allow change to occur. The pain of staying with the current process must be greater than the costs for changing to the new process. This dynamic explains how buy-in from data providers impacts large-scale projects. For example, the schools evaluate the costs and benefits to them. They decide whether or not the new system will ease their current burden to such a great extent that the extra burden to switch over is bearable.
In *The Tipping Point* (Gladwell, Malcolm, 2000), an innovation suddenly catches on and success is rapid from a point in time. For an education agency, that dynamic describes perfectly the buy-in point that must be achieved—if the project is voluntary. Because large-scale systems are often mandatory, waiting around for the tipping point can be disastrous. There is no tipping point in a mandatory system adoption. Consider the dynamic described in the classic *Crossing the Chasm* (Moore, Geoffrey A., 1999). Innovators and early adopters buy in and make an innovation successful. However, a large-scale, mandatory innovation can’t afford to write off the laggards. The buy-in has to be compelling for everyone within a prescribed timeframe. QPM specializes in achieving that buy-in before the fuse burns down.

In *If Only We Knew What We Know*, C. Jackson Grayson, Jr., the creator of the Malcolm Baldrige National Quality Award, emphasizes the importance of the tacit, unwritten knowledge that people have of how systems really work. That’s what ESP’s project managers and the experts that back them up bring to an education agency. Agencies don’t have the time or the inclination to write down all of the processes that must be respected to achieve widespread buy-in—or even internal buy-in. Our project managers are trained to use QPM to discover the tacit knowledge and leverage it for success—rather than being blindsided by its reality in the midst of implementation.

**Interoperability**

Up front, a huge risk is insufficient interoperability among the components of the solution. Each component may work fine independently, but within the ecosystem of the overall solution, they fail to work together seamlessly. In *The World is Flat* (Friedman, Thomas L., 2005), information systems operate seamlessly across the globe. Instead of being flat, the world of education vendors still looks like a Rubik’s cube. Products are different colors, and as an education agency moves them around to make them all match up, the result is often that they become even more mismatched. The solution to an education agency’s Rubik’s cube of software applications is not to move them around on the surface but to connect them internally within the cube so we can change the color of each square to match whatever color we need a side to be. That’s interoperability. Don’t expect different vendors’ products to ever change colors to comply with your needs. Instead insist that they share their contents efficiently with all other applications in your cube.

I rather enjoy criticizing business approaches to education agency solutions, but I also find the advice from business books to be right on for education. That’s actually how effective project management has to work. Know the best practices from the professional project management organizations, but also distinguish the nature of education agencies. This paper does that. Read on to see how ESP’s Quality Project Management for Education Agencies methodology has evolved into the best practice approach for making large-scale technology projects in education succeed.
Selecting the Right Vendor to Manage Your Project

Even with a solid project management methodology in place, the vendor and education agency are each independently responsible for a project’s success. Though they work together in partnership, coordination, and collaboration, it is the education agency that is ultimately responsible for the overall success of each project. That’s why it is important for education agencies to weigh heavily who they work with on projects.

The following list of guidelines is based on years of experience working on a variety of state and local education agency projects. They represent the qualities of the most successful projects, project managers, and education agency organizations.

1. **Project Management Leadership**
   Besides having a deep understanding of agency processes and internal project management methodology, education agency project managers must also have knowledge of available agency resources, current projects, and personnel, etc. Both the education agency and the vendor should appoint knowledgeable and experienced project managers who are eager to collaborate and willing to share in the ownership of the project. The project managers should be involved from the very beginning of the project and remain throughout to ensure continuity. Finally, the project manager should have the respect of the education agency and access to their superiors.

   Good project management leadership and effective communications and procedures help to prevent hypercritical behavior by project stakeholders and agency staff who are not involved with the project on a day-to-day basis and therefore do not know the specifics of the project.

2. **Ownership of Success and Risk Factors**
   Project management is a team sport. The education agency’s project manager should plan and focus on collaboration across the project, and not assume that the vendor’s project manager will do everything it takes to achieve project success. Teamwork and partnership across both the education agency and vendor organizations are essential to any successful project. Coordination is essential in order to ensure that risk factors are identified and mitigated throughout the project lifecycle and that the project is fully implemented at its completion.

   There are activities that the vendor will be unable to undertake, e.g., state protocols and procedures may inhibit permissions or access to certain facilities.

3. **Scope Control**
   The education agency and vendor should mutually agree to abide by the project’s statement of work so as to meet the contracted project scope, expectations, and timeline. If any changes to project scope do occur, they must be managed with consistency, agreed upon by all involved parties, and have change orders processed and signed-off on. This helps to ensure that the project is completed appropriately, on time, and within budget.
“Scope creep” occurs when the agency discovers additional items they would like to add to the project’s scope, or other changes they desire to be made after the beginning of the project. Scope creep results in the inefficient use of project resources and time.

4. Decision Makers
The education agency should identify and provide access to the key internal stakeholder that has decision-making capability. This person should make decisions in a timely manner. If there are multiple persons who must be included in the decision-making process, the education agency should have a timeline and procedures for sign-off to ensure that decisions get made quickly and conveyed to their partners/vendors. Failure to make decisions in a timely manner can result in delays and the inefficient use of project resources and time.

5. Cross-Level Involvement
The education agency and vendor project managers should emphasize inclusiveness, access, and involvement in the project’s chain of communications throughout the project organization and lifecycle. Regular briefings of agency leaders should be scheduled. All persons within the organization (and those outside the organization, if applicable) who will be affected by the project should be informed of the scope of the project. Agency leaders need not receive lengthy detailed reports, but they should be provided with regular project updates. Similarly, the rest of the agency should receive regular, tailored updates.

The education agency and vendor project managers should plan for and execute several consistent types of communications prescribed by the project’s communications plan. This includes but is not limited to a consistently executed meeting, documentation, and project status notification schedule. Regular status meetings and executive briefings should be scheduled, including both face-to-face and virtual meetings. Face-to-face meetings are particularly useful if there are problems or areas of dissent. Negotiations are facilitated by the ability to observe a person’s body language.

The education agency and vendor project managers must carefully manage a project governance structure and plan for the collaboration of multiple moving parts. This includes policy steering groups, user groups (early adopters), and agency coordination group activities. Virtual communications can be used to efficiently update stakeholders as well as to gather information from them.

6. Consensus Stakeholder Buy-In
From top to bottom, the education agency should emphasize ownership and buy-in of the project. This means that by including all project stakeholders in the requirements gathering process they feel their needs are being heard and met. When managing stakeholder buy-in the following groups must be considered: agency policy makers, agency administration, state government, local education agencies, professional organizations, and vendors. For more information on obtaining buy-in within your
Both parties should trust each other to be honest, even blunt.

**Project Governance**

Large-scale technology implementations require a high degree of coordination and relationship building. In any project that reaches from an education agency out to the public, there are a variety of multi-layered stakeholders that need to be accounted for, heard, and understood.

Coordination and collaboration across the following groups is essential.
- The leadership of the various divisions within the education agency
- Regional education agencies/intermediate education units
- Local education agencies and the state education agency
- IT personnel at the state, regional, and local levels
- Administrative personnel at the state, regional, and local levels
- Classroom personnel
- The public (including parents and students)
- Governor’s office
- The Legislature
- Technology vendors
- Stakeholder advisory groups

Because of the large number of stakeholders, conscientious stakeholder management is required in education technology system implementations. The ability to work with diverging groups and gain top-to-bottom stakeholder buy-in is an ongoing challenge. It is essential to project success to maintain executive stakeholder presence during the good times, as well as the not-so-good times. To this end tailored updates, tracking, and communications are planned and executed for each type of stakeholder. Multiple organizational contacts/roles need to be understood and navigated.
The governance process should include the following prescribed steps:

1. Create an advisory group consisting of representative stakeholders that meets regularly with the project management team to help define project needs and requirements, review plans and processes, and provide feedback and recommendations,
2. Maintain a secure, project-specific website where all project documents and resources are made available and kept up-to-date,
3. Establish and conduct a phased pilot with selected early adopters, and
4. Evaluate project progress to make implementation modifications as needed.

Project Risk
When planning for and executing education technology projects, it is essential to anticipate and understand the specific risks associated with these types of initiatives. A prospective project management integrator must anticipate project risk and know how to mitigate risk. By utilizing risk management processes such as risk analysis matrices, the project management team will be better able to successfully plan and implement large-scale longitudinal data collection and reporting systems with a high level of continuity and consistency.

Issue Management
A prospective project management integrator must also anticipate and understand the common issues that arise from time to time in an education agency environment and how to deal with them in a timely manner. The project management team should be able to methodically confront, track, and resolve all project issues via regular status meetings and detailed documentation.

Education Agency Uniqueness
No two education agency partners are alike. Education agencies see themselves as being different from all other organizations; including other education agencies. Their systems and processes differ. Some are adamant about starting from scratch when implementing new systems. Others prefer to enhance what is already in place, thus building out by incorporating legacy systems. The selected work plan and project management methodology must be cognizant of all of this and still be able to flexibly accommodate an education agency’s specific needs.

In contrast with the traditional business shareholder model that the national large-scale systems integrators practice for large-scale technology implementations, an education agency also has to adhere to federal and state policy, laws, and regulations. Additionally an education agency has to answer to the public, Legislature, state board of education, media, and the Governor’s office. It becomes the vendor project manager’s responsibility and operational procedure to manage, track, and understand the ramifications of this morass.

Projects can differ based on a wide range of potential project contexts, including state-specific funding schedules, governance practices, laws, culture, organizations, and management. Often there is a hierarchy of decision-makers that slows down the decision-making process thus putting the schedule for implementation in jeopardy. These dynamics inherent in education agency technology implementations require an understanding of how to navigate differing requirements, challenges, styles, and personalities across projects.

ESP Insight
An education agency has to adhere to federal and state policy, laws, and regulations, in contrast with the traditional business shareholder model that the national large-scale system integrators practice.
In addition to the political and bureaucratic hurdles, there are variations in the processes used in education agencies related to data collection and reporting. Some of the data collection and reporting process areas that a prospective project integrator must grasp, analyze, and have the ability to re-engineer include:

- Student information
- Staff data/human resources
- Confidentiality of data (FERPA)
- Finance
- Student assessment
- Curriculum and instruction
- Instructional technology

**Unfunded Mandates and Local Control**

When an initiative is implemented statewide, local users do not always feel the need nor see a reason to meet the requirements of what is often perceived as an unfunded mandate. For example why should ‘District A’ expend its budgeted resources on a statewide project that it doesn’t feel ownership for, doesn’t recognize the benefits of, and doesn’t feel responsible for its success? Without a continuous process of district communications and ownership training this area of ‘buy-in’ concern will not improve. Most states follow a local control model for education, so unless there is a funded mandate coming from the legislature, the consequences for a district not participating and making the project a success are less clear. Thus tailored, constant, and competent stakeholder and communications management is required. It is in these instances where a collaborative process across state education agencies, local education agencies, and vendors based on mutual agreement and respect becomes necessary and most effective.

In order to meet project expectations, an education agency and its vendor must offer a variety of methods for remedying unique situations such as those where unfunded mandates and local control come into play. As previously mentioned the use of representative advisory groups is extremely effective for gaining stakeholder feedback and developing partnerships. The advisory groups not only allow for key stakeholder buy-in, but provide for a built-in pilot/user acceptance/early adopter group, as well as a valuable resource when it comes to organizing peer focus groups and system ownership training. Therefore if ‘District A’ participates in focus groups, trainings, and conferences with ‘Districts B’ and ‘C,’ the groups become better able to assist each other, share in their understanding of the project and its benefits, and ultimately share in its successes. When a shared process occurs where peers are able to work together it creates feelings of trust and ownership.
ESP’s Quality Project Management (QPM) for Education Agencies

Over time, ESP Solutions Group has refined the principles and best practice processes exemplified by the Quality Project Management (QPM) methodology for Education Agencies. Our processes are grounded in a wealth of resources from the National Center for Education Statistics (NCES) and other national standards groups (e.g., State Automation Site Visits, Decision Support System Best Practice Project, and PBDMI state documentation visits), and the publications from the National Forum on Education Statistics. ESP has used the standards and benchmarks from CMM (CMMI), CoIT, the Project Management Institute (PMI), ISO9000, Six Sigma, PIIE (APQC’s Process Improvement and Innovation in Education), USED’s best practices studies, and the framework found in our Optimal Reference Guide, Management of an Education Information System to formulate QPM. ESP’s extensive work assisting states in the development and deployment of information systems has shaped our set of empirical “best practices” for information technology in education environments. Our methodology for managing projects always focuses on an education agency’s mission and goals. As such, in our projects there are three standard directives:

1. Improve the educational experiences of students to produce higher academic achievement.
2. Improve the efficiency of education agencies to support the efforts of schools.
3. Improve the quality and availability of data to support decision making (data-driven decision making, aka D3M).

Additionally, partnerships between the education agency and their technology integrator have become crucial to the success of education technology projects. Partnerships can take on many different shapes. There are the partnerships that last as long as the project, and once the project is complete, the contracted project manager/integrator ends the relationship. Then there are the lasting partner relationships that continue to grow over time. ESP Solutions Group (ESP) prides itself on having developed the latter with our education agency partners. We do not see an education agency as just another client. Education agencies have come to rely on ESP for best practice in education data, technology, and project management. Over time it is this domain-specific expertise that has helped ESP become an expert advisor and trusted partner to education agencies.

QPM Overview

The QPM methodology ensures that ESP’s projects are always managed for success within the precise context of schools, districts, and state-level constraints.

QPM is a flexible, yet disciplined project management methodology tailored towards education agency system implementations. It is not a rigid, non-specific, generalist project management methodology as is most commonly found in other technology integrator tool kits.

- ESP and QPM are solely focused on the education agency, their data, and technology.
• ESP uses dynamic teaming to better plan and manage changing project landscapes and requirements. QPM inherently plans for and moves resources in and out of a project with fluidity based on the changing needs and demands of each unique project.
  o The ESP project director is an added project oversight resource unique to QPM that is not commonly found in other project management methodologies. The project director is the individual accountable for the overall success and direction of the project. The project director is responsible for clarifying the project scope and confirming the overall quality of deliverables. Think of this individual as the team’s coach. This person gives guidance to the QPM project manager and overall project team, conveys project expectations, approves drafts, and schedules, and works closely with the education agency project management team to ensure satisfaction. ESP has added this additional level of resource accountability to all of our projects to ensure that each QPM project is executed as planned.

• ESP recognizes what works specific to the different local and state education agencies across the U.S., their culture, histories, etc.
  o ESP personnel have advised all 52 state-level education agencies as well as the U.S. Department of Education on the practice of PK-12 school data management.

• ESP provides overall project support, not just technical support.
  o ESP is a respected and trusted advisor to education agencies when it comes to understanding and navigating national trends, best practice, emerging technology, and policy. We understand the unique political landscape both internal and external to education agencies. QPM provides a full gamut of overall project partnership and support, as opposed to the commonly encountered contractor technical support. When we engage with an education agency on a project, we take a stake in that project and its eventual success.

• ESP incorporates project management team involvement much earlier in the proposal/project engagement process than is found elsewhere to better understand and prepare for the unique demands of each project.
  o Upon project engagement, QPM provides a handpicked project manager chosen as the best match for the education agency, rather than the project manager that happens to be available for assignment.
  o Due to the uniqueness of and specific details found in each education technology project, QPM prescribes early project management team analysis of project requirements.

**QPM Principles**
  o ESP’s Quality Project Management methodology for Education Agencies leverages the deep knowledge of ESP in the PK-20 space and maximizes it with our adherence to standardized project management processes. This means that ESP’s QPM methodology, developed by our Big 5-trained and
PMI-certified staff, is specifically designed to respond to the particular needs and intricacies of an education agency project. Using ESP's QPM methodology will efficiently and successfully bring your project to completion.

- **Our methodology is heuristic, not algorithmic.** Methodology should be considered a set of values that can be flexibly adapted to the context of a project; not just robotically followed. Methodology should be of appropriate rigor tailored to the nature of each project, and should conform, where appropriate, to existing education agency partner processes.

- **Our approach to project management depends on dynamic teaming.** Like any high-performance team, ESP's project team resources specialize in specific roles to generate a whole that is more than the sum of the parts.

- **ESP Solutions Group distinguishes itself through utilizing the QPM methodology lifecycle to bring success to projects within the education domain.**

### QPM Best Practice Characteristics

Education agency data and technology managers want to work with a project management integrator who they can trust, who understands them and their needs, and who is on their side. Inherent in QPM is the knowledge that projects and project managers must be attentive to the needs of stakeholder-driven organizations, in contrast to businesses, which are shareholder-driven. This means that the industry-standard project management methodologies fall short in delivering the results required of education agencies. With our projects we do not accept the traditional project management axiom “You can only have any two of the following three components of project success: quality, timeliness, or affordability.” Our QPM principles and processes are designed and planned to deliver all three.

ESP is committed to managing the activities of education agency technology initiatives using the best practices and national standards that have been validated in our successful state and local education agency implementations. Based on past success, ESP has found that education agencies rely upon the integration guidance, insight into data management, processes for achieving data quality, and adherence to data standards that QPM provides. Additionally, education agencies seek experienced partners for implementing large-scale, multi-faceted projects to enhance their own internal project management expertise and methodologies. As mentioned previously, a significant reference for ESP Solutions Group in the creation of QPM was our Optimal Reference Guide, *Management of an Education Information System - A Best Practices Paper*. Available at [www.espsg.com/resources.php](http://www.espsg.com/resources.php).

The QPM methodology incorporates and emphasizes the differences of education agencies among all types of organizations, as well as the uniqueness of each agency among other education agencies. The characteristics of QPM that exemplify our approach:

2. **Running Start** – Use proven project planning techniques, QPM and policy document templates, and management processes to mitigate the typical slow start-up of major projects.

3. **Multi-Level Project Governance** – Rely upon oversight and advice from key stakeholder groups. Continual and effective communications within and across the following groups is a key success factor.
   a. User community: School and district staff who must buy into the systemic changes and provide quality data.
   b. Internal education agency project management team: Education agency staff who manage the IT, program offices, and internal operations.
      i. Technical team: Education agency technical team supporting the project
      ii. Program officers and staff
      iii. Longitudinal grant management team
   c. Policy Advisors: Community, business, legislative, higher education, PK-12, and education agency policy leaders.

4. **Interoperability Standard Maintenance** – Ensure interoperability of all components of the proposed information solution to manage redundancy, conflicts, and burden on schools and other staff. The dual focus on interoperability is as follows:
   a. Product interoperability: All products or applications that become part of the solution will comply with interoperability standards established to control IT infrastructure, data standards, directory functions, and user interface.
   b. Vendor and education agency interoperability: All providers of components, either vendors or internal education agency programs, must be coordinated to ensure the interoperability of their processes and communications.

5. **Internal and External Project Management** – Coordinate the project management activities with the education agency project managers and those contracted through external vendors. Ensure coordination and partnership with a mutually agreed upon, consolidated project management plan.

6. **Policy and Technical Project Management** – Align both the education agency technical and policy components of project management to ensure that implementation is smooth. Team the education agency staff with vendor architects and technical experts to combine expertise.

7. **Project Planning, Monitoring, and Communications** – Use professional project management tools to document and monitor the project’s plan.
Adhere to a disciplined program of both regularly scheduled and ad-hoc internal and external project status/technical status meetings. Project planning, monitoring, and communications processes are strictly followed as part of the project’s management infrastructure. Change management best practice is also closely followed.

*If QPM were to be evaluated using the 80/20 rule, it would likely be discovered that for a project management methodology to be successful it should be based on approximately 80% communications.*

8. **Solution Sustainability** – Ensure that the chosen solution is going to be effective in the long-term by aligning the issues and needs of the stakeholders with the features and functions of the applications, products, and processes implemented.

9. **Dynamic Teaming** – Response to changing project contexts and needs via our strategy of moving key staff into and around management responsibilities to meet the demands of the project. This allows for implementation to progress while maintaining oversight and continuity. This also provides ESP’s breadth of expertise that spans both the political and technical landscape to the education agency.

The three principle roles in every QPM project are:

- **Project Executive**: Executive of the company. Accountable for organization-wide success.
- **Project Director**: Owner of the project management plan, oversight, and the critical path. Accountable for project direction, planning, and overall success.
- **Project Manager**: Responsible for daily management of project deliverables. Accountable for managing the project to its plan, communicating all project developments, and reporting project progress.

Dependent on the type of project, our teams may also include:

- **Technical Architect**: Responsible for technology design
- **Education Data Specialist**: Ensures data integrity
- **Application Engineers**: Responsible for systems delivery
- **Quality Assurance Expert**: Ensures products have gone through quality assurance tests
- **Deployment Specialist**: Manages systems deployment
- **Project Coordinator**: Provides project support as needed (operation, documentation, and training)

By using this process of flowing resources in and out of a project with flexibility and fluidity, and by following a well-defined project plan we are able to methodically pull in our team of subject matter experts based on the specific needs of the project.

10. **Education Agency Acceptance** – Ensure the quality and functionality of each deliverable in the project management plan by following a collaborative, prescribed process for quality assurance and education
agency acceptance. Follow rigorous user acceptance testing before signing-off on the implementation of each project component.

The following figures provide examples as to what resources are pulled in and when, what their responsibilities are, and how intense their involvement is in each phase throughout the project lifecycle. The figures illustrate QPM resource involvement and the strategy of moving in key staff and management responsibilities to match the demands of the project as implementation progresses.
Figure 1 illustrates levels of effort over time. The figure also speaks to the roles of the ESP project executive, project director, and project manager, over the course of the project lifecycle (from left to right), and the activities in which they are involved.
Figure 2 illustrates the resources and roles that are instrumental to each of the QPM project management processes, mapped to the levels of involvement during the various phases of the QPM project lifecycle.

Figure 2: QPM Role to Stage Mapping for Project Management Processes
Figure 3 illustrates the roles that are instrumental to successful project execution, mapped to levels of involvement during the phases of the QPM project lifecycle.
Figure 4 illustrates the best practice characteristics of QPM that are detailed on pages 11 and 12.

**Figure 4: Characteristics of Quality Project Management**
QPM Tools
The management tools that each project team uses are varied and may differ with each unique project. However, in order to be consistent across projects, and to increase team efficiency, the following are “required” QPM tools.

1. **Statement of Work** - The statement of work (SOW), also known by some as a project charter, is the narrative description of project objectives, success criteria, deliverables, schedule, team organization, payment milestones, and risk mitigation factors. The statement of work is typically attached to the general contract language to form the foundation of both the project management plan and agreed upon project work. The Project Planning phase of QPM is unable to commence until this document has been approved and signed off on by the education agency’s management team.

2. **Project Plan** – The project plan or work breakdown structure is built using Microsoft Project for schedule, dependency, and resource tracking purposes. As a supplement to the work breakdown structure for presentation purposes the project plan may also be created using Microsoft Excel for generating “snapshot” type Gantt charts. The project plan details the scheduling of activities and tasks, the assignment of resources, and their related dependencies. All QPM project plans have five top-level strands corresponding to the components of the QPM project cycle:
   - Initiation
   - Planning and Design
   - Control
   - Execution
   - Closing

The project plan is to be reviewed and updated on an ad-hoc and/or weekly basis by the core project team and is presented to the executive team as part of a monthly project review. All updates to the project plan are regularly disseminated to the project team via both email and posting on the project website. The Project Execution phase of QPM is unable to commence until the project plan/work breakdown structure has been approved and signed-off on by the education agency management team.

3. **Weekly Meeting and Project Status Report** – A key component to the management of communications within QPM projects are both the regularly scheduled and ad-hoc team status meetings and the status reports that come out of these meetings. ESP’s project teams hold both internal and external weekly status meetings in order to stay on top of all of our engagements at all times. In general, meeting notes are generated to act as a project’s weekly status report. The weekly report documents recent achievements, current project issues and risks, recent decisions that affect the project, action items, and upcoming milestones. Notes are published in PDF format, distributed to the project team, and posted to the project website within 24 hours of each meeting.

4. **Monthly Executive Review and Change Management Process** – On a monthly basis the core project team presents a status update to the
education agency management team. The purpose of the executive review is to provide a high-level update and to formalize any agreed upon changes to the project plan. Any changes to project scope and schedule are also managed through the monthly executive review meeting process. Agreed upon changes in project scope or schedule that are significant, or in any way affect project cost, require a contract change and thus the execution of an agency approved and signed QPM Change Order Form.

5. **ESP Project Website and Web-based Issue Tracking** – Information, documentation, and resources pertaining to the project are all managed and communicated through the project website. All education agency facing project documents are posted and kept up-to-date on this site, as well as critical information regarding meetings, contacts, and general project status. This site is key to the communication required for the management of our projects. Education agency approved project documents are distributed and stored in PDF format.

Web-based issue tracking software is used across the various project components to track and resolve issues and to assist in documenting requirements.
**QPM Lifecycle**

The QPM lifecycle encompasses and defines the prescribed stages through which an education agency project must pass in order to be successfully completed. QPM is based on traditional project management methodologies such as PMI, yet includes the key lifecycle addition of the Project Engagement phase. The QPM phases are as follows:

1. **Engagement**
2. **Initiation**
3. **Planning**
4. **Execution**
5. **Control**
6. **Closing**

**QPM Differentiator**

In order to better understand and prepare for the unique demands of each education agency project that we manage, ESP introduces project management team involvement much earlier in the project lifecycle than is commonly found in other project management methodologies.

The High Level QPM Phase Sequence diagram in Figure 5 below details the QPM phases, and the required inputs and outputs of each phase. In order for the lifecycle to progress as prescribed by QPM, the output from each previous phase must be approved, signed off on, and accepted by the education agency partner in order to move forward with the next project phase. Figure 5 details the standard set of artifacts that are utilized in a sample QPM project.

1. The signed contract is the output of the Project Engagement phase and it becomes the agreed upon point/input for commencing the project initiation phase.
2. The agency approved and signed statement of work and preliminary project scope that is the output of the Project Initiation phase becomes the agreed upon artifact for commencing the Project Planning phase.
3. The agency approved and signed-off on project management plan that is the output of the Project Planning phase becomes the agreed upon artifact for commencing the Project Execution phase.
4. The agreed upon and/or signed-off on project deliverables that are the output of the Project Execution phase become the input for commencing and maintaining the Project Control phase. The tracking and documentation of project status, project deliverables, corrected actions, and change requests are integral to the Project Control phase. Like project execution, the project control process commences upon the signing of the project management plan and continues through the successful completion and acceptance of the final project deliverables.
5. The outputs of the Project Control phase are project management plan updates and the aforementioned project control documentation; including weekly status reports and monthly executive reviews.
6. Finally, it is the project management plan updates, the project control
documentation, and the agency accepted project deliverables that are the
inputs to the Project Closing phase. The outputs of the closing phase are
the project acceptance document that signifies agency approval of the
project and its deliverables, the optional public case study, and the project
management plan binder containing all relevant project control documents
leading up to the successful completion of the project engagement.

**QPM Phases**

Following are the core phases of the QPM methodology lifecycle that are managed
consistently throughout every ESP project.

1. **Project Engagement**
   The Project Engagement phase encompasses either the RFP response process or the
   response to an initial engagement request from an education agency partner through the execution of a signed contract.
   a. Work with all projected ESP project team members (including project
director, project manager, systems architect, and systems engineers) and
   potential sub-contract partners to respond to an RFP or education agency
   request. This process includes the creation of the preliminary Statement of
   Work which will be included in the RFP response.
   b. Included in the statement of work are the following:
      o Project justification
      o Project goals and objectives
      o Project deliverables with success criteria
      o Project work plan/summary including deliverable timeframes and
        payment milestones
      o Constraints/assumptions, risks, and mitigation strategies
      o Project organization chart (with contact information)

**QPM Differentiator**

The project engagement phase is significant for QPM. ESP chose to add this
phase to our project management methodology because of the running
start that an early analysis of the project requirements affords the project
team.

The framework of the QPM Statement of Work is consistent with that of
PMI. Each section is written with our past experience of the required timing
and staggering of activities, grasp of requirements, and the precise
timeframes that it takes to successfully complete deliverables in the
education agency environment. The QPM Statement of Work exemplifies
ESP’s deep understanding of the education agency procurement and
contract processes that dictate how education agency projects are
managed, and the unique risks and constraints inherent in an education
agency technology integration.
Also unique to QPM is the method in which we work within the education agency procurement framework and thus help make the procurement process flow as smoothly as possible. ESP proposal and contractual documents are written precisely to respond to the specific needs of an education agency.

2. Project Initiation
The Project Initiation phase occurs upon the signing of the project contract and continues through the execution of the signed statement of work.
   a. The project initiation kick-off meeting occurs.
      o The people involved in the project kick-off are:
         1. ESP project manager
         2. Education agency project manager
         3. All team members stated in the statement of work
         4. All education agency project team members
      o Present and review statement of work to gain agreement and sign-off on project scope.
      o Review and obtain agreement on ESP’s QPM Project Methodology.
      o Determine team members’ roles and specify access to the ESP project website.
   b. Sign-off on the statement of work concludes the Project Initiation phase.

QPM Differentiator
The initiation phase is extremely important in any project management methodology for gaining an essential, initial agreement on project scope and the management methodology processes that will be used throughout the life of the project. During project initiation ESP brings experience as to what components and agreements education agency technology projects require at this point, which stakeholders should be involved, as well as the ability to steer the conversation regarding scope and requirements in order to achieve the greatest amount of early success.

3. Project Planning
The initial Project Planning phase occurs after education agency sign-off on the statement of work, and ends approximately 30 days after the sign-off occurred (in conjunction with the mutual agreement and sign-off on the project management plan that will be used to execute the project). Note: In order to plan accordingly for all project components, QPM assumes that the act of project planning will continue throughout the life of the project.
   a. Create the Project Management Plan.
      o Work Breakdown Structure – Includes tasks, resources, dependencies, and durations necessary to complete the deliverables on time as agreed to in the statement of work.
      o Communication Plan – Includes the project information distribution process, meeting schedule, training, rollout, and support plans, as well as the stakeholder analysis methodology.
      o Scope Management Plan – Includes the Change Control process and Change Management templates.
      o Risk Management Plan
      o Quality Management Plan
o  Staffing Plan – Includes education agency partner resource requirements.

- Project Control Documentation

- Procurement Plan – Details what resources including infrastructure, if any, that will need to be procured for project implementation.

- Hand-off Plan – Includes user acceptance and knowledge transfer processes. QPM requires user acceptance sign-off throughout the life of the project. No milestone is considered complete until it is accepted by the education agency.

b. Set-up the ESP project website.

c. Conduct the Project Execution kick-off meeting
   o  All project team members are included.
   o  Sign-off is secured on the Project Management Plan from both education agency and partner stakeholders.
   o  QPM and the ESP project website are reviewed.

**QPM Differentiator**
The project planning phase is the backbone of any successful project. The project management plan that is developed during this phase can only be as good as the experience and knowledge of the project team. ESP has successfully delivered numerous projects within the education domain and therefore brings both domain and practical experience to bear when estimating the required timeframes and understanding the reality of successful project execution within the education environment.

ESP has developed and refined the QPM templates so that they can be used for all project planning engagements, thereby reducing the time that it takes to develop project-specific documentation, and thus support each project with a proven methodology.

4. **Project Execution**
The Project Execution phase commences after the project execution kick-off meeting, and upon sign-off on the project management plan. This phase continues through the user acceptance of all project deliverables. Note that QPM assumes the act of project execution will continue from this point through the successful completion and acceptance of the project deliverables.

a. The project is executed based on the project plan. QPM manages the project to the project plan and adjusts the plan accordingly as needed.

b. The gathering and documenting of requirements that began upon engagement is finalized.

c. Iterative review of project management plan and risk analysis occurs throughout the project lifecycle.

d. The project control steps, detailed below occur throughout the project lifecycle.

**QPM Differentiator**
Based on the knowledge gained and documented in the previous phases of QPM above, the project execution phase also relies on the ability and experience of the project team and their adherence to the methodology. ESP’s deep understanding and experience in large-scale education agency system implementations decreases the overall risk in this phase.
5. **Project Control**
The project control phase occurs in conjunction with sign-off on the project management plan and the commencement of the Project Execution phase. Note that QPM assumes the act of project control is an ongoing process that will continue from this point through the end of the project.

   a. ESP project managers and directors meet weekly on internal calls to review and discuss relevant project accomplishment, issue, and risk detail for all projects.

   b. During each project’s weekly project status meeting, project progress, issues, risk, accomplishments, and upcoming events are discussed.
      - If a payment milestone has been reached, a verbal and/or written agreement is obtained and the project manager initiates invoicing.
      - Issues are tracked, reviewed, and resolved via the use of issue tracking software.

   c. Prior to each weekly project status meeting an agenda is provided to the project team. After each weekly project status meeting, the weekly status report is emailed to the project team, as well as posted on the project website. The weekly status report documents the project details discussed during the status meeting.

   d. Each month, or in some cases every other month, the ESP project director conducts an executive review meeting. This meeting includes the participation of the project executives, and the most senior education agency partner representatives/sponsors to provide updates on the status of the project, to capture education agency satisfaction, formalize any changes made to the project management plan, discuss surface issues, and to determine if the contracted scope of work needs to be amended.
      - Slides are developed with key statistics and milestones documented. After the executive review, the project executive, the project director, and the education agency partner agree on a current grade/overall satisfaction for the project.

**QPM Differentiator**
The QPM Methodology provides a unique system for controlling projects specific to an education agency’s environment and needs. Based on standardized project management methodologies, QPM project control is transformed and thus augmented by ESP’s past experience, an understanding of education agency stakeholders and political landscapes, and how regular communications need to be effectively managed throughout the project lifecycle.

Focused training tailored to the various education agency stakeholders occurs during this phase of the project. Maintaining a process of managed communications and well thought out training leads to greater project buy-in, a deeper understanding of the project by all project members, and a decrease in surprises during roll-out.

6. **Project Closing**
The Project Closing phase occurs towards the end of the project upon acceptance of project deliverables and continues through the acceptance of all final project documents.
a. The sign-off of the project user acceptance document occurs upon successful completion of the final milestone. This sign-off initiates final invoicing. **Note:** QPM requires user acceptance sign-off throughout the life of the project. No milestone is considered complete until it is accepted and signed-off on by the education agency partner. This process requires education agency partner approval of all documentation and user acceptance testing of all technology implementations.

b. A project close-out meeting occurs.
   - All project team members are involved.
   - Lessons learned are reviewed.
   - Project achievements are summarized.

c. 30 days after the project close-out meeting, if desired, a public case study is published at the education agency’s discretion for use by multiple audiences.

**QPM Differentiator**

The closing phase and project user acceptance is crucial in making sure that no stone was left unturned during the project lifecycle. Lessons learned are documented so that the project organization can benefit from the successes and lessons discovered during the project. The delivery of the project binder and the knowledge transfer to the education agency partner leaves a solid foundation for the support of the project after its closing.
**High Level QPM Phase Sequence Diagram**

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Phases</th>
<th>Project Management Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Ideas</td>
<td>Execution</td>
<td>• Executed Contract</td>
</tr>
<tr>
<td>• RFP</td>
<td>Initiation</td>
<td>• Statement of Work</td>
</tr>
<tr>
<td>• Education Agency Requests</td>
<td>Planning</td>
<td>• Preliminary Project Scope</td>
</tr>
<tr>
<td>• Funding/Grants</td>
<td>Execution</td>
<td>• Project Management Plan</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>(including specifications document)</td>
</tr>
<tr>
<td></td>
<td>Closing</td>
<td>• Deliverables</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Implemented Corrected Actions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Change Requests</td>
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<td></td>
<td></td>
<td>• Project Management Plan Updates</td>
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<tr>
<td></td>
<td></td>
<td>• Project Control Documentation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Deliverables</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Project Management Plan Binder</td>
</tr>
</tbody>
</table>

Red text = Education Agency sign-off

**Figure 5: High Level QPM Phase Sequence Diagram**
Internal ESP Project Coordination
Internal meetings occur throughout the project lifecycle to ensure that the ESP project management is aligned and that the QPM methodology is always current and closely followed.

a. Weekly QPM Project Team Meeting
   o This meeting occurs every week to ensure that the QPM team is aligned on cross-project processes and priorities.

b. Weekly Project Meeting with the ESP Engineering Team
   o These meetings occur every week, and in many cases multiple times each week, to ensure that both the QPM and engineering teams are aligned on schedule, requirements analysis and tracking processes, and project-specific priorities. This includes agreement on the development, quality assurance and control, and documentation processes.

c. Bi-Monthly Project Management Team Meeting
   o This meeting occurs every other week and facilitates the project managers working together to resolve any project-specific issues, discuss changes or updates needed to the QPM methodology, and allows the project managers to work closely as a team.

d. ESP QPM Control and Evolution
   o The methodology will undergo review and evolution based on lessons learned and project management team input over time.
Conclusion

Based on ESP’s years of extensive work assisting education agencies in the development and deployment of information systems, we came to realize that education agencies require a customized project management methodology for their technology implementations.

Simply put, traditional business practices are not nearly oriented enough towards the needs of an education agency, and are not specific enough to manage and implement an education agency technology project successfully. Therefore it is necessary that an education agency select their project management partners carefully. When choosing a partner, the education agency must look for a technology integrator’s understanding of the unique needs of an education agency, and the ability to implement unique management processes geared towards project governance, communications and stakeholder management, risk management, quality management, and user acceptance.

ESP Solutions Group personnel have advised all 52 state-level education agencies as well as the U.S. Department of Education on the practice of PK-12 school data management. We have shaped our set of empirical “best practices” for information technology solely towards the education agency environment.
Figure 6: QPM Guidelines for Effective Education Agency Project Management
Glossary of Key Terms

**Action Items** – new “tasks” identified and assigned during project calls.

**Advisory Group** – a key stakeholder group that provides the project with essential policy and process guidance. Often this group provides assistance in the pilot phase of a project as an early adopter of the project deliverables.

**Agenda** – items to be discussed in a meeting.

**Announcement** – notification of a meeting.

**Architecture** – a high-level technical framework in response to documented requirements.

**Change Order/Request** – the QPM change management document that details any changes to the scope and cost of the project.

**Communication Plan** – a document that describes: the communication needs and expectations of the project; how and in what format information will be communicated to whom; when and where each communication will be made; and who is responsible for providing each communication.

**Coordinates** – call time, call in number and access code; logistics, etc.

**Deliverables** – any verifiable result that is produced to complete the project as detailed in the Statement of Work.

**Escalation** – the process by which a project manager knows with whom he/she needs to escalate an issue, and under what conditions, should they encounter an exception or issue that is not covered by QPM method and practice.

**Executive Review** – monthly meetings designed to update executive stakeholders and formalize changes to the project plan and project scope if necessary.

**Full Production** – the production environment open to a full user community.

**Hand-off Plan** – the knowledge transfer document that details tasks needed for post-project support.

**In Production** – software in its target environment.

**Integration Testing** – production built in target environment approximation.

**Issue** – an event of certainty which requires assignment and resolution.

**Issue Tracking Software** – A web-based tool utilized for issue tracking and issue resolution, as well as for requirements gathering, requirements analysis, tracking, and development.

**Kick Off(s)** – meeting(s) designed to bring the project team into alignment and initiate project phases.

**Lessons Learned** – the intent behind the QPM Public Case Study. ESP includes a debriefing/feedback mechanism and process that allows project managers to collect information relative to “lessons learned” and “best practices.” This process improves the methodology and practice over time. Method and practice is more a constantly evolving process, than a static set of boundaries.
Pilot – production environment open to an initial constrained user community.

Project Control Documentation – the documents that enable the project team to control and understand the project. These documents include all schedule, scope, quality, communications, and risk related detail specific to each QPM project.

Project Management Plan – a set of documents used to communicate the scope, action plan, and control of the project.

Project Methodology – a consistent and heuristic documented strategy for planning and managing projects successfully.

Protocols – things that humans do that can be documented and repeated.

Prototype – pre-production delivery for design and testing.

QPM Public Case Study – agreed upon description of project history and lessons learned.

Quality Management - method for ensuring that all the activities necessary to design, develop and implement a product or service are effective and efficient with respect to the system and its performance. Quality management can be considered to have three main components: quality control, quality assurance and quality improvement.

Requirements – documented needs, wants, and expectations of the education agency partner.

Risk – an uncertain event or condition which may occur during the course of a project.

Risk Analysis Matrix – The document that describes prioritized project risks and delineates mitigation strategy and/or solutions to documented risks. This document is reviewed regularly and risks/issues are to be escalated and resolved as needed.

Scope Creep - the incremental expansion of the scope of a project by introducing additional requirements that were not included in the initial planning of the project.

Scope Management – method for managing the efficient completion of the totality of work needed to complete a project by avoiding scope creep.

Specifications – sufficient documentation to direct developers based on the requirements (dynamic).

Staged Launch – a phased rollout of a system.

Stakeholder – the individuals that are likely to be affected by the activities and outcomes of a project.

Statement of Work – a narrative description of detailed products, services, or results to be supplied by a project with defined timeline, payment milestones, and budget expectations.

Survey – tool used to gather required project data.

Tasks – core WBS items reported on during the weekly call.

Task Levels:
Program – a group of projects with common goals.

Project – a set of activities that produce specific result(s).

Strands – a logical breakout of the project into like areas.

Activities – a breakout within strands measured in month units.

Task – the basic building block of ESP project planning, measured in week units and tracked on weekly calls.

Sub-Task/Step – the most detailed WBS units, measured in days or hours.

Training – face-to-face or web delivered instruction.

User Acceptance Document – the document that is signed by the customer indicating acceptance of the successful completion of the project deliverables.

Weekly Project Status Meetings – the core organizing and communications tool in a project; where tasks are updated, issues are addressed, and action items are assigned.

Weekly Status Report - documents the project details discussed during the project status meeting. The details include recent accomplishments, issues, risks, decisions, and upcoming events/action items.

WBS Dictionary – the description of all tasks to be completed in a project.

Work Breakdown Structure (WBS) – the hierarchical documentation of a project plan which includes the Activities, Tasks, Resources, and Durations necessary to complete the deliverables as agreed upon the Statement of Work.
From RISk to Reward: A Guide to Risk Management

Project Management Series – Part II
About the Author

Glynn D. Ligon, Ph.D.
President and CEO

Dr. Ligon, the president and chief executive officer of ESP Solutions Group, is a nationally recognized expert on issues relating to student record collection and exchange, data quality, data reporting, and large-scale system design.

The National Center for Education Statistics, the U. S. Department of Education and over 25 state education agencies have consulted with Dr. Ligon on various areas of his expertise. He has a Ph.D. in Educational Psychology, Quantitative Methods from The University of Texas at Austin and is licensed to teach in the State of Texas.

Prior to starting ESP in 1993, Dr. Ligon directed the Austin (TX) Independent School District’s information and technology organization. As the executive director of management information, he led the district’s efforts in developing and reporting on district-wide program evaluations, many of which won national awards from the American Educational Research Association. Dr. Ligon was also a leader in the advent of SPEEDE/ExPRESS, the EDI standard for the exchange of electronic student transcripts.

From 1992 to 2000, he served as a member of the U.S. Department of Education's Planning and Evaluation Services Review Panel. Dr. Ligon’s whitepapers; A Technology Framework for NCLB Success and Steps for Ensuring Data Quality are prominently featured within the U.S. Department of Education’s 2005 National Education Technology Plan, meant to help motivate and incite technology-driven transformation in education.

At the beginning of his career, Dr. Ligon taught in predominantly Spanish-speaking schools near the Texas-Mexico border. He is an experienced evaluator of Title I, Migrant, compensatory education, and bilingual education programs.
**Introduction**

*Instead of a forward...a fable.*

**The Risk-Reward Rabbit Tale**

Four rabbit families desperately wanted to get to the farmer’s new garden to feed their babies. The rabbits were deathly afraid of the foxes in the open fields between them and the garden. They argued loudly about the risks and whined about the rewards they were missing.

The first rabbit family turned around and went back—the veggies in the old garden were small and sparse, but they were available and certainly avoided the risk of the open field.

The second rabbit family sat at the edge of the field and worried—maybe something will change, maybe there’s another way, why aren’t other rabbits more worried about the foxes?

The third rabbit family was the bravest—no one had ever actually seen a fox out there, what are the chances of getting caught? Rushing on ahead, those rabbits were chased by several foxes of all sizes until, exhausted, the rabbits gave up and scurried back home—the lucky ones.

The two scouts of the fourth rabbit family talked about the risks and even thought there may be others unknown to any rabbit. They spent some time asking the other rabbits about the foxes—when they slept, where they spent the hot afternoon, what they looked for, where the safe places were. They even talked to the third rabbit family to find out what made them turn back. One wanted to hide the risks from the others, but the second thought otherwise. Together they told all the rabbits everything they knew about the risks. The scouts didn’t try to merely reassure the others. Armed with all this knowledge, they proclaimed the risks to the entire family. However, the scouts had a plan to run the gauntlet at the perfect time prepared to take cover when a fox spotted them.

Together, the rabbits followed the plan. In the end, the fourth rabbit family earned the rewards of the new garden and raised the healthiest and happiest babies.

**Moral of the Story:** The rewards go to those who proclaim the risks and have a plan to confront them.
This Optimal Reference Guide (ORG) delivers a simple encouragement: Get beyond the fear of risks and find the rewards promised by IS projects.

Getting there calls for an unexpected strategy: Emphasize the risks to win over the fearful. You be the one proclaiming the risks. Scared rabbits are difficult to merely reassure. A concrete plan demonstrates that you are taking risks seriously.

That plan should follow five concrete steps that come directly from the experiences of education agencies—not straight from economics.

In the end, students will benefit from educators’ actions to leverage technology in support of quality education.

“There is no security on this earth. Only opportunity.”
-DOUGLAS MACARTHUR
**Risk in Your IS Projects**

Risk lurks around all information systems (IS) projects.

- Fear of risk can stall progress.
- Blindness to risk can result in failure.
- Management of risk can ensure success.

*Education agencies use both IS, Information Systems, and IT, Information Technology in their lexicon. At times the distinction carefully defines the focus of the information office. At times, as in this paper, IT and IS are interchangeable. This paper uses IS merely to match the style of the word RISK in the title. RISK didn’t work.*

What do decision makers (e.g., policy makers, finance managers, elected officials) fear the most?

- Risks have been underestimated and will prevent success.
- The project management staff is unprepared to deal with the risks that may occur.
- They, as decision makers, are more concerned about risks than the staff members who are encouraging them to commit to a project.

Decision makers must accept a reasonable amount of risk in order to make a decision. Decision makers must reach a comfort level with risk that allows them to move on and make the best decision possible. For an IS project, risk paralysis can cause damaging delays or even kill a project.

There is a straightforward strategy to move decision makers ahead—beyond their fear of risks.

**Proclaim the Risks (Be the first and foremost to herald the risks)**

- Acknowledge that risks are real and demonstrate that they will be taken seriously
- Identify all possible risks up front
- Analyze and prioritize risks using a “risk index”

**Confront the Risks (Impress decision makers with the priority that risk mitigation receives throughout the project)**

- Mitigate priority risks with a specific plan
- Monitor and report on risks consistently

By the way, this is not all about helping decision makers be comfortable with risk. This is all about raising the probability that an IS project will deliver the rewards promised and expected.

This Optimal Reference Guide (ORG) takes each of these steps and describes how ESP’s professionals analyze, plan, monitor, and report risks in our IS projects. This paper launches our use of significantly upgraded tools and methods for risk management.

“There came a time when the risk to remain tight in the bud was more painful than the risk it took to blossom.”

-ANAIS NIN
The business management literature is full of advice for risk mitigation. Our ESP project management experts find too little of that wisdom being translated into action within education agencies. Today, with so many major information projects being contracted to outside companies, an education agency must exercise direct control of risk management. The internal education agency project staff must be aware of risks and require the contractor to work with agency staff to monitor and mitigate those risks. This is definitely not a task to delegate to the contractor.

This paper shines the light on risks in an education agency’s information systems projects. Here we define risk, alert education agencies to potential risks, and detail ESP’s methodology for working with an education agency to manage risk in our large-scale IS projects. We have created a comprehensive taxonomy of the risks education agencies face when implementing a major IS project. Individual education agencies no longer need to start from scratch to foresee potential risks. The best practices described here alert education agencies to potential risks and provide a mitigation planning methodology to deal with them.

ESP’s experts continually emphasize that education agencies need a customized style of project management for success. See ESP’s Optimal Reference Guide, *Why 70% of Government IT Projects Fail—Quality Project Management for Education Agencies*. Risk management is a significant component of our overall project management methodology.
Differentiating Project Risk from Security

The rabbits had to actually get to the new garden before security risks became an issue. Getting there is project risk, staying there is security risk.

Most of the references found using the keyword “risk” relate to security risks or disaster prevention and recovery activities. The IS literature is paranoid about security risks, almost to the point of giving too little attention to our topic in this ORG—project risk. Project risk is related specifically to impact on successful implementation of an IS project or failure to deliver anticipated benefits from the IS project. Attachment A provides an overview of security risks and some key references on that topic.

An education agency must pass through the gauntlet of project risks before even getting to the point of managing security risks. Disaster prevention and recovery, on the other hand, begin to impose their risks during the project implementation phases. See ESP's Optimal Reference Guide, *Disaster Prevention and Recovery for School System Technology.*
Proclaim the Risks

STEP 1: Acknowledge that risks are real and demonstrate that they will be taken seriously
The best way to ensure that decision makers believe that the project implementation staff understands the importance of risks is to show them a well-crafted risk mitigation plan. This ORG should be a part of that plan to establish both a theoretical and a best practices basis for the approach adopted.

Does the “plan” need to be a formal document, a slide show, or a description of how risk mitigation is closely integrated within the overall project management plan? That would be determined by the personality and standards of the individual education agency. Assuming a formal plan is the choice, here are the components. Notice they follow the five steps in the overall strategy recommended in this ORG.

Part 1: Statement of the importance of risk mitigation
Part 2: Identification of all potential risks
Part 3: Analysis and prioritization of risks
Part 4: Risk mitigation actions
Part 5: Risk monitoring and reporting plan

The risk mitigation plan should be incorporated into the project statement of work, work breakdown structure, and project management plan.

In presentations to decision makers, take care that risk mitigation does not get relegated to the end or merely handed out as an attachment. Flaunt how much attention is being paid to avoiding risks that might endanger the success of their project.

An Education Agency’s Nightmare Risks
Decision makers think of risk from a different perspective than do the IS professionals. Being public and having the trust of the public places extreme pressure on education agencies to avoid risks. What are the risks that an education agency’s leadership most definitely wants to avoid? Figure 1 describes these public risks.
<table>
<thead>
<tr>
<th>Risk from the Education Agency Leadership Perspective</th>
<th>Examples (These “risks” will later be renamed as consequences, i.e., the damage that an occurrence inflicts upon the project’s implementation or benefits, or the education agency as a whole.)</th>
</tr>
</thead>
</table>
| 1. Mismanagement | a. missed opportunity for benefits; being exposed as out of date; being inefficient  
                        b. waste of money; expenditure without benefits  
                        c. going over budget and impacting other activities  
                        d. failure to deliver on time, on budget, or on target for functions or benefits  
                        e. loss of productivity by staff during implementation, as a consequence of the change, or as a consequence of a disaster/interruption of services  
                        f. failure to deliver quality education services  
                        g. disaster that interrupts services without an adequate prevention and recovery plan in place |
| 2. Failure of Fiduciary Responsibilities | a. release of incorrect information  
                                        b. distribution of incorrect dollars  
                                        c. failure to meet legal deadlines for publishing accountability data and ratings  
                                        d. failure to balance financial accounts  
                                        e. exposure of confidential information  
                                        f. awarding or denial of diplomas or other credentials incorrectly |
| 3. Legal Violations | a. criminal/corruption offense of fraud or theft; corruption, undue influence, conflict of interest  
                             b. procedural violation of law, policy, or regulation |
| 4. Consequences and Sanctions from Other Risks | a. harm to students, negative impact on learning  
                                                  b. legal action (civil and criminal)  
                                                  c. protest by public groups or individuals  
                                                  d. news media expose or negative reporting  
                                                  e. loss of certification, accreditation  
                                                  f. loss of employment  
                                                  g. loss of office by elected or appointed officials  
                                                  h. reduction of bond rating and credit |

**Figure 1: An Education Leadership Perspective on Risk**

In an environment led by elected or appointed political figures, an education agency naturally becomes over-cautious about these risks. An education agency independently, by oversight from another state agency, or by legislation deals with these risks like an umbrella policy. These risks are often not cited in an IS project’s statement of work, but are assumed.

For an IS project, these risks are equally real and must be acknowledged. As we’ll identify later, an IS project attracts its own list of risks beyond these.
STEP 2: Identify all possible risks up front
The process for identifying and rating risks varies by project. However, the general steps are:

1. Draft a list of potential risks identified from similar projects.
2. Interview key stakeholders for their concerns and ideas.
3. Interview key IS professionals who support those stakeholders.
4. Lead discussions with stakeholders, IS, and advisory groups.
5. Review all identified risks with the education agency staff.
7. Conduct reviews of the Risk Assessment Profiles with stakeholders and individuals.
8. Incorporate the Risk Analysis Summary into the project management plan.

Not all risks are tracked using the risk assessment process. The vetting process described above prioritizes risks and determines which are either significant enough or important enough to a stakeholder to track formally.

Risk Factors
The best way to illustrate risk factors is to examine a taxonomy of them. Figure 2 is a high-level view of the taxonomy ESP designed to clearly differentiate the risk factors that arise from an education agency itself and those that arise from the implementation of a specific information systems project.

Outside the context of this paper’s focus on risks, these factors could just as easily be characterized as success factors. For those factors stated as positives, think of the risk as being failure to realize the positive effect.

"Security is mostly a superstition. It does not exist in nature, nor do the children of men as a whole experience it. Avoiding danger is no safer in the long run than outright exposure. Life is either a daring adventure or nothing." -HELEN KELLER
Capacity Factors are those risks that share a common basis in the resources, expertise, and leadership of an education agency. Four categories are displayed.

1. Functions and Benefits: These are the bases for justifying the project and the functionality that will deliver the benefits.
2. Expertise to Design and Operate: These are the knowledge resources that must exist to ensure the integrity of the solution.
3. Financial Capacity: These are the financial resources required to fund the project through full implementation.
4. Mandate to Use the System: These are the requirements that ensure participation in the project.

Delivery Factors are those risks that arise during the implementation of a project. Three categories are displayed.

1. Buy-In by Participants: These are the factors that ensure users participate with confidence.
2. Functioning of All Components: These are the traditional risk factors that garner most of the attention. These factors ensure that all components of the solution are interoperable and deliver on their functionality.
3. Project Management: These are the factors that ensure the project is implemented as planned and delivered as promised.
Figure 3 is an enhanced view of the taxonomy showing individual risks within each category. This illustration is not yet comprehensive, but it’s getting there.
Figure 3: Detailed Taxonomy of Risk Factors

Taxonomy of Risk Factors for an Information Systems Project

- **Data Quality**: Redundancy in Data Management
- **Data Access & Use Policy**: Overall Desirability of the Project
- **Data Management Plan**: Data Quality
- **Enhanced Analysis and Reporting Capacity**: Pooling Purchasing Advantage
- **Ad Hoc Report Response**: On-Going Support
- **Action Reports**: Amortized Costs
- **AD HOC Rules**: Compliance with State and Federal Reporting Mandates
- **EDUCATION Act**: Accountability
- **Office for Civil Rights**: No Child Left Behind
- **Individual with Disabilities Education Act**: State System
- **Common Core of Data**: Accreditation
- **Perkins Career Education**: Integrity of Architecture and Requirements
- **IN-HOUSE CHC**: In-House or Contracted Expertise
- **IN-HOUSE FTEs to Support Implementation**: In-House FTEs to support Maintenance and Production
- **Validity of Timelines**: Flexibility of Architecture to Accommodate Changes
- **Risk of Architecture**: Knowledge Transfer
- **Initial Purchase/Implementation Expense**: Expertise to Design & Operate
- **Direct Resources Provided to Users**: Financial Capacity
- **Annual Support & Maintenance Expenses**: Mandate to Use the System
- **Revenue & Budget**: Buy-In by Participants
- **Resources to Respond to Changes**: Functions & Benefits
- **Annual Licenses Fees**: Taxonomy of Risk Factors

**Risk Analysis for Education Agency Information System Solutions**

- **Buy-In by Participants**
- **Functions & Benefits**
- **Taxonomy of Risk Factors**
- **For an Information Systems Project**

**CAPACITY FACTORS**

- **Integration & Interoperability of Applications and Data Stores**: Incorporation of National, Open Standards
- **Compliance with Standards**: Adoption of National, Open Standards
- **Adoption of Metadata Standards**: Adoption of Metadata Standards
- **Alignment of Vendor Products and Services**: Management of Access & Use
- **Procurement & Delivery**: Customizations
- **Installation**: Configuration
- **Testing and Quality Assurance**: Statement of Work
- **Agreement on Scope**: Change Order Process
- **Periodic Status Checks**: Management of Deliverables
- **Completion of Deliverables**: Acceptance and Sign Off
- **Management of Dependencies**: Delivery of the System
- **Acceptance and Sign Off**: User Satisfaction
- **Monitoring of Deliverables & Timelines**: Management of Competing Priorities
- **Project Management Priorities**: Participant Priorities
- **Technology Infrastructure**: Disaster Prevention & Recovery Plan
- **Data & Software Back-Up**: Process Continuation
- **Knowledge Transfer**: Project Management

**DELIVERY FACTORS**

- **Burden on Participating Districts**: FTE Staff to Manage Data & Reporting
- **Training Required to Use System**: Direct Costs to Participate
- **Alignment with Existing Technologies**: User Success and Satisfaction
- **Local Understanding of the Solution**: Performance & Response Time
- **Support & Help Required to Use System**: Commitment to Move Ahead
- **Willing Abandonment of Legacy Systems**: Leadership Sign Off
- **Staff Alignment**: Commitment & Readiness to Use System in Production
- **Preparedness for Use**: Capacity for Use
- **Capacity for Use**: Confidentiality & Security Assurance
- **PIIIIPA & Other Confidentiality Mandates**: Policies Adopted
- **Management of Access & Use**: Management of Security & Use

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Knowledge Transfer—Day 366
One factor is found on both sides of the taxonomy—knowledge transfer. This risk factor consistently rises to the top of reasons IS projects fail in the long run. The knowledge of the IS solution’s creator and builder must be transferred to those who will run it and those who will use it. The technical documentation is often a transfer of knowledge between a contractor and internal education agency staff. The user documentation must typically be transferred to a wider range of people. In both cases, the tacit knowledge—how the system really works and how to get the most benefit from it—must be transferred in more personal ways. Knowledge transfer is too major of an issue to address sufficiently here. This paper can merely emphasize its importance.

In our client engagements, ESP project managers visualize knowledge transfer as “Day 366.” Assuming a one-year implementation, how is the education agency going to be independent to continue managing and using its own system the day after the contractor walks out the door?

Disaster Prevention and Recovery—Business Continuation
As soon as an IS project begins implementation, the risk of a disaster from natural or human causes exists. A previous Optimal Resource Guide details the methodology that ESP has developed specifically for education agencies. (Disaster Prevention and Recovery for School System Technology, ESP Optimal Reference Guide, 2005. Available for download at www.espsq.com/resources.php.)

The probability of a disaster may be thought of as low; however, the potential impact is too great to ignore. In the implementation phases of a project, disaster recovery processes are often discounted because the full project is not yet functional—and on-going transactions are not yet dependent upon the new system. However, the impact of a disaster in terms of delays and costs can result in substantial impact on operations.

Rating the Risk Factors
For a specific project, the Risk Assessment Profile (see Step 3) would be used to generate the appropriate value, then those values would be averaged (with weights assigned if desirable) across all categories to arrive at an overall risk level for the project.

STEP 3: Analyze and prioritize risks using a “risk index”
Before analyzing and prioritizing, we need to step back and define what a risk is. This gets a bit complicated because so much has been written in the business literature, but still we find the need to add to these definitions to really characterize how risks must be managed in an education agency.
Defining Risk
When asked, “What is the risk?” IS professionals might answer in three ways.

1. 50%
2. Cost over-runs
3. Losing support of policy makers

Risk has the same three connotations in everyday conversations. One is the probability of something happening (50%), another is the occurrence itself (cost over-runs), and the third is the consequence of the occurrence happening (losing support of policy makers). So the complete answer is that the risk is a 50% probability that there will be cost over-runs resulting in the loss of support by policy makers.

Figure 4 lays out the terms and the relationships used throughout this paper. 
Reading the definitions will help you understand the text of this paper. Not all terms are defined in the text.

“The important thing is this: To be able at any moment to sacrifice what we are for what we could become.”
-CHARLES DUBOIS
**RISK** is the **Probability** of a negative **Occurrence** (**Trigger**) having a negative **Consequence** that **Impacts** the **Implementation** and **Benefits** of an IS project.

(For this definition, we have blended traditional economics with ESP’s Quality Project Management methodology that always focuses on delivering the intended benefits rather that on merely implementing the IS solution.)

\[
\text{RISK} = \text{Impact} \times \text{Probability}
\]

(This is the traditional definition found in the economics literature.)

**OR**

\[
\text{RISK} = (\text{Impact} \times \text{Probability}) - \text{Risk Mitigation} - \text{Risk Tolerance}
\]

- **Risk Mitigation** = Effectiveness of efforts to avoid or reduce consequences.
- **Risk Mitigation Strategies** = What the education agency does to avoid, reduce, or respond to the occurrence
- **Probability** = Percent chance of an occurrence happening
- **Uncertainty** = Unknown probability of an occurrence happening
- **Occurrence** = Trigger
  (Occurrence is the event that triggers the consequence.)
- **Consequence** = Damage
  (Consequence is measured by the damage from the event on implementation and benefits.)
- **Implementation** = Timeliness + Cost + Quality
  (Replacing the traditional “You can have only two of these three” perspective with “These three dynamically influence each other,” the influence of an occurrence is measured for each one and in relationship to the other two.)
- **Benefits** = Expected Rewards (Improvement or Reduction in Pain)
  (The consequence of an occurrence on implementation must be translated to its ultimate influence on the delivery of expected benefits from the IS project.)
- **Risk Tolerance of the Agency** = The degree to which risk is accepted (high tolerance) or feared (low tolerance) when decisions are made.

**Figure 4: Terms and Relationships**
In economic circles, the term impact encompasses both the occurrence and the consequence. For education agencies, separating the two is useful to emphasize that a negative occurrence must be evaluated within the context of its consequence. The occurrence must also be characterized accurately by the degree or extent that the occurrence happens. For example, if the negative occurrence is late delivery of hardware, the degree of the occurrence is related to how late the delivery is and how much of the hardware is late.

Neither the probability nor the occurrence itself is of much significance if the consequence is slight. The essential question that we need to ask ourselves when considering a risk is, “So what?” If the “what” is important, then the risk is important, regardless of the probability or the extent of the occurrence itself. In IS project management, we must prioritize to avoid or mitigate risks that have a significant negative consequence.

We can’t avoid any and all risks, but we must focus on those that would have consequential impact rather than those that could be handled with acceptable harm. Defining acceptable harm falls to the education agency itself.

Acceptable harm might be:
- A month’s delay
- A 10% cost over-run
- Loss of one key person
- Using an underperforming application

Unacceptable harm might be:
- Inability to ever use the application
- A cost over-run greater than the capacity of the organization to cover
- Loss of a person with the key vision or institutional knowledge for success
- An application that is less desirable than what was replaced

The following is a composite scenario from our actual client engagements.

The risk is 90% that not all schools will be converted to the new system by the target date, resulting in continued maintenance of the old system. The negative occurrence is very likely to happen. However, because the old system was scheduled to run in parallel as a back-up for another year, the impact is minimal.

If all schools are not converted within the next year, however, the impact becomes significant. Therefore the risk skyrockets. If the old system cannot be shut down, then license fees, staff support positions, and other costs will occur. In addition, the benefits of more timely and quality data will be delayed.

“Cautious, careful people, always casting about to preserve their reputation and social standing, never can bring about a reform. Those who are really in earnest must be willing to be anything or nothing in the world’s estimation, and publicly and privately, in season and out, avow their sympathy with despised and persecuted ideas and their advocates, and bear the consequences.” - SUSAN B. ANTHONY
Impact can be rated for the ultimate benefits to be realized or for the influence on the implementation of the project itself. Realistically, a project should be abandoned if the benefits no longer justify it; however, project risk analyses often look merely at the impact on implementation—getting the project completed irrespective of the level of benefits to be derived upon completion.

**Remember the Rewards—Benefits?**

There is a danger that the intended benefits or rewards from an IS project will be forgotten in the intense focus on implementation. In our model for managing risk, the realization and delivery of expected benefits are highlighted independently from the success of the implementation. There have been IS projects that are considered by some to be successfully implemented without the intended benefits accruing to the users. An example from multiple states and school districts is the launching of an on-line decision support system with access to reports produced from a new data warehouse. Success! Well, not completely. The real reward was intended to be improved data-driven decision making. However, the training required and the complexity of navigating the reporting interface resulted in such low use that the impact on decisions was minimal. The implementation was successful, but the benefits were not delivered.

The following scale rates the level of benefits delivered by an IS project. Are these equal intervals? The statisticians can argue this one. Consider this now as a way to describe the levels of benefits.

**Benefits Scale:**

<table>
<thead>
<tr>
<th>10</th>
<th>Benefits far exceed expectations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Benefits exceed expectations.</td>
</tr>
<tr>
<td>8</td>
<td>Benefits meet expectations.</td>
</tr>
<tr>
<td>7</td>
<td>Benefits are enough to consider the project a success.</td>
</tr>
<tr>
<td>6</td>
<td>Benefits are enough to consider the project as functional, but not a full success.</td>
</tr>
<tr>
<td>5</td>
<td>Benefits are reduced to the point that the costs to implement and change equal the benefits realized, and the project may not have been undertaken if this had been known.</td>
</tr>
<tr>
<td>4</td>
<td>Benefits are reduced to the point that the costs to implement and change are greater than the benefits realized, and the project would not have been undertaken unless significant changes had been made in the plan.</td>
</tr>
<tr>
<td>3</td>
<td>Benefits are reduced to the point that the costs to implement and change somewhat exceed the benefits realized, and the project may not have been undertaken if this had been known.</td>
</tr>
<tr>
<td>2</td>
<td>Benefits are reduced to the point that the costs to implement and change significantly exceed the benefits realized, and the project would not have been undertaken if this had been known.</td>
</tr>
<tr>
<td>1</td>
<td>Benefits expected could not justify the cost or effort to implement the project, so the project is abandoned.</td>
</tr>
</tbody>
</table>
Because this ORG’s perspective is risk, this scale must be reversed into one that reflects the expected loss of benefits resulting from a negative occurrence. These scale points will be useful when considering the Risk Assessment Profile methodology described later.

Benefits Risk Scale:

<table>
<thead>
<tr>
<th>0-10</th>
<th>Benefits will still far exceed expectations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-20</td>
<td>Benefits will still exceed expectations.</td>
</tr>
<tr>
<td>21-30</td>
<td>Benefits will still meet expectations.</td>
</tr>
<tr>
<td>31-40</td>
<td>Benefits will still be enough to consider the project a success.</td>
</tr>
<tr>
<td>41-50</td>
<td>Benefits will still be enough to consider the project as functional, but not a full success.</td>
</tr>
<tr>
<td>51-60</td>
<td>Benefits will be reduced to the point that the costs to implement and change will equal the benefits realized, and the project may not have been undertaken if this had been known.</td>
</tr>
<tr>
<td>61-70</td>
<td>Benefits will be reduced to the point that the costs to implement and change will be somewhat greater than the benefits realized, and the project would not have been undertaken unless changes had been made in the plan.</td>
</tr>
<tr>
<td>71-80</td>
<td>Benefits will be reduced to the point that the costs to implement and change will be greater than the benefits realized, and the project would not have been undertaken unless significant changes had been made in the plan.</td>
</tr>
<tr>
<td>81-90</td>
<td>Benefits will be reduced to the point that the costs to implement and change will significantly exceed the benefits realized, and the project would not have been undertaken if this had been known.</td>
</tr>
<tr>
<td>90-100</td>
<td>Benefits expected will not justify the cost or effort to implement the project, so the project should be abandoned.</td>
</tr>
</tbody>
</table>

**Risk vs. Reward**

The greatest risk is that we’ll get to the end, and the new system will be disappointing—it does not inform any actions. This perspective assumes a different attitude. No longer is it acceptable to merely make work more efficient. A new IS application must be justified by how much it improves the educational experience of students, and how much it contributes to the overall mission of the organization.

For example, certainly a conversion to electronic records/transcript exchange brings with it significant benefits in efficiency—and calculable cost savings. However, the real benefit is the reduction in the cycle time for records exchange. Instead of mobile students spending days or weeks in a new school before their official records join them, their new school staff can make informed decisions immediately about course enrollments, special programs—even acceptance of currently suspended students.

“The pessimist sees difficulty in every opportunity. The optimist sees the opportunity in every difficulty.”

-Winston Churchill
Imagine the IS professional who knows, believes without any doubt, that a new IS project will benefit everyone; however, no one else thinks the rewards outweigh the risks. How can there be such a difference of opinion? Figure 5 shows the rewards as they may be envisioned by IS—and the perspective on each by others. Up front, let me say, this is rather negative, not all stakeholders in IS projects think this way. However, the reality is that all of these comments come straight from actual experiences with clients.

<table>
<thead>
<tr>
<th>Reward—as seen by IS</th>
<th>Reward—as seen by others</th>
<th>Perceived Risk—as seen by others</th>
<th>IS Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money will be saved.</td>
<td>Someone else gets any dollar savings. There’s really nothing in this for my budget.</td>
<td>My budget will get hit by unfunded requirements and the other changes imposed.</td>
<td>Identify unfunded mandates as a risk factor and include a mitigation strategy in the project management plan.</td>
</tr>
<tr>
<td>Increased information will better inform decisions.</td>
<td>Abstract concepts don’t help make my job any easier.</td>
<td>Increased information will merely add to the amount of reports we must manage.</td>
<td>Include decision makers in the design of action reports that they will use.</td>
</tr>
<tr>
<td>Work will be done more efficiently.</td>
<td>If my work diminishes, something else will be added to keep me overworked; or worse, my job will be cut.</td>
<td>I will probably need to keep the old system going to ensure nothing gets lost.</td>
<td>Ensure the legacy system disappears. Include concerned staff in training and support sessions to identify how they will avoid this risk.</td>
</tr>
<tr>
<td>Students will benefit and achievement will improve.</td>
<td>That’s very theoretical—no research basis—and the impact would be a drop in the bucket compared to other needs the money could go to meet.</td>
<td>All this effort will not result in any change in student achievement.</td>
<td>Create a clear and widely distributed benefits statement. Obtain the involvement of leadership in “marketing” the new application.</td>
</tr>
</tbody>
</table>

This comparison seems overly negative, but it represents what I have seen across multiple education agencies. “My risk, your reward.” The perspectives in the “others” columns create an inertia that challenges the establishment of buy in for IS projects. Whereas educators can get enthused by the latest instructional innovation, technology innovations can be scary. Educators are convinced by the endorsements and positive experiences of other educators. IS projects should use this strategy as well. Information technology at times appears to be held to a
higher standard. This is probably only a perception, not a reality. However, the fact is that IS projects have an obligation to justify their risks with promised rewards. Proclaim the risks rather than allowing the naysayers to capture the spotlight. First, however, have a plan.

**Risk vs. Caution**

Another distinction in both the economics and psychology literature is between “risky shift” and “cautious shift.”

Risky Shift: The tendency for people in group situations to take more risks than they might as individuals.

Education Agency Example: Adopting Schools Interoperability Framework (SIF) as an interoperability standard is accompanied by risks. Adopting SIF becomes easier as neighboring districts or states make the commitment.

Cautious Shift: The tendency for people or agencies to be overly cautious because any risky decision or stance can open them up to criticism by opponents.

Education Agency Example: Education agencies seek stakeholder input before publishing final requirements for most projects. They may delay the publishing of standards for a new data collection to allow time for public comment or review by oversight groups. These delays may at times look like a way to avoid making an unpopular decision among competing alternatives advocated by different groups.

These shifts determine whether or not the people within an education agency tend to be risk averse or risk tolerant. Within IS, there may be considerable tolerance for risk while in the policy offices on the upper floors, there may be resistance to an aggressive implementation schedule for fear some unknown issue will arise.

So risk factors can be rated along a scale that classifies them for a specific project as to the significance of the perceived consequence.

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>50</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No consequence, the project continues without notice.</td>
<td>Meaningful consequence, the project loses benefits for which it was initiated and may require significant changes.</td>
<td>Critical consequence, the project ends in failure.</td>
</tr>
</tbody>
</table>

Why do we care about identifying risks with very low probabilities? Chicken Little can answer this one for us. In an education agency, especially with the public nature of IS projects and the participation of stakeholder advisory groups, there is always the necessity to document that due diligence has been exercised in the planning for risks. Someone may raise an alarm saying that the agency has not

“Creativity requires the courage to let go of certainties.”

-ERICH FROMM
considered a risk that they see as significant. Being prepared to silence this alarm without being leveraged into making it a priority over other documented higher risks is an important contribution by the project management team.

**Uncertainty**

Data-driven decision making assumes that we have data upon which to base our decision. What if we had no data? We typically must make a decision. Unfortunately, when it comes to assessing the risks associated with a major information system project, having reliable data about the probability of occurrences is rare.

Going back to economics, some experts (Based upon Frank Knight’s 1921 distinction) differentiate risk and uncertainty. Risk is reserved for use only when a reliable probability can be established for an occurrence. Without a probability, uncertainty is the preferred term. In reality, in education agencies, we seldom can place a probability on an occurrence. Therefore, we are technically almost always dealing with uncertainties. The best approach is to be aware of the negative impact of a circumstance and determine how acceptable it is—and the response to it.

So we recommend focusing more on the impact component of the risk equation, the potential negative consequence, the damage that might happen. Establishing probability is difficult, but we can get our minds around what it would mean if a negative occurrence happened.

Because risk in education agencies is really uncertainty, every decision maker, policy maker, stakeholder is free to attach whatever level of concern desired to the project. How can we manage this? Be as negative in our assessment as the most negative person is? No, but we should identify and acknowledge every possible risk.

**Risk Assessment Profile (RAP Sheet)**

ESP uses the Risk Assessment Profile to describe a specific risk factor. Figure 6 is an example of a high-risk factor, Figure 7 is a marginal risk factor, and Figure 8 is an acceptable risk factor.

The Risk Index (RI) measures the overall real and perceived risk potential from a negative occurrence. The scale goes from the lowest level of risk at 1 to the highest level at 100. The RI is determined by estimating the probability of the occurrence; then estimating the full impact; then scaling that down by the estimated severity of the occurrence for both implementation and benefits; and finally backing out the effectiveness of mitigation efforts. For example, by looking at the graphics in Figures 6-8, the risk level is evident by how much red fills the graph. As the combination of impact and the risk mitigation effectiveness lessens, the proportion of red on the risk side of the graph reduces.

The RI represents a value between the maximum potential risk and the certain risk, determined by the tolerance of the agency for this risk. If an agency has zero

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tolerance for the risk, then the maximum risk value becomes the RI. If the agency has complete tolerance, then the minimum risk value becomes the RI.

**Risk Assessment Profile**

Name of Risk: **Hardware Delivery**

| Negative Consequence Assessed: | Late installation of hardware prevents on-time implementation. |
| What event or action would trigger this consequence? | Notification by vendor of delay or failure of hardware to arrive on time. |
| What is the probability this event or action will occur? | 95% |
| **What is the consequence or damage that might occur to...?** |  |
| The Implementation of the project? | 100% |
| What weight does implementation have? | 90% |
| The ultimate benefits of the project? | 25% |
| What weight do benefits have? | 10% |
| C + E = 100 |

**What mitigation efforts will be implemented?**

Weekly confirmation with vendor.

| How effective might these be? | 5% |
| **How tolerant of this risk and the negative consequences is the agency?** | 0% |

Maximum Potential Risk = \[ ((BXC) + (DXE)) \times A = 88\% \]

Certain Risk = \[ H - (H \times F) = 83\% \]

Risk Index = \[ H - ((H-I) \times G) = 88\% \]

**Figure 6: High-Risk Factor**

“A life spent making mistakes is not only more honorable but more useful than a life spent in doing nothing.”

-GEORGE BERNARD SHAW
Risk Assessment Profile

Name of Risk: Participation Level

Negative Consequence Assessed: Participation by schools will be too low to maintain the support for the project.
Memoranda of Understanding unsigned by more than 75%.

What event or action would trigger this consequence?

What is the probable level of participation?

What is the consequence or damage that might occur to...?

The Implementation of the project?

What weight does implementation have?

The ultimate benefits of the project?

What weight do benefits have?

What mitigation efforts will be implemented?
Marketing campaign to be designed and implemented.

What is the probability this event or action will occur?

What is the consequence or damage that might occur to...?

The Implementation of the project?

What weight does implementation have?

The ultimate benefits of the project?

What weight do benefits have?

What mitigation efforts will be implemented?

Marketing campaign to be designed and implemented.

Risk Index: 49%

Maximum Potential Risk = [(BXC) + (DXE)] X A = 59% H
Certain Risk = A - (A*F) = 29% I
Risk Index = H - [(H-I) X G] = 49% Risk Index

Figure 7: Moderate-Risk Factor
Risk Assessment Profile

Name of Risk: **Legislative Intervention**

**Risk Index:** 15%

**Negative Consequence Assessed:** Legislature will pass a law that funds a competing project.

**Governor’s signature on legislation.**

**What event or action would trigger this consequence?**

- The Implementation of the project: 75% (B)
- What weight does implementation have? 50% (C)
- The ultimate benefits of the project? 75% (D)
- What weight do benefits have? 50% (E)

**What is the consequence or damage that might occur to...?**

- C + E = 100

**What mitigation efforts will be implemented?**

- Lobbying with legislators: 50% (F)
- How effective might these be? 0% (G)

**What is the probability this event or action will occur?**

- 20% (A)

**Maximum Potential Risk**

\[ \text{Maximum Potential Risk} = \left( \frac{B \times C}{38} \right) + \left( \frac{D \times E}{38} \right) \times \frac{A}{20} = \frac{15}{20} = 15\% \]

**Certain Risk**

\[ \text{Certain Risk} = A - \left( \frac{A 	imes F}{8} \right) = \frac{8}{8} = 8\% \]

**Risk Index**

\[ \text{Risk Index} = \frac{H - \left[ \frac{(H-I) 	imes G}{8} \right]}{0} = \frac{15}{0} = 15\% \]

**Figure 8: Low-Risk Factor**

“Whatever you do, you need courage. Whatever course you decide upon, there is always someone to tell you that you are wrong. There are always difficulties arising that tempt you to believe your critics are right. To map out a course of action and follow it to an end requires some of the same courage that a soldier needs. Peace has its victories, but it takes brave men and women to win them.”

-RALPH WALDO EMERSON (PROBABLY ERRONEOUSLY)
**Impact Indicator**
Estimating impact is difficult. Often this is measured as merely high, medium, or low based upon a professional judgment. For this indicator, we illustrate using a 101-point scale, 0 being no risk, and 100 being high.

Our Impact Index has two components—damage to the implementation of the project and reduction in the ultimate benefits of the project. An occurrence can impact one or the other or both. Each of the two can be weighted or considered equally important.

**Risk Mitigation Indicator**
Reducing the overall risk index is accomplished by anticipating that even if the occurrence happens, the risk mitigation efforts that will be implemented will have a positive effect. Because we seldom know probabilities and can only estimate the extent of potential damage or the effectiveness of our best efforts to mitigate risk, professional judgment and experience with similar circumstances must be relied upon heavily.

**Risk Tolerance**
Another variable in the determination of risk for an education agency is how tolerant the agency is to the risk. Some consequences (e.g., implementation delays) may be tolerated more than others (e.g., cost over-runs). In Figures 6 and 7, the difference between the maximum risk level and the potential minimum mitigated risk level becomes the possible range for tolerance. With zero tolerance, the full potential risk becomes the value. With complete tolerance, the value is the minimum risk level.

**Too Complicated?**
This full methodology does require a bit of dedicated effort. Even if you do not use the full model, walking through a few examples will help you understand the components and the dynamics that make risk assessment so complex. Keep in mind as well, estimating is often the best approach. Don’t worry too much about the exact numbers. From the business literature, it’s quite evident the major corporations don’t have the desired level of precision they would want either.

**Buy vs. Build**
The degree to which an IS project is innovative influences risk. Innovative projects can find fewer best practices to mimic. They can expect fewer vetted solutions to be available. Risks are just higher with innovation. One strategy to avoid innovation is to look for a solution to buy. Maybe someone else innovated before you.

Whether to buy an information systems solution or to build one has become a classic question across education agencies. However, the experience of ESP professionals has been that education agencies seldom have the capacity to design and build the sophisticated systems demanded by schools and their administrative support departments. Instead of assuming this conclusion is correct, let’s examine the choice from the perspective of risk. We’ll begin with some definitions.
**Design/Build:** Starting from scratch, describing the requirements desired, then building the solution. A design/build project may be performed totally with in-house staff or contracted out—or a combination.

**COTS:** A commercial off-the-shelf solution that is purchased as a completed solution, but may be configured somewhat to meet local needs.
- **Configure:** To select settings available within the established design of a COTS solution.
- **Customize:** To change something about a COTS solution. This may impact the availability of support and maintenance from the solution provider. Some COTS sellers are willing to customize their product—for the right price.

Is the risk level higher or lower with a COTS solution? Figure 9 compares the two approaches.

<table>
<thead>
<tr>
<th>Risk</th>
<th>Risk Level</th>
<th>COTS</th>
<th>Design/Build</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Localization:</strong></td>
<td></td>
<td>Higher</td>
<td>Lower</td>
</tr>
<tr>
<td>Localization: The solution will require retraining to replace local terminology, processes, formats, etc.</td>
<td>Higher</td>
<td>Lower</td>
<td></td>
</tr>
<tr>
<td><strong>Benefits:</strong></td>
<td></td>
<td>Similar</td>
<td>Similar</td>
</tr>
<tr>
<td>Benefits: The application will not meet all of the needs of the users and the education agency.</td>
<td>Similar</td>
<td>Similar</td>
<td></td>
</tr>
<tr>
<td><strong>Time:</strong></td>
<td></td>
<td>Lower</td>
<td>Higher</td>
</tr>
<tr>
<td>Time: The implementation will take longer than planned—maybe too long—maybe never get done.</td>
<td>Lower</td>
<td>Higher</td>
<td></td>
</tr>
<tr>
<td><strong>Quality:</strong></td>
<td></td>
<td>Lower</td>
<td>Higher</td>
</tr>
<tr>
<td>Quality: The final IS application will not perform up to expectations.</td>
<td>Lower</td>
<td>Higher</td>
<td></td>
</tr>
<tr>
<td><strong>Cost:</strong></td>
<td></td>
<td>Lower</td>
<td>Higher</td>
</tr>
<tr>
<td>Cost: The solution will cost more than expected.</td>
<td>Lower</td>
<td>Higher</td>
<td></td>
</tr>
<tr>
<td><strong>Maintenance:</strong></td>
<td></td>
<td>Lower</td>
<td>Higher</td>
</tr>
<tr>
<td>Maintenance: After initial implementation, the maintenance of the system will be adequate.</td>
<td>Lower</td>
<td>Higher</td>
<td></td>
</tr>
<tr>
<td><strong>Enhancements:</strong></td>
<td></td>
<td>Lower</td>
<td>Higher</td>
</tr>
<tr>
<td>Enhancements will not occur within reasonable limits of time, quality, and cost.</td>
<td>Lower</td>
<td>Higher</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 9: Comparison of Risks for COTS vs. Design/Build**

The COTS alternative wins **IF** there is an acceptable one available.

The design/build alternative looks great mostly as a last resort—when no acceptable COTS is available. If chosen, the risks should be carefully understood. For a risk-averse education agency, the COTS choice is hard to beat—especially if the vendor is willing to make reasonably-priced customizations.

Before you write off this assessment as self-serving coming from a vendor of commercial solutions, don’t forget that ESP’s professionals have been in every state education agency and a large number of districts documenting how effective their

“Twenty years from now you will be more disappointed by the things you didn’t do than by the ones you did do. So throw off the bowlines. Sail away from the safe harbor. Catch the trade winds in your sails. Explore. Dream. Discover.” **MARK TWAIN**
information systems—COTS and in-house—turned out to be. Unfortunately, it is true that both vendors and in-house education agency staff typically overestimate their capacity to build the perfect information system. The bottom line, however, is that you can look at and test out a COTS product, while an in-house development project is always speculative.
Confront the Risks (Impress decision makers with the priority that risk mitigation receives throughout the project)

STEP 4: Mitigate priority risks with a specific plan

Risk Mitigation Strategies
In finance, there are four main methods with which risks can be dealt within the context of an organizational risk management strategy. Risks can be:

- Reduced or eliminated
- Transferred
- Avoided
- Absorbed or pooled

For education agency IS projects, these strategies translate as follows:

- Reduced or eliminated: Mitigation strategies are implemented throughout the project management plan.
- Transferred: The responsibility for the risk is assigned to another entity through the use of a performance bond, insurance policy, or a contract with another agency or company.
- Avoided: The risky action is not taken or the project is abandoned.
- Pooled: A partner entity is recruited to share the risk, such as a collaborative consortium, or professional organization.
- Absorbed: The risk is merely accepted. More dollars are appropriated: expectations or requirements are adjusted; more time is allocated; etc.
**Proactive Strategies vs. Reactive Ones**

Each of these five strategies can be practiced proactively or reactively as shown in Figure 10.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Proactive</th>
<th>Reactive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce or eliminate the risk.</td>
<td>Create a project plan including avoidance and mitigation strategies.</td>
<td>Use change orders or implementation adjustments to respond to events.</td>
</tr>
<tr>
<td>Transfer the risk.</td>
<td>Contract with another entity or vendor; Negotiate with another agency to accept responsibility for the project.</td>
<td>Use the same strategies but they are more difficult to implement.</td>
</tr>
<tr>
<td>Avoid the risk.</td>
<td>Forego the project or the tasks that generate the risk.</td>
<td>Abandon the project or the tasks that generate the risk.</td>
</tr>
<tr>
<td>Pool the risk.</td>
<td>Create a collaborative to share the risk; purchase insurance; require a performance bond; require contractor insurance.</td>
<td>Use the same strategies but they are more difficult to implement.</td>
</tr>
<tr>
<td>Absorb the risk.</td>
<td>Build in contingency resources; transfer resources from other projects.</td>
<td>Increase the budget; add resources; increase revenue or fees; add time; lower expectations; reduce requirements; change contractors; change products.</td>
</tr>
</tbody>
</table>

**Figure 10: Risk Mitigation Strategies**

Education agencies use all of these strategies, but only well-planned projects include the proactive strategies that are more effective.

**STEP 5: Monitor and report on risks consistently**

Figure 11 is an example of a Risk Management Report that can be maintained continually throughout a project. Risks to be tracked are described along several dimensions.

- **Priority**
  - Unacceptable Risk: Direct project management strategies are applied and monitored continually.
  - Marginal Risk: Project management must determine the cost-benefit of applying resources to these risks.
  - Acceptable Risk: Factors are monitored to ensure risks remain acceptable.

“You won’t skid if you stay in a rut.”

-KIN HUBBARD
- Risk Rating
  - 1 – 9 Rating from the scale
- Potential Risk Description: Brief narrative describing the risk
- Triggers: The occurrences that create damage
- Mitigation Strategy: Brief description of the actions to be taken
- Status: Current status of the actions
- Rating History: Tracking of changes in the ratings over time

Only those risks that warrant continual monitoring need to be charted. The format of the report should vary to include information desired by the project oversight group.
### Figure 11: Sample Risk Management Report

<table>
<thead>
<tr>
<th>Current Risk Rating</th>
<th>Potential Risk</th>
<th>Mitigation Strategy</th>
<th>Status</th>
<th>Rating History</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unacceptable Risk</strong>&lt;br&gt;Education agency must take some additional action to lower the risk.</td>
<td>Knowledge transfer will not occur at the right times and with enough depth to allow the education agency to continue the project independent of contractor's assistance.</td>
<td>1. Knowledge Transfer Plan by contractor and education agency 2. Documentation of knowledge transfer activities.</td>
<td>Not completed 2. Not ready</td>
<td>7/12/07 9</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Marginal Risk</strong>&lt;br&gt;Risks that should be looked at on a case by case basis to determine whether additional education agency efforts are required.</td>
<td>Burden on districts to implement or participate (e.g., provide data, learn to generate reports) will outweigh the perceived benefits.</td>
<td>1. Clear participation guidelines 2. Accurate burden assessment and forecasts 3. Alignment with existing requirements. SIS vendors will be informed of the requirements. 4. ETL processes for the major SIS products are being developed.</td>
<td>In Progress 2. Planned 3. In Progress 4. In Progress</td>
<td>6/6/07 8</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Low Risk</strong>&lt;br&gt;Risks have a low probability and low impact. No action by the education agency is required. These issues should be monitored.</td>
<td>Participating districts will not have the resources required to provide the data necessary for useful reports.</td>
<td>1. Data requirements aligned with inventories of available data 2. SIS and other software vendors informed of the data requirements so they can support their client districts 3. Districts supported with financial assistance for needed resources</td>
<td>In Progress 2. Planned 3. Planned</td>
<td>6/6/07 7</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Marginal Risk</strong>&lt;br&gt;Risks that should be looked at on a case by case basis to determine whether additional education agency efforts are required.</td>
<td>Changes to data requirements will demand continuous updating of the data model and table structure.</td>
<td>1. One of the four education agency support positions to manage these changes</td>
<td>Planned</td>
<td>6/6/07 5</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Low Risk</strong>&lt;br&gt;Risks have a low probability and low impact. No action by the education agency is required. These issues should be monitored.</td>
<td>SIF capability will become a burden on districts and their SIS vendors and add to the cost and complexity of participation in the project.</td>
<td>1. SIF company contracted to plan the implementation and infrastructure 2. Education agency monitoring SIS vendor capabilities 3. SIF an option not a requirement for participation</td>
<td>Completed 2. In Progress 3. Ongoing</td>
<td>6/6/07 4</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Unacceptable Risk</strong>&lt;br&gt;Education agency must take some additional action to lower the risk.</td>
<td>Legislature could pass legislation that establishes competition for this project without providing a way for the project to compete for internal development and management.</td>
<td>1. Monitoring of Legislature 2. Partnership with other agencies 3. Roll out of project and establishment of credibility before action is considered by the Legislature</td>
<td>Ongoing 2. Not Started 3. In Progress</td>
<td>6/6/07 3</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Low Risk</strong>&lt;br&gt;Risks have a low probability and low impact. No action by the education agency is required. These issues should be monitored.</td>
<td>Planned venue for training will be unavailable during high-demand months.</td>
<td>1. Alternative sites identified and reserved.</td>
<td>Completed</td>
<td>6/6/07 2</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Low Risk</strong>&lt;br&gt;Risks have a low probability and low impact. No action by the education agency is required. These issues should be monitored.</td>
<td>New version of SIF standard will be released before training and require revisions to documentation.</td>
<td>1. Resources reserved to make last-minute changes to documentation.</td>
<td>Completed</td>
<td>6/6/07 1</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Risk Priorities**

ESP built its Quality Project Management methodology around the tenets of the Project Management Institute (PMI), a certifying body for project managers. Within PMI’s methodology are six stages of project management. These are defined and discussed in their relationship to education agency projects in ESP’s Optimal Reference Guide, *Why 70% of Government IT Projects Fail—Quality Project Management for Education Agencies*. Here, our interest is when within these phases is risk most significant. Figure 12 illustrates the changing priority of the four Capacity Factors of risk across the six stages. Figure 13 illustrates the changes for the Delivery Factors.

Capacity factors vary widely in their risk profile across the implementation phases. Funding is significant before the project begins and when the bills become due during implementation; however, expertise is a significant risk at every stage.

Delivery factors vary less dramatically, increasing in importance as the project progresses.

A skilled project manager with expertise in education agency projects will understand these cycles and ensure that risk factors receive due attention at their crucial stages.
Figure 12: Risk Mitigation Priority

Figure 13: Risk Mitigation Priority
Conclusion

Risks should not be downplayed. Decision makers should not merely be reassured that all will be fine. Both these strategies by project managers have caused decision makers to be reluctant, hesitant, and over-cautious. All these characteristics are dysfunctional to the implementation of an IS project that has definite timelines and high expectations. The success strategy advocated here is for the project managers to be the ones proclaiming the risks, ensuring every risk is known and acknowledged. When this strategy is accompanied by a well-crafted risk-mitigation plan that is published and monitored continually, successful implementation is more likely.

Risk will always accompany an IS project. Identifying and understanding the significance of each risk is the shared responsibility of the education agency and a contractor. ESP has thought carefully about our role in risk mitigation to ensure that we are valuable partners in the success of every IS project we implement. In the final analysis, the benefits to the students served by the education agency will always be the primary focus when assessing the risk-benefit equation of any IS project.
ESP RISK Assessment Matrix

**Probability:** To assess likelihood you should ask the following: Given the current situation is there a low, medium, or high likelihood that the risk will be realized and become an actual problem?

**Impact:** The assessment of impact and the specific definition created for "low," "medium," and "high" should consider impact from several perspectives including:

- Damages and liability (e.g., financial, health and safety, environmental, legal)
- Operational effects (e.g., disruption in service, loss of knowledge, under-achievement of corporate objectives)
- Credibility loss (related to the USED, SEA, districts, schools, vendors, other stakeholders, the public, and legislators)

**Example of a Risk Matrix**

Here is an example illustration of a "Risk Matrix." Note that the areas identified as "acceptable" or "unacceptable" will vary depending upon how the scales for "probability" and "impact" were defined and what level of risk education agency is willing to accept.

- **Acceptable Risk:** No further education agency action is required.
- **Marginal Risk:** those risks that should be looked at on a case by case basis to determine whether additional education agency efforts are required. The education agency will have to decide whether it is cost-effective to take further actions to mitigate this risk.
- **Unacceptable Risk:** The education agency must take some additional action to lower the risk.

**Definition of Probability:**

- Unlikely (The risk is unlikely to occur in the course of the IS project);
- Possible (The risk could possibly occur in the course of the IS project); and
- Expected (The risk is expected to occur in the course of the IS project)

**Definition of Impact:**

- Low (The consequence will create a challenge for the education agency that could be easily rectified with reasonable resources);
- Medium (The consequence will create some problems for education agency that will require moderate effort and resources to rectify.); and
- High (The consequence will create major damage that will require significant education agency effort and resources to rectify.)

**Definition of Status:** Descriptor of the current status of the risk mitigation strategy planned, ongoing, not ready, not completed, in progress, complete.

“You've got to jump off cliffs all the time and build your wings on the way down.”

**ANNE DILLARD**
ATTACHMENT A – Security Risk Resources

This ORG specializes in risk analysis during the implementation phases of an IS project. After the project has been launched, a different perspective on risk emerges. This attachment provides some of the resources focused on operations and maintenance that were found during our preparation of this ORG.

The Software Engineering Institute, Carnegie Mellon University, developed the OCTAVESM Method, which can be explored at http://www.cert.org/octave/methodintro.html.


Security risks are a priority in the banking and other industries. ESP has found the recommendations of the American Bankers Association to be useful in this area. In addition, these other references are often cited by other agencies and organizations.

Recommended Resources for IS Risk Assessment and Information Security by the American Bankers Association

Common Criteria (International Standards Organization (ISO) 17799): The common criteria represents an international standard for testing the effectiveness of most security systems. Information about the criteria can be found on the Internet at: www.commoncriteria.org, however, a copy of the criteria must be purchased from the ISO (their web site is at: www.iso.org).


SysTrust: Developed by the American Institute of Certified Public Accountants and the Canadian Institute of Chartered Public Accountants and available on the Internet at: www.aicpa.org/assurance/systrust/index.htm. SysTrust provides a framework for evaluating controls for information systems assurance.


Other Recommended Web Sites for General Information
Security Information

Industry and Professional Associations (including Academic Institutions)

- CSI (Computer Security Institute): http://www.gocsi.com
- SANS Institute: http://www.sans.org
- CIS (Center for Internet Security): www.cisecurity.org
- FS/ISAC (Financial Services Information Sharing and Analysis Center): www.fsisac.com
- BITS (Technology Subgroup of the Financial Services Roundtable): www.bitsinfo.org
- CERT (Computer Emergency Response Team): www.cert.org
- CERIAS (Center for Education and Research in Information Assurance and Security): www.cerias.purdue.edu
- NT BugTraq: http://www.ntbugtraq.com

U.S. Government and Law Enforcement Organizations

- NIPC (National Infrastructure Protection Center): www.nipc.gov
- InfraGard: www.infragard.net
- National Institute of Standards and Technology: www.nist.gov
- Computer Security Resource Center: csrc.nist.gov
Marketing Your Field of Dreams – The Process of Obtaining and Sustaining Buy-In

Project Management Series – Part III
Contributors

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Ms. Andrepont is a highly experienced IT/MIS senior executive who earned a national reputation for her work with the Louisiana Department of Education. She has over 30 years experience working at the state education agency level as well as valuable experience consulting with the National Center for Education Statistics (NCES) and the Council of Chief State School Officers (CCSSO).

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Mr. Goodman serves as a senior project manager at ESP Solutions Group. He coordinates a majority of ESP client projects, related workflow, and deliverables. He has over 8 years of experience in project management and earned his PMP (Project Management Professional) certification in 2005.

STEVEN KING
Mr. King has extensive knowledge of the data management and coordination needs of state education agencies and school districts. He spent 20 years at the Wyoming Department of Education coordinating data collection and reporting activities across all federal and state education program areas. His current responsibilities include project design and direction, data system architecture planning, data analysis, and strategy for local, state, and Federal education agencies. He is a project director on many of ESP client engagements and serves on the Board of Directors of the Schools Interoperability Framework.

LEE TACK, PH.D
Dr. Leeland Tack provides expert advice in financial data collection and reporting to clients of ESP. He also serves as a resource on implementing course code classification systems. Dr. Tack has been an advocate for quality education and access to quality information for decision making throughout his career. He spent thirty five years working for the Iowa Department of Education, seventeen of which he supervised the bureaus of information technology, school finance, statistics, internal operations, planning, research and evaluation.

ANNE-MARIE HART
Mrs. Hart has over 11 years of experience developing marketing communication plans for various industries. She currently serves as ESP’s Marketing Director. With thorough, hands-on experience managing projects from concept to completion, she coordinates all of the marketing and event activities for the company. Mrs. Hart is highly skilled at message crafting, marketing communication strategy, and event planning.
Foreword
By Glynn D. Ligon

Buy-in from the stakeholders is becoming the consensus key to success for a technology project. An education agency must be proactive in building buy-in, but some are reluctant to do so. There are many positive steps that can be taken to achieve that elevated state of stakeholder support we refer to as buy-in. This Optimal Reference Guide (ORG) explores those in an interview format with our ESP professionals who have been on all sides of IT projects.

The reality I keep reminding myself of is that we shouldn’t expect users of a new IT solution to give it more priority than they do to their daily work demands. Every new project competes for time and energy with on-going work that doesn’t go away or get done by someone else. The promise of great future time savings just isn’t too compelling to someone who has work with a deadline on the desktop today. The policy and legislative decision makers required to fund a project also have competing priorities. At budget time, how can they value an IT project over “direct instructional expenditures”?

With the varied perspectives of those contributing to this ORG, Anne-Marie Hart, ESP’s Marketing Director, has taken on the challenges education agencies face. From the legislature to the classroom, everyone deserves a clear case for investing in a new technology. She also explores the time dimension—needing to market a new project from start to finish. Her approach is refreshing as well. The insights are presented as interviews, which they actually were, with our staff.

The ideas presented here may be traditional—after all, education agencies are traditional. However, readers should always be looking to the future to accomplish the same goals for buy-in through more wiki, collaborative, viral, web-centric technologies. The reality is that today, we don’t have exemplars of those emerging collaborative processes to hold out as best practices for education agencies. That will change. As it does, we’ll update our guidance.
Selling a Project

IT Projects do not sell themselves. They need buy-in at every stage—from funding to planning to production. There is a lot that education agencies can do to help obtain buy-in, but it is an area which is often overlooked, put off, or even dismissed. For those education agencies who forgo obtaining buy-in, we issue this caution—without the proper buy-in from stakeholders, your beloved IT project will fail.

Buy-in can be achieved by using standard marketing tactics. This Optimal Reference Guide answers common questions about marketing practices. First and foremost, education agencies need to understand that marketing is not just to or for end-users. The marketing lifecycle needs to begin with gaining support for initial funding, sustaining project enthusiasm during implementation, and end with the adoption of the project by all.

Every IT project needs a project plan that details the specifics of the implementation (testing, training, etc.). But few project managers have the foresight to include a marketing plan within their overall project plan. A well-defined marketing plan is an important tool that will help build the proper momentum needed for a project’s acceptance and ultimate success.

Q: How can a project meet agency and statewide goals/needs?

You know your project is a good idea. You know other education agencies are moving forward with similar technology projects or others have already purchased hardware and software to move their technology project forward. But there is a sense that the need to “build it” has not caught on. This is where the difference between communicating and marketing is significant.

Administrators, boards, and other staff may be aware of the technology project that has been proposed or is being implemented but they may not have thought about how the project should be reflected in their goals and priorities. A few questions to ask are:

- Where does this technology project fit into our department’s or district’s goals?
- How will this technology initiative help achieve our goals?
- Do the goals need to be reviewed, expanded, modified to reflect how this and other technology projects will be needed to achieve the desired outcomes?
- When education agency budgets are presented to legislators or governor’s office staff, is the significant expenditure for a technology project goal-driven?
Q: How do you make sure data systems compete as a priority for funding?

It is important to know the priorities and how your pet IT project supports those goals. Often, an IT project is presented as a stand-alone effort without discussing the benefits that will accrue from implementation. Your project will also need to show how it aligns with the overall direction and effort of your organization.

For example, state education agencies are asking school districts to focus on improving student performance. While SEA’s can’t improve student performance, they should be focusing their efforts on facilitating district improvements and minimizing the distractions. Efforts to streamline data collection, improve data quality, improve the timeliness of reporting, and providing action reports to teachers are all efforts that align with the overall stated goal of assisting improvement of student performance.

Steve King, ESP’s Vice President and former Director of Data Management for the Wyoming Department of Education, got the WISE (Wyoming Integrated Statewide Education Data System) effort in place and funded by expanding the scope. Building a SIF solution only to solve state reporting needs was impossible to justify. It was easy to find horror stories of the efforts school districts had for sharing data amongst their own applications. If they solved that problem, state reporting could be solved almost as a side effect.

It was important to understand the problems and issues the local districts had. By listening to districts and getting them to understand they were trying to solve a joint problem, they gained their strong support. They were partners in developing a solution for everyone. Districts were the main advocates for the system with the Legislature.

Traditionally, legislatures want to serve and support their local school districts. In fiscally conservative times they need to show their cutting education along with everything else. State departments are often the target where education funding can be cut without hurting local districts. Getting districts to advocate for an SEA project is highly valuable.

It’s also important to remind ourselves that from a taxpayer standpoint, whether tax dollars go to districts or the state does not matter. The hurt to the pocketbook is the same. Consolidating efforts at the state or regional level to gain the benefits from the economies of scale can go a long way. Also, many technical projects require a level of technical expertise that can often be most efficiently deployed at a regional or state level.

Legislators are receptive to arguments of efficiency, coordination, and service to districts, schools, and teachers.
Q: How do education agencies manage administration change and sell the project to the new regime?

New administrations—whether the state education agency, the state education board, local school boards and district offices, governors and/or legislators—come into office, evaluate projects and directions, and make decisions about their priorities. Because longitudinal projects are indeed long-term efforts for the education enterprise, project success depends on having project strategies to bridge administrations. Large and complex projects can be targets because the project is often associated with contracts, positions, specific costs, and funding streams. Each of those characteristics raises visibility.

The project with a wide variety of constituents and colleagues as project partners has many spokespersons that are both knowledgeable and often are in the right places to communicate with the incoming administrations.

Continually involving and preparing these partners to actually “own” project direction and successes allows them to participate actively in communicating needs and value of your shared efforts. Having easily accessible and up-to-date project publications and documentation will assist those partners to quickly and consistently bring the project message to new administrations.

Q: How does an education agency ensure participation in their project?

There is really no way to ensure participation. Of course, users can be mandated to use the technology that is born from the project. Often this causes resentment and resistance to change. The best way to encourage participation, even if the new technology is mandated, is through frequent communication of the benefits.
If You Build It, Will They Come?

This is a question that every project management team at an education agency should ask themselves when starting a new technology project. Whether your project is large or small, it involves a lot of time, money, and resources to get it off the ground successfully.

A few of the major risks in every technology project are lack of awareness, lack of funding, and lack of buy-in (see ESP’s Optimal Reference Guide, From Risk to Reward – A Guide to Risk Management for Education Agencies). Any of these risks can slow down a project’s progress or even stop it in its tracks. A well-defined marketing communication plan can reduce these risks and build excitement at the earliest stages of a project, facilitate a project’s acceptance, and increase internal communication.
Targeting the Right Audience

One of the first steps in any marketing communication plan is to define the characteristics of your audience.

Q: What type of audiences should be considered in a marketing communication plan?

If it’s a state-level technology project, the different audiences might be:
• LEA and SEA users
• administrators
• state board
• legislators and their staff
• governor’s office staff
• education associations
• the public

If it’s a local-level technology project, the different audiences might be:
• users
• administrators
• local board
• parents
• the public

Q: Why is targeting an audience important for a marketing communication plan?

Defining an audience is key to understanding how to communicate effectively to the people, or groups of people, that will be impacted by the project. Some groups will be impacted differently and knowing their differences and defining their characteristics will help deliver the right message in a way that they will respond best. Different groups have different needs and will therefore respond favorably to messages that are directly relevant to them.

Q: How can education agencies effectively communicate with their audience?

It’s all about getting the right message to the right audience. The focus of the marketing messages may need to vary given the role and responsibilities of each audience. For example, within an SEA project, funding and support from the legislature and the Governor may need to be focused on ROI (return on investment). While the focus for the LEA user will be less on funding and more on the system’s functionality.

You should start by listing the various groups of people that will be impacted by the project, then list their characteristics as a group. This is typically referred to as user group or stakeholder analysis. Addressing stakeholder needs up front is essential to any project’s success. Some of the questions to ask include:
• What are the stakeholder needs?
• Are the stakeholders technically inclined?
• Are they concerned with budgets?
• Are they resistant to change?

Listing the group’s characteristics will help you make decisions on the type of messaging and tactics that will be best suited for them. Below is “The Innovation Adoption Curve” (Everett Rogers). It can help project management teams understand their audiences better and further delineate them. The Adoption Curve uses characteristics of groups to explain the rate at which new technology is embraced.

Innovators jump head-first into new technology. They pride themselves on being the first to embrace new technology. They are important to any marketing communication plan because they can kick-start viral marketing (word-of-mouth through social networks).

Early Adopters are open to new technology, although more careful than Innovators.

Early Majority are still careful but tend to accept new technology only if it is proven to work and provide value.

Late Majority are skeptics and only use new products when they are used by the majority.

Laggards are critical about new ideas and wait to adopt new technology until it becomes mainstream.

Q: What are the advantages of putting in place an advisory group? Should every project have one?

Even small projects should implement a project governance or advisory group. (see ESP’s Optimal Reference Guide, Why 70% of Government IT Projects Fail – Quality Project Management for Education Agencies). By instituting a project advisory group that is representative of the overall user group, the project management team is better able to gain advocates, garner project needs, and market and encourage early adopter involvement in pilots as an opportunity and a vehicle for system and process improvement.
Once the advisory group is implemented it is important to coordinate regular communications and schedule regular meetings to update and solicit feedback on plans, encourage further participation, manage expectations, and “forecast” next steps and plans for project expansion.

**Q: Who else should be involved at the beginning stages of a project?**

District personnel who are directly involved with the project should be engaged at the start of a project. They can be used to present on behalf of the project at regional and statewide meetings. According to Lee Tack, an ESP Consultant and former Division Administrator of Financial and Information Services at the Iowa Department of Education, “District personnel became our advocates. It was important to have district personnel telling their peers about our projects; not just state agency staff. Thus, our projects became viewed as the State doing something for them, and not to them.” See Appendix A: An Iowa Case Study, for more information.
Communication Tactics

Communication tactics are vehicles that can be used to get an audience their intended message. It is best to start by brainstorming ideas that will help effectively communicate with your audience. All ideas should be considered and documented.

We’ve listed a few tactics you can use to reach out to your audience, but don’t just go with the ideas we’ve presented here, use the actions that make most sense to you and your situation.

**Q: Will the same tactics work for all audiences?**

Actually, not equally well. As with messaging, it’s advisable to have a strategy for different groups within your audience.

Email Campaigns

**Q: What are the advantages of using an email campaign in the marketing communication plan?**

Email campaigns are easy to set up and require virtually no budget. Email contacts are made valuable with frequent, short project updates. Because this communication method is immediate, the information given is the most current. In contrast, direct mail has a lead time between the time it is sent and when the audience receives it, in which time the information may become outdated.

**Q: What are the costs of deploying an email campaign?**

As mentioned above, one of the benefits of an email campaign is that the costs are low. Depending on the size of the project’s audience, email campaigns require little effort. If the audience is large and varied, there are email marketing services available that provide list management, campaign management, and branding. Some of the more popular services are Constant Contact, www.constantcontact.com, and My Emma, www.myemma.com. Both have reasonable monthly fees and provide success metrics on each campaign sent.

Direct Mail

**Q: What exactly is “Direct Mail?”**

The term “Direct Mail” is used as a general term by marketing professionals. It is a way to reach your audience directly through a printed form of communication. Examples include letters, postcards, newsletters, flyers, brochures, etc. This practice is often used by education agencies to formally communicate official updates and expectations to relevant administrators and staff.

**Q: How well does direct mail work?**
If a project’s audience is well defined, the response rate using direct mail can be good. For a high response rate, plan to use a combination of communication methods to reach your audience, such as email plus direct mail, or direct mail plus stakeholder meetings.

The challenge of direct mail is creating something that will stand out from the clutter of direct mail they already receive.

**Q: How much does direct mail cost?**

This really depends on the size of the audience and the quality of the materials produced. Forms of direct mail including letters, newsletters, flyers, brochures etc.

**Conferences/Stakeholder Meetings**

**Q: Should I schedule separate meetings to discuss the project with my audience?**

Yes, it is highly recommended that project management teams undertaking large-scale technology initiatives institute regularly scheduled project update meetings with the various stakeholder groups. Implementing a new IT project is no time to hold back information; in fact, it is the time to “over communicate.”

As addressed earlier in this paper, it is extremely important and never too early to implement a project governance or advisory group. The institution of an advisory group allows the project management team to gain advocates, better understand and document project needs, and truly utilize the “what’s in it for me” model by encouraging early adopter involvement in pilots as an opportunity and a vehicle for system and process improvement. Once the advisory group is established, it is important to continue to schedule regular meetings that update stakeholders and solicit feedback on plans, encourage further participation, manage expectations, and "forecast" next steps.

During the meetings the focus should be on clearly explaining the project, communicating the need for the project, building excitement, sharing the timeline, and describing how you plan to continue to communicate with the advisory group regarding project updates (through meetings, email, direct mail, etc.).

**Q: Can conferences play a part in a marketing communication strategy?**

Conferences are essential to any marketing strategy. The presentations at conferences allow for knowledge transfer and formal project updates that might not occur otherwise. Conferences also allow stakeholders to share their experience with their colleagues.

A good practice for the project management team is to engage district personnel who are involved in the project to present at regional and statewide meetings. This allows the advisory group members to address their peers as the
future users of the system. By doing this the project team moves from having to “sell” the project to enabling the early adopters and advisory group members to advocate for the project with their colleagues.

**Training**

Training is most likely already accounted for in your project plan, but it can also be a powerful marketing communication tool.

**Q: How does training qualify as marketing?**

Training creates awareness of the project. Just letting people know that they will be required to attend training can be the spark that will encourage discussions within a given audience. Training also helps an audience understand the benefits of the project first-hand.

It is essential to always explain the benefits and “big picture” of the project to your audience during training so that these benefits become “sound bites” used by early adopters to relate their experience to others.

By providing training to both vendors and end-users alike, the project management team creates buy-in and collaboration. Over time as the commitment and readiness to move ahead with the new system creates alignment across the district or state, it is the frequency of successful training that provides both a preparedness and capacity for use.

**Q: Training can be very costly, what are the alternatives to traditional training methods?**

ESP has had a lot of success with Train-the-Trainer models, as well as with online training (WebEx, Elluminate). Both of which tend to be more economical than the classic training method of vendor supplied onsite/face-to-face training.

**Media Coverage**

**Q: How do we get media coverage?**

Most media coverage is kicked-off by a press release. A press release is a news synopsis that announces a newsworthy event to gain favorable attention from the media. Press releases can come from any source; education agencies, vendors, standards associations, stakeholder groups, etc. Most of the time, the vendor with whom you are working with on the project will ask if they can write a press release. Press releases from vendors usually cover the award of the new project, meeting a major milestone, or declaring the project’s success. The vendor may ask the education agency to approve the final version of a press release before it is distributed to the media. Some require prior approval of any public announcement.

If you decide to write a press release on your own, start by defining the audience to whom you are writing and determine the messaging that will get their attention.
Q: Is media coverage necessary?

Projects don’t need media coverage. But if drawing attention to the project outside of your immediate audience is a goal, consider adding press releases to your marketing communication plan.

Conducting Pilots

Q: What are the basic goals of a pilot?

The first is clearly to reduce user burden and generate “buzz.” Pilots help to find and work out problems, if any, before burdening the larger user population with them. The next, maybe just as important is to build your group of advocates—at the very least generate some testimonials that discuss how the initial burden is worth the overall benefits. Pilots also have the side benefit of buying additional time to get the full implementation executed successfully.

There are pilots conducted to make a real “go, no go” decision. Some other pilots are conducted with alternative solutions and the intent to pick one or more for full implementation.

At times, education agencies conduct a pilot before even determining whether or not they want to go ahead with actual procurement and implementation. Tom Ogle from the Missouri Department of Elementary and Secondary Education calls these “pilettes”—not quite a pilot.

A smart pilot occurs when time is a luxury and includes all potential users. A pilot year or period allows everyone to test out the new system without severe consequences for the user, the system, or the sponsoring agency. These pilots are typically run in parallel with an existing system upon which the agency relies for official data.

Q: Selecting pilot participants seems very straightforward. Is it?

Not at all. In fact, because pilots have different goals, the selection of pilot participants needs to be done with care to achieve those goals.

Q: What are the different pilot strategies that you’ve seen successfully followed?

The different piloting strategies available to a project management team includes utilizing volunteers, random or representative samples, the schools or districts that are most likely to be successful, the most competent participants, politically correct choices, and others. The bottom line is, don’t be tied into thinking that a pilot has to be a true representative slice of the universe, because it does not. In fact, a successful pilot is probably more important than a representative pilot.
All that said, it is often desirable, if time and budget permits, to select from a representative group of early adopters. This can include but is not limited to varying technical, environmental, demographic, and geographic representation.

By definition, a pilot is a guide. To field test means to test in actual situations reflecting intended use. In practice, the difference in meanings is much less important than establishing up front in a pilot what the intended purpose is. If everything is decided, and the pilot is to work out all the details, by all means pick a representative set of participants. However, if the pilot is to demonstrate proof of concept, not to refine tactics, then choose participants that are likely to be successful. This latter approach is not at all deceiving if everyone is clear about the purpose of selecting them.

Q: Are pilots even necessary?

Unless there’s a definitive mandate for implementation to occur a certain way or by a certain time, a pilot almost always makes sense. Working off the rough edges with a few close friends means only a small number of people experience the unforeseen and at times really dumb things that get done or overlooked when a new system starts.

Q: Would you recommend a pilot if time allows?

Yes, a carefully orchestrated pilot is one of the best strategies to achieve widespread buy-in for a technology project.
When to Market?

Q: When do I need to start planning a marketing communication strategy?

After clearly defining the need for the project, project managers should begin thinking about ways to use marketing to sell the project. Start by developing a marketing communication plan targeted at policy groups and stakeholders, whose buy-in will be integral for securing funding and approvals.

Q: Is the marketing performed throughout the life of the project or at certain select times?

There will be specific opportune times when the project management team will want to deploy their plan. This timeline should be based around milestones that are already included in the project plan.

In general, it is best to keep thinking about marketing opportunities throughout the project’s lifecycle. Some marketing ideas will form during and even after the launch of a new technology project.

Q: Are there specific tools that should be used for scheduling marketing tactics?

Use the same tools that are used to put the project plan together. Marketing activities can be placed directly into the project plan’s calendar. Don’t forget to include start and end dates, who’s responsible, etc.
Budgeting

Q: What percent of the overall technology project budget do you recommend be targeted for buy-in?

100% because it’s all about buy-in. Seriously though, we can’t answer this question with a percent. If we’re talking about a total budget of $500,000 for a statewide rollout, the percent would need to be high compared to a $25,000,000 project with the same number of users.

We recommend that an education agency think in terms of the activities required and the cost to deliver each of them in their own context. ESP recently explored this issue with the District of Columbia’s new state-level office. They are not likely to budget travel costs for statewide training sessions like in Wyoming where most attendees have no choice but to spend the night. Alaska or Hawaii must use more planes and boats for a meeting event than Missouri would. On the other hand, parking in DC and Honolulu is expensive, but may be free in Cheyenne and Juneau. I know, you can’t drive to Juneau, but you can take your car on a ferry.

Q: What activities should be budgeted?

In addition to the standard activities such as training, support, and materials, I’d include some that have been successful in other states. Iowa has conducted statewide data quality conferences supported by funding from the National Center for Education Statistics. Many states and districts have their own annual conferences that provide a great opportunity to present, demonstrate, and ballyhoo.

Leveraging the conferences of other agencies and associations is cost effective. Business officials, teachers, administrators, school board members, and many other groups meet at least annually. They are often looking for program sessions and speakers who can inform their constituents of the latest requirements and opportunities. In some cases, sending people to a vendor’s user conference can boost understanding and appreciation of the product that’s at the heart of the solution being implemented. An excellent buy-in activity is visiting other states or districts that are implementing a similar project.

A professionally produced video might reach a wide audience and make a lasting impression. Don’t discount the impact of brochures, videos, and logo items. The legitimacy and institutional endorsement of a new project can be established through the judicious spreading of freebees. Educators have looked down on these tactics in the past, but part of that has been the in-fighting over funds and the poor quality of the marketing items produced. There’s no substitute for local wisdom and judgment in these cases.
Q: How much should I set aside for my budget?

Ask around to people within your own agency or a similar one. Regional differences and differences across types of technology projects are too great to balance in a single answer. The budget for buy-in should match the importance of the project. However, the table below provides a sample budget that anyone can take and argue with, edit heavily, or merely tweak.

<table>
<thead>
<tr>
<th>Budget Item</th>
<th>Cost</th>
<th>Breakout</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot</td>
<td>$150,000</td>
<td>Staff&lt;br&gt;Travel &amp; expenses&lt;br&gt;Training&lt;br&gt;Support</td>
</tr>
<tr>
<td>Training</td>
<td>$250,000</td>
<td>200 LEAs&lt;br&gt;Travel for 2 for each to 2 meetings&lt;br&gt;Facilities, food, &amp; drinks&lt;br&gt;Substitutes or temporary workers&lt;br&gt;Facilitators, speakers, staff</td>
</tr>
<tr>
<td>Sponsored Conference</td>
<td>$100,000</td>
<td>Facilities, food, &amp; drinks&lt;br&gt;Facilitators, speakers, staff&lt;br&gt;Travel &amp; expenses</td>
</tr>
<tr>
<td>Other Conferences</td>
<td>$50,000</td>
<td>Staff preparation &amp; presentations&lt;br&gt;Travel &amp; Expenses&lt;br&gt;Sponsorship &amp; Freebees</td>
</tr>
<tr>
<td>Visitations to Other Sites</td>
<td>$50,000</td>
<td>On-site visitation to other SEAs or LEAs with similar implementations</td>
</tr>
<tr>
<td>Materials</td>
<td>$100,000</td>
<td>Brochures&lt;br&gt;Videos&lt;br&gt;Freebees&lt;br&gt;Printed Guides&lt;br&gt;Staff</td>
</tr>
<tr>
<td>Stakeholder Meetings</td>
<td>$50,000</td>
<td>Travel for 25 to 2 meetings&lt;br&gt;Facilities, food, &amp; drinks&lt;br&gt;Substitutes or temporary workers&lt;br&gt;Facilitators, speakers, staff</td>
</tr>
<tr>
<td>Support</td>
<td>$250,000</td>
<td>Year 2 on-line, telephone&lt;br&gt;On-site assistance for struggling participants</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$1,000,000</strong></td>
<td>Assumes 200 LEAs participating in a statewide implementation</td>
</tr>
</tbody>
</table>
Measuring Success

Even though this is the last subject in our Optimal Reference Guide, it should be one of the first things discussed.

Q: How do I know if my marketing plan was successful?

A project manager needs to set expectations about what kind of overall effect they desire from this effort – is it a buy-in percentage? Is it maintaining a high level of communication with the audience? Once these questions are answered, the team can decide what metrics will be used to measure them.

Q: If my goals weren’t met, what do I do next?

There still might be an opportunity to market a project after it’s launched. First, assess why your plan didn’t produce the expected results and start over.
Conclusion

Attention education agencies! You cannot assume that people will flock to your project simply because you think it’s a good idea. An effort must be made early on to obtain buy-in from administration, stakeholders, users, etc. Simply launching a technology project does not constitute its success. Success would be launching a project that people are well informed of and excited about.

All it takes is a little marketing know-how to boost your project. We’ve provided some ideas for you to use in this Optimal Reference Guide. Furthermore, you should start the dialogue with colleagues and other education agencies. Ask them about marketing techniques they’ve used and what did/didn’t work for them. Listen for this topic at conferences. Ask the question of those that have completed similar projects. Some may call it a buy-in plan or a communication plan, but we’ll know what they are really talking about—Marketing.
Appendix A: An Iowa Case Study

When the Iowa Department of Education undertook a project to collect data directly from the student information systems of school districts they realized that they had as many communication and political challenges ahead of them as they had technology challenges. The initiative, named Project EASIER (Electronic Access System for Iowa Education Records), was designed to leverage the technology of student information systems by having districts send individual student records directly to the department and eventually link those records with other information through the use of a unique student identifier. Although districts had used their student information systems for tasks such as scheduling, grade reporting, providing transcripts, etc., sending individual student records directly to the State to fulfill reporting requirements was a concept that was not only new to staff in many districts but also an idea about which district staff and others had reservations.

From the onset of the project, an advisory group consisting of three committees was created. The three committees focused on technology, policy, and content with representatives from the public and private schools, principals, superintendents, information technology staff, higher education, and representatives from the associations such as teachers, school boards, administrators, and parents.

Although the advisory committee was not formed to “sell” the project, the individual committee members became ambassadors for the project. The advisory committee, in addition to providing advice, also gave assurance to districts and others that the department was listening.

The advisory group was essential to the project but not sufficient to move the project from vision to reality across the state. Several strategies were actually used to sell the project. Awareness and support through accurate and consistent communications to a variety of audiences were determined to be essential for statewide project success. The department decided that they needed to describe details, demonstrating what the project was all about and what it was not. They also determined that they needed to demonstrate support for the project with selected endorsements. And they needed a consistent message.

One part of the selling strategy was preparing a short (eight minute) video for use by department staff and committee members to describe the project and its purpose/goals and to provide a brochure that would be a ready and consistent reference. The video provided a clear and consistent message through graphics and statements from key individuals. The video was a mix of talking heads and a demonstration of what project EASIER would accomplish. The video included a series of interviews with district staff directly involved with student information systems, district administrators, higher education registrars and admission officers and the director of the department of education.

The project experienced initial success quickly moving from six pilot districts in year one to 19 districts in year two. To further expand the project to voluntary statewide adoption, a second video, again less than ten minutes, was produced restating the vision and purpose. The second video again used interviews with staff directly involved in the pilot districts and updated the graphics to reflect current technology
and participation. The videos and a one page brochure were also used with legislators and executive branch staffs to describe the project, tell a story, and have it told by someone other than department staff.

Prior to NCLB, participation in Project EASIER was voluntary and limited by districts’ interest in participating and by limits on state and local resources. There was also a time when growth had to be limited to districts that were ready. The department established criteria to determine if a district had information system, staff, and resources such that they could successfully participate in the initiative. The criteria became a means to communicate what districts needed to do and eventually prepare them for meeting the reporting requirements under NCLB. Reflecting back on project success, several key factors seem to have made a difference: good communication to a variety of audiences, strong department support to early innovators/adopters, strong endorsements by districts involved in the project, and transfer of project ownership from the department to participating districts.
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- The Data Quality Manual, Data Quality Series—Part II

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- Actions Speak Louder than Data
- From Information to Insight—The Point of Indicators
- Aligning Indicators and Actions
- Data Management Strategy for States and Districts
- Defining Data
- Management of a Education Information System
- Our Vision for D3M
- Using Assessment Results to Get Performance Results
- Why Eva Baker Doesn’t Seem to Understand Accountability—The Politimetrics of Accountability

Longitudinal Data Systems
- D3M Framework for Building a Longitudinal Data System
- The Dash between PK and 20: A Roadmap for PK-20 Longitudinal Data Systems
- What’s Really “In Store” for Your Data Warehouse? Data Warehouse Series—Part I
- What’s Behind Your Data Warehouse, Data Warehouse Series—Part II
- Accessing Student Records in a State Longitudinal Database, Data Warehouse Series—Part III

Project Management
- Why 70% of Government IT Projects Fail, Project Management Series—Part I
- Marketing Your Field of Dreams, Project Management Series—Part III

Electronic Transcripts
- Electronic Student Records and Transcripts: The SEA Imperative
- Why Your State Needs a PK-20 Electronic Record/Transcript System

Standards
- Articulating the Case for Course Numbers
- Confidentiality and Reliability Rules for Reporting Education Data
- FERPA: Catch 1 through 22
- Graduation Rates: Failing Schools or Failing Formulas?
- National Education Data Standardization Efforts
- Racial/Ethnic Data Reporting in Education
- Recommended Data Elements for EDEN Reporting
- Revisions to FERPA Guidance

Trends in Education
- Data-Driven Decision Making 2016
- How Education Information Fared in the Last Decade
- IT Defined…for the Educator
- Why My Space Matters to the K-12 Space

Student/Staff Identifiers
- Requirements for an RFP for Student Identifiers
- Statewide Student Identifier Systems

Disaster Prevention & Recovery
- Disaster Prevention and Recovery for School System Technology

Growth Models
- Growth Model Growing Pains, Growth Model Series—Part I
- Comparison of Growth and Value-Add Models, Growth Model Series—Part II
- Making a Year’s Growth and Performing on Grade Level: Muddled Definitions and Expectations, Growth Model Series—Part III
- Growth Models—Finding Real Gains