

A Pacific Edge Software

White Paper

June 2006

THE ROAD TO IT GOVERNANCE EXCELLENCE

**How BYU Established Its Award Winning
IT Governance Structure as a Foundation for
Improving the Business Value of IT**

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Best IT Governance Structure



The Road to IT Governance Excellence

Founded in 1875, Brigham Young University (BYU) is recognized today for its extensive language programs, talented performing arts ensembles, outstanding sports programs and devotion to combining solid scholarship with the principles of the church. Offering more than 200 academic programs through 11 colleges and schools in Provo, UT and 17 affiliated campuses worldwide, the university enrolls nearly 30,000 on-campus students and 313,000 classroom and online students worldwide.

BYU's Office of Information Technology (OIT) is organized in support of the university's major academic and business processes. In 2001, in an effort to improve customer satisfaction, and continue to better align IT expenditures with the values of the university and the church, the OIT established the Enterprise Project Management Office (EPjM). The OIT and EPjM share in the common goal of ensuring all activities within OIT are performed with an attitude of customer responsiveness and cost consciousness, guaranteeing that all technology products and services are reliable and secure. The development of a new IT governance framework was fundamental in defining the role of EPjM in particular, and OIT's success overall.

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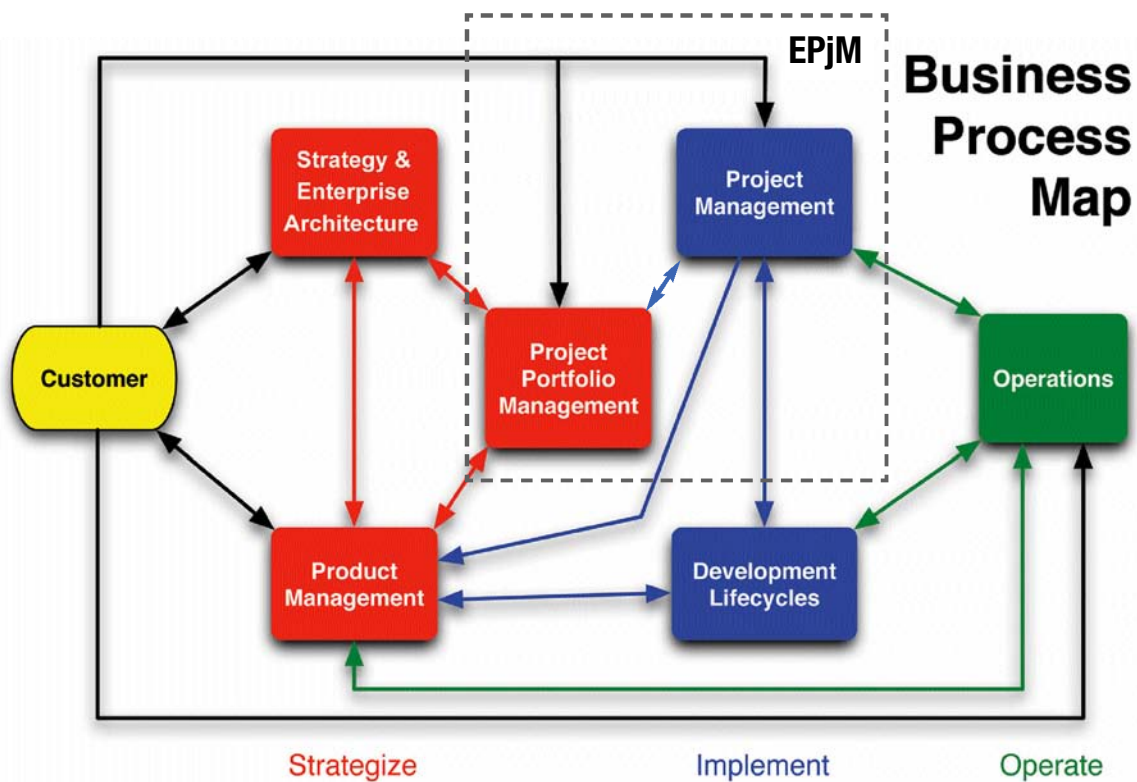
The Challenge

Upon formation, EPjM accepted responsibility for elevating the standards for management and delivery of projects. The team quickly recognized, however, that BYU OIT did not have a clear picture of the relationship between new projects and existing application and infrastructure assets. Lists of projects seemed to come from any number of sources. And with no objective means to prioritize the projects, allocation of resources was relatively ad-hoc. Managers often worked out conflicts simply to satisfy the "squeakiest wheel."

Though eager to accept a central role in the IT governance process, the EPjM team found it virtually impossible to collect and publish reliable project information to their business partners. Also, the broader IT governance issues made it very difficult to create an environment of predictable, consistent project delivery.

Establishing the Foundation

As a basis for improvement, BYU developed a new IT governance framework that extended well beyond the execution of projects. The framework helped OIT understand the role projects play by defining and mapping the relationships between Strategy, Implementation, and Operations (Figure 1). Defining the processes laid the necessary groundwork for defining the role of the PMO. It helped to narrow the scope of the project portfolio management process as the point where strategic and operational priorities are enforced and resources allocated. The IT governance framework also clarified the role of product management, helping to focus the way in which product managers work with their business stakeholders to manage the lifecycle of OIT's applications, services and supporting technologies that collectively comprise the "product portfolio."



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Figure 1: IT Governance Business Process Map

Following is a description of each of the elements of the IT Governance Business Process Map and their relationships to one another:

Strategy and Enterprise Architecture

IT organizations that seek to align their decisions with business strategy must start by communicating their own strategic objectives as simply and clearly as possible. The importance of this exercise is often overlooked, and the outcome often looks more like a service level agreement than a mission statement. Alignment with the business starts at the top with a shared understanding of the strategic role IT plays in support of the business.

Theory of Conscious Alignment



Explicit and managed alignment of actual resource utilization with the stated strategic objectives of the organization.

Product Management

For business users, IT is simply about the portfolio of products and services that IT delivers. The product portfolio is relatively static, with product costs and benefits accruing until the product is replaced or retired. Products should be mapped to business process and measured in terms of business value, providing an important context for making resource and project decisions. Because of their direct relationship to the business, projects to upgrade and enhance them are more easily prioritized. The product portfolio is the context for all of the project and services performed by IT.

Project Portfolio Management

Too often, organizations try to consolidate product and project lifecycles into a single framework. In fact they are very different, and establishing product management actually clarifies the role of projects and the project portfolio. Projects are the mechanism for changing and enhancing products in the product portfolio. At any time, there is a long list of active and proposed projects that will add, enhance or retire products in the product portfolio. The project portfolio process exists to simply prioritize, select and sequence the projects to optimize IT's limited resources. Key elements of a project portfolio management process include a project prioritization model, visibility into resource allocation, and standardized performance and status reporting metrics.

Project Management

The project management process charts a clear path for delivering projects, from planning, through execution and close. It's universal, in that it applies equally to any type of project. The process should be sequential so that project managers and team members always know where they are in the processes and understand the next steps. That's not to say project managers won't revisit steps along the way. In fact, they will iterate through the steps many times, updating scope, plans and resource schedules as changes dictate. With a sequential process, each time the scope is changed, downstream planning steps will be revisited, ensuring task plans, risk plans and communication plans reflect the changes.

Development Lifecycles

The development lifecycle is the way in which engineers develop new products, or enhancements to existing products. While the work is typically managed and tracked as one or more projects, the development lifecycle should not be confused with the project lifecycle. Standard process development processes define and measure progress through phases of development such as Investigation, Design, Build, Test and Deploy. The use of a standard development process is critical to efficiently building high quality products.

Operations

Operations provides a structured framework for how the organization goes about it's work of running, securing and maintaining IT products. Whether based on ITIL, COBIT, ISO or uniquely defined by the organization itself, well structured operational processes enable organizations to achieve mission-critical system reliability, availability, supportability, and manageability of IT products and services.

Driving Organizational Adoption

Implementing change within an academic environment can be challenging. Unlike corporate America, universities are measured not by quarterly returns and financial growth, but by educational excellence, tradition, and in BYU's case, support and alignment with values embodied by the church. The staff and educators at BYU have extensive backgrounds and experience working at the university, and careers of service to the university typically span decades. Therefore, implementing process change and innovation has to be managed very carefully.

Fortunately, BYU has the advantage of a uniquely strong culture of service and support for others that leads to a very healthy environment to incubate ideas for improvement and change. The approach BYU took in implementing the changes necessary to adopt the new IT Governance Framework followed a set of key elements:

- **Involvement:** All management staff, senior staff members and key stakeholders were included in the development of the IT Governance Framework. Through the process of shared development, the outcome was a product of the community and therefore, was considered less foreign or new when implemented.

- **Consistent Communication of the Vision:** Throughout the collaborative process of development and implementation, a simple yet powerful vision was established that continues to endure and encapsulate all changes. Tireless and consistent communication of the vision has ensured that everyone is headed in the right direction.
- **Incremental Advances and Shared Benefits:** Equipped with a holistic vision, the implementation was broken into incremental steps - each with specific objectives, but no strict timeline. The approach was neither “top-down” nor “bottom-up” in nature but focused on balancing shared benefits and maturing processes at all levels.
- **Flexibility for different rates of adoption:** While many groups were early supporters and eagerly adopted changes, others were not prepared for large-scale changes. The chosen approach emphasized flexibility to support groups at different maturity levels and did not force lock-step adoption.
- **Order in Implementation:** The leadership team determined early in the initiative that process work needed to be done first, followed by personnel considerations such as skills training and organization. Process and people considerations were followed by the selection of supporting tools that were customized to meet the process and people requirements.

The end result was outstanding levels of buy-in and support as evidenced by the university-wide adoption.

Automating the Process

Piloting the process with an internally developed system, BYU developed a set of on-line dashboards that provided visibility into the product portfolio, the project portfolio and the allocation of resources across each. Once in place, however, demands on the pilot system started to grow and BYU's maturing processes started to push the upper limits of their internally developed systems.

After reviewing all the Project and Portfolio Management products on the market, BYU selected Pacific Edge software because it gave them the flexibility to adjust their use of the software depending on the maturity of different organizations within BYU. This has been critical to gaining end-user adoption. Advanced practitioners can take advantage of sophisticated capabilities to publish their project plans and create dashboards while less mature users can stick to the basics. Meanwhile, whole groups are free to tailor the product to meet their specific needs.

Now, product managers maintain a complete product lifecycle focus on the products they manage. They submit requests for projects to enhance their products and implement new products in their portfolio using a consistent, automated process. Those requests are

organized and prioritized to make optimal use of OIT resources. **The conceptual lynch pin in this structure is clear separation of the project lifecycle from the product lifecycle.** This simple, yet powerful concept has dramatically simplified the investment decision processes, leading to project prioritization processes that can be easily managed and automated.

	Strategy/ Objective		Proposal Criteria	Proposal Scoring Anchors
1	Optimize the use of resources	1	Does it reduce unnecessary/ likely system redundancy, hard costs, and cycle time?	4 = unnecessary/likely redundancy and cycle time 2 = unnecessary/likely redundancy or cycle time -and- ▲ if it decreases identifiable hard costs ▼ if it increases identifiable hard costs
2	Improvement of reliability and integrity	1.5	Does it respond to the immediacy of need and the dimensions of integrity?	5 = urgent 3 = pressing need 1 = not urgent -and- 4 = system and process (data) integrity 2 = system or process (data) integrity
3	Increased effectiveness and accessibility	1	Does it enable or improve the ability of the user/provider to do what they need to do?	5 = user and provider 3 = either one 1 = neither one
4	Seamless and interoperable technology	1	Does it easily integrate with the proposed architecture / standards / other products?	5 = supports the architecture /relatively easy to implement 3 = moves towards the new architecture / modifications to existing infrastructure required 1 = does not comply with the architecture / major modifications required to the infrastructure
5	Reach/supports our customer-consumer base	1	How broad? How varied? How many users?	5 = extends beyond BYU-Provo campus 4 = BYU-Provo, or large subsets of multiple campuses 3 = supports a large subset of BYU-P 2 = supports a smaller subset of BYU-P 1 = supports a very small subset of BYU-P
6	Appropriate technical risk	1	Is this moving toward evidenced best practices?	5 = Evidence of benefit and transferability 3 = Evidence of benefit but no evidence of transferability 1 = No evidence of benefit

Figure 2: The BYU project prioritization model is simple and transparently applied so all stakeholders understand how projects are ranked and selected.

The power of the prioritization model lies in its simplicity. There are only six scoring criteria and each uses a simple 1-5 scale. The scoring model is communicated to all project stakeholders so that all would-be project requestors understand which of their project requests are likely to be approved. This has a self-regulating effect on the process. If their project does not stack up against others already in the portfolio, they have an opportunity to adjust the scope to improve its alignment or simply shelve the project for a future date.

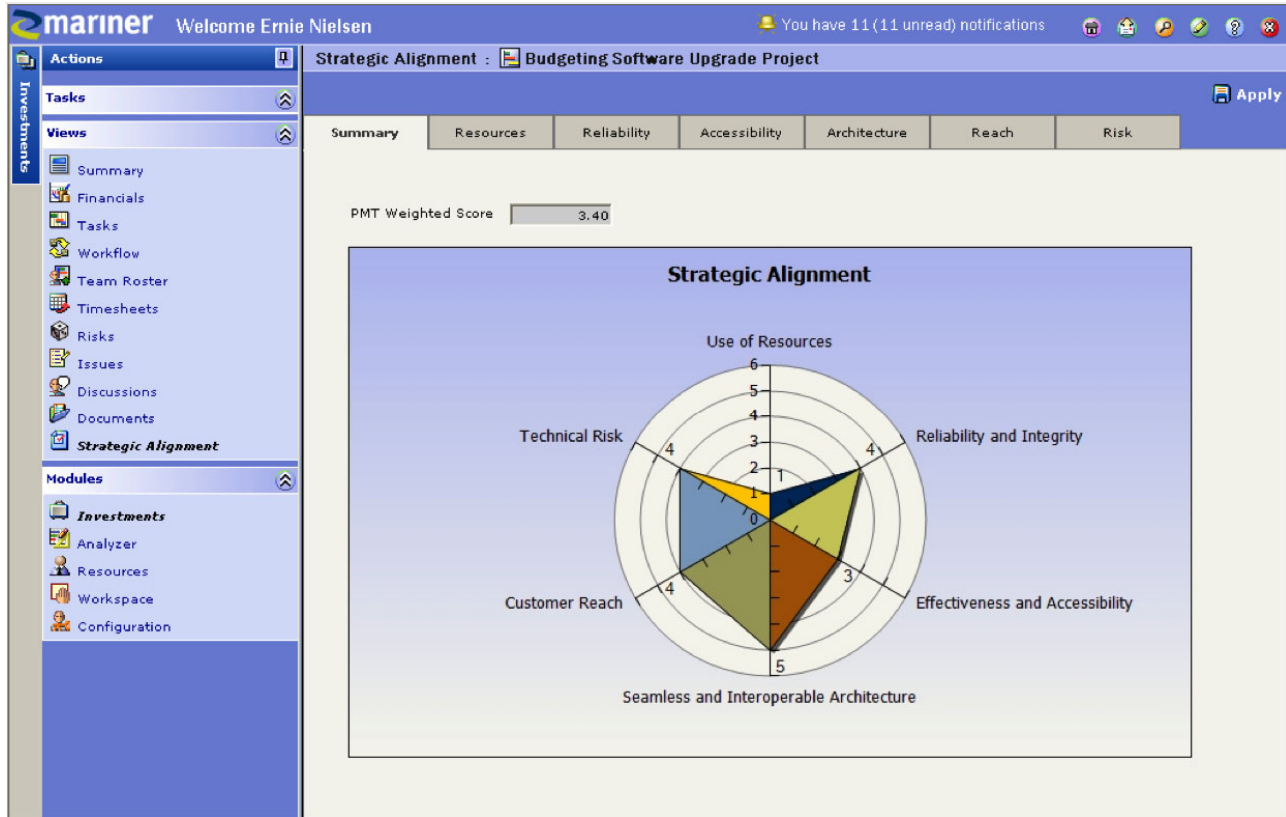


Figure 3: Example of the BYU project prioritization scoring model implemented in Pacific Edge Mariner.

Since the project prioritization scoring model is fully automated with Pacific Edge Mariner, projects are always listed in priority order and work assignments are adjusted based on current priorities. New, high-valued project requests are quickly prioritized and adjustments to the portfolio can be made on the same day. Allocation of resources and changes to assigned priorities can be updated in minutes instead of days, allowing OIT to respond much more quickly to shifting priorities than was possible before implementing Mariner.

Results from Initial Maturity

Established in 2001, the Enterprise Project Management Office now extends well beyond IT to support University-wide initiatives such as:

- Training and consulting support for KBYU, BYU TV, and BYU Radio - the University's cable television and Radio networks
- Project Management training and consulting to the IT department of sister campuses, including BYU-Idaho and BYU-Hawaii
- Project and Portfolio Management training and support to the Center for Instructional Design
- Project Management Process Model and Guide published and used as a textbook for the Marriott School of Management
- Business process development and maturity support inside and outside the IT organization

With OIT's leadership, PPM processes are used in each customer-business partner organization. Under the guidance of the EPJM, the processes that support effective implementation of strategic initiatives have been defined and implemented, while reducing the cost of implementation each year for the past three years. Some of the currently recognized benefits include:

- **Project work priorities are based on strategic value, not time urgency.** With a direct link between products and the business strategies they support, new projects fall in priority order very naturally and resources are dynamically allocated accordingly. Based on a real-time dashboard that highlights project health relative to resource, schedule and scope, OIT is able to manage a broad range of projects and effectively communicate status to business stakeholders.

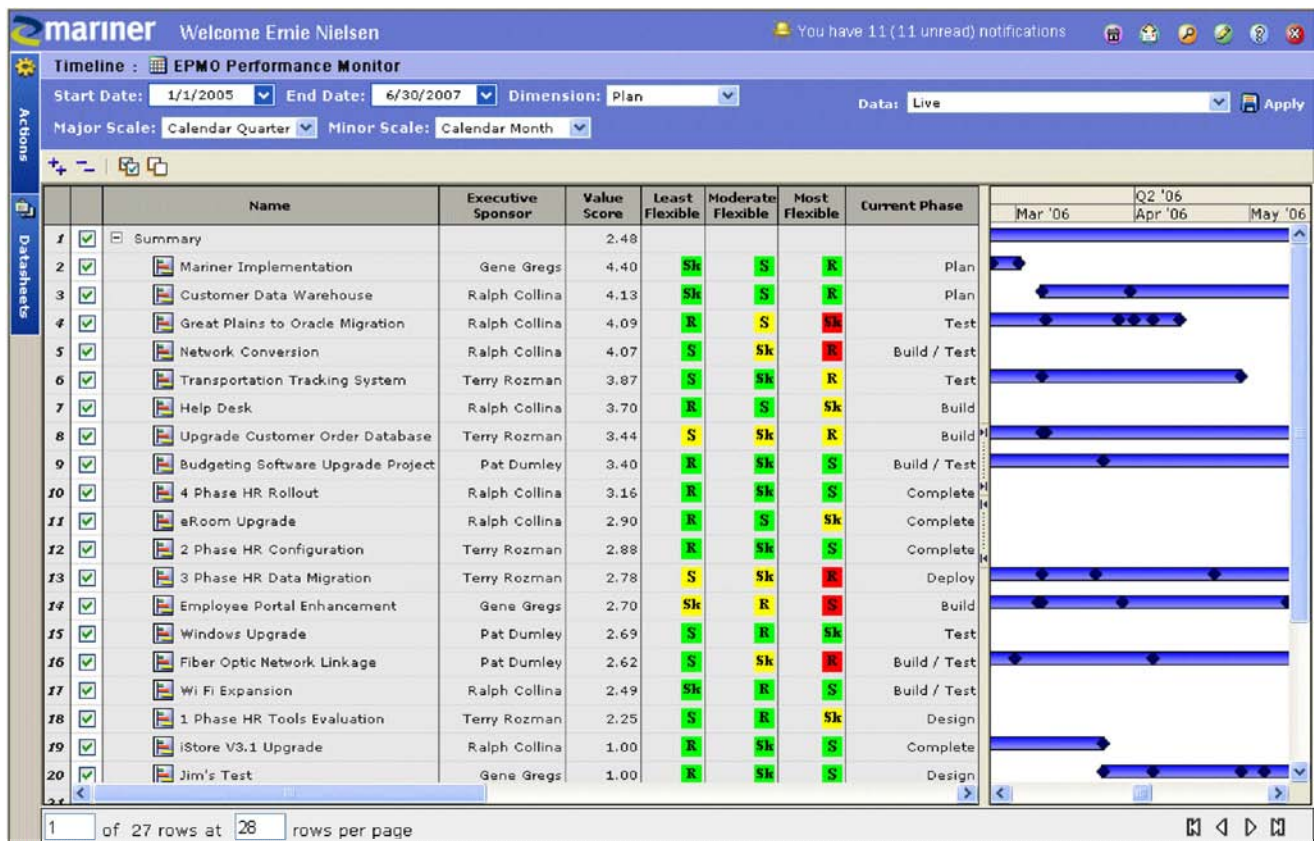


Figure 4: Example of the BYU project portfolio dashboard view, simultaneously indicating relative flexibility and status of Scope(S), Schedule(Sk) and Resources(R), as implemented in Pacific Edge Mariner.


- **Cost of the annual budgeting process has been reduced by 84%.** Moving to automated portfolio management has reduced the time it takes to produce an annual budget from 9 months to 6 weeks by eliminating the costly and time consuming inventory process. Projects are now captured throughout the year so all new and existing projects are already known when the budgeting process starts.

- **Cost of the PMO has been reduced by 47%, while increasing the scope of responsibility.** With the help of automation and clearly defined and enforced processes, much of the manual effort and management oversight provided by the project management office has been eliminated.
- **VPs take an active role in enterprise portfolio management.** The success and reach of the program has helped to elevate the program's visibility. The VP Council, which includes the executive academic, student services, financial, physical facilities, development, and technology leadership, now acts as the Portfolio Governance Team.

Moving Beyond the Project Portfolio

In step with the academic calendar, the summer months provide an opportunity to assess progress and revise strategic plans. With processes and systems in place for comprehensive management of the project portfolio, BYU OIT set their sights on two new objectives to further improve IT efficiency:

1. **Account for the 40-hour work week:** Through the implementation of Pacific Edge Software, time spent on projects had been captured for more than two years, but there was no direct capture of the non-project time OIT staff spent to maintain and support IT products. Without this component, IT management was lacking visibility into the actual cost of maintaining the products in the portfolio.
2. **Automate Management of the Product Portfolio:** While the project portfolio management processes were fully automated with the Pacific Edge solution, the product portfolio was still largely managed with spreadsheets which had reached their useful limits. Automation was needed to summarize implementation and enhancement costs as well as allocate on-going maintenance and support costs of OIT's products.

Less than 30 days from making the decision to move forward on these objectives, BYU successfully deployed Pacific Edge Mariner as their unified IT Governance application for managing project portfolio including the capture of 100% of OIT development and project management resource time. Through the remainder of the school year, OIT completed an implementation of product portfolio management and continues to fine tune the newly automated processes. Looking further down the road, the Mariner product will serve as a basis for further maturing BYU's IT Governance processes. 

ERNIE NIELSEN is the Managing Director for Enterprise Project Management at Brigham Young University. Under his guidance, the processes that support effective implementation of strategic initiatives have been defined and implemented, while reducing the cost of implementation each year for the past three years. Prior to joining the CIOs team at BYU, Ernie was the founding Director of the Stanford Advanced Project Management Program at Stanford University, which was awarded the Stanford Deans' Award for Innovative Industry Education in 2002. Since 1991, Ernie has worked with international Fortune 100 companies to establish effective IT governance processes. His work has been highlighted in CIO Magazine, Portfolio Knowledge, The Wall Street Journal, and HealthCare Finance. Ernie's efforts at BYU were most recently awarded the 2006 IQPC IT Financial Management Excellence Award for Best IT Governance Structure. Ernie has authored or co-authored 14 university level texts on project management, portfolio management, IT governance, interpersonal problem solving, and resource management. He lives in Utah with his wife, Sue, and their five wonderful children.

ABOUT PACIFIC EDGE

Pacific Edge flexibly combines portfolio, project, resource and financial management capabilities into an integrated framework. Unlike other solutions whose process workflow or bottom-up project management approaches are cumbersome and difficult to implement, Pacific Edge offers a balanced approach that ensures rapid results and sustained incremental value.

Since 1998, Pacific Edge software and services have helped organizations successfully align investments with business objectives and deliver projects on-time and on-budget.

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