

White Paper

The Hidden Costs of Outsourcing: Beware and Be Wise

Insight

Every day, more organizations are eagerly embracing the concept of offshore outsourcing to lower costs, increase efficiency and productivity, and enable employees to focus on the innovative, core endeavors that drive business forward.

IT departments have been early adaptors of outsourcing projects and services. Now manufacturers, original equipment manufacturers (OEM), original design manufacturers (ODM), independent software vendors (ISV), system integrators (SI), and value-added resellers (VAR) whose products rely on embedded software and hardware across countless industries are exploring the benefits of offshore outsourcing to stretch their R&D dollars.

After all, lower wages and higher productivity is a winning concept that should result in significant cost savings and improve a company's bottom line. Unfortunately, outsourcing projects don't always work that way. And at the end of a project, no CTO of a company wants to total up the costs and discover that the projected savings are not there.

R&D productivity depends less on tool and process improvement and more on sufficient human capital. Today's R&D organizations, overwhelmed with projects and faced with shrinking time-to-market deadlines, are recognizing the business imperative to benefit from a global R&D strategy that includes offshore outsourcing. But as the heart of the enterprise, the R&D department cannot afford to make costly outsourcing mistakes. The consequences to the enterprise are too grave.

Smart companies — aware that there may be hidden costs when outsourcing — recognize potential obstacles and take steps to circumvent them.

Cross-Cultural Communication Pitfalls

What we have here is a failure to communicate. No one wants to hear that, but at any stage of a development project, it can mean that the target completion date slips. With offshore outsourcing, miscommunication and cultural differences, even basic — “I just assumed that they understood that was one of the requirements” — misunderstandings can potentially undermine a project every step of the way.

Translation between languages can be tricky. An urban legend that still surfaces periodically claims that when President John Kennedy made his famous speech at the Berlin Wall¹ and proclaimed, “Ich bin ein Berliner,” the literal translation meant “I am a jelly doughnut” instead of “I am a citizen of Berlin.” Although that was a bad joke about an incident that did not happen, in reality, sometimes meaning is lost in translation.

One project manager was unhappy to get e-mails from the offshore team stating that they had “concerns.” However, the manager eventually learned that the offshore team wasn’t saying that the project manager’s directives wouldn’t work, but that they merely wanted clarification.

Cultural differences can also impact a project in seemingly harmless ways. For example, in some cultures questioning authority is frowned upon; even though the offshore team may have a better solution, they may not broach it and instead just follow the specs.

Time differences can cause a project to run into snags also. When questions arise, one team may have to wait until the team on the other side of the world wakes up. When either engine is idling, it’s burning fuel and wasting time. Both contribute to rising costs

It is important that an offshore vendor have personnel with a strong understanding of English and American culture in key positions to keep miscommunication to a minimum.

Milestone Missteps Raise Costs

Wasted time and missteps at any point of the product development cycle could result in creeping costs and missing the delivery date. Here’s an overview of the things to watch out for during the product development cycle.

► Strategic or crisis decision-making?

Ideally, the decision to use outsourcing should be made as part of a company’s strategic vision to create a new business paradigm of increased innovation and productivity, while reducing costs. Does your engineering department have the current resources to enable it to develop innovative new products or is it desperately rushing products out the door? Is integrating licensed third-party or M&A technologies into existing products taxing existing resources?

When you have to call a plumber immediately because the pipe burst and the basement is flooding, be prepared to pay extra. Too many companies wait until the water is rising before they call in extra help and then have to settle for the first plumber who will show up – not the best or the one most qualified.

▶ Pick cost-effective outsourcing projects

Although management may recognize the potential cost savings through offshore outsourcing, not all development projects make good candidates. First, take a careful look at what projects your teams are tasked with and your current processes and priorities. Then:

- Focus your internal team on the innovative, core competency work that challenges them.
- Delegate projects that can be completed in a shorter time frame or that are non-critical as pilots to help you evaluate an outsourcer's work.
- Group related projects or work that requires continuity to reduce the necessary ramp-up time and cost that the outsourcer will bill for.
- Commodity technology products are good candidates to be outsourced, although they may have special requirements. If the projects require quick, direct, and authoritative controls, the outsourcer will need to draw from the company's internal processes to ensure the work will still be controlled properly offshore.

▶ Outsourcers: One size does not fit all

Time and money are often spent evaluating and interviewing vendors that are not qualified to perform the specialized requirements of R&D embedded technology. Asking some hard questions up front can make the vendor selection process less costly.

- **Does the vendor have embedded systems expertise?**

Would you ask your primary care physician to perform your heart transplant? The development skills needed for a typical IT department project and those for a R&D department that works with embedded systems are not the same. Question if the outsourcer has expertise in embedded Linux, digital signal processors (DSP), FPGA, ASIC, communication stack, or mobile platforms and applications.

R&D product development is end market-driven and focuses on quality, time to market, feature sets, and cost of production. An IT outsourcer's expertise typically is with internal customer satisfaction and may not meet your expectations.

- **Does the vendor apply U.S. project management practices?**

For example, some companies discovered they had to pay a "people premium" because the vendor used the service model commonly used to service Japanese and Korean markets. This common model calls for the Japanese or Korean designers to first complete the architectural frameworks, with all components and interfaces precisely defined. The company in China then implemented the individual components, which are then integrated into the system by the Japanese or Korean team. The companies had to put extra resources on the pre-sourcing process, project management, and integration, thus increasing costs and resources.

- **Does the vendor have sufficient intellectual property safeguards in place?**

If something happens to your intellectual property, the cost can be astronomical. Investigate what security measures protect the outside and inside premises. For example, does the vendor have a bag check policy to ensure no copying devices enter or leave? Development teams should work in separate areas with restricted access, with each client's data stored on secure servers accessed only by authorized personnel and network traffic contained on a dedicated Ethernet network (LAN). Not only should employees be thoroughly screened, but the business culture itself should revere and accept only the highest ethical standards.

- **Does the vendor listen to your needs and respond with service contracts to meet them?**

For transaction-type services, the vendor should provide a standard contract that is straightforward and risk free so your project can get started quickly.

For long-term programs, a contract tailored to your requirements is necessary. Some points to consider: Is the arrangement flexible, with a reasonable exit clause? Is there an option to transfer ownership at project completion, if you desire?

▶ Hand-off Cost Headaches

There are costs associated with separating outsourced pieces from an organization; if the project transition isn't handled efficiently, costs escalate. Some of the major points to consider and plan for include:

- Freeze and preserve projects before separating the pieces
- Define the interface points to the segregated pieces
- Designate someone to interface with the outsourcer
- Define the process that feeds the outsourcing company with work requests and feedback (or else the offshore team sits idle)
- Transfer of technology (which can take time and patience)
- Identify internal resources and processes affected by the outsource change
- Realign people and teams
- Address potential employee dissatisfaction and objections
- Reposition the business to use outsourcing as a business transformation agent

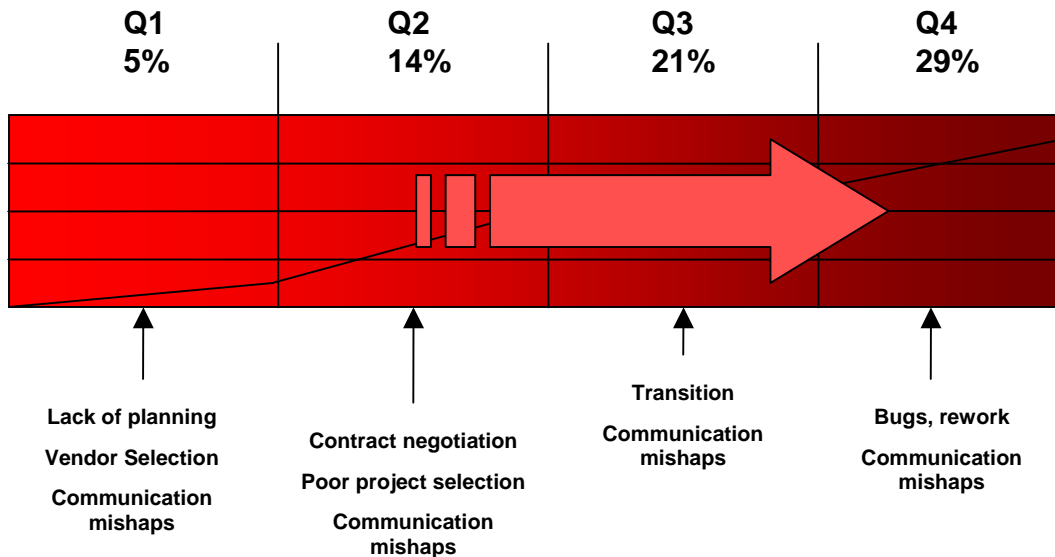
▶ Product Development Cycle Costs

The offshore development process still requires ongoing monitoring of results and deliveries, which incur costs, as do daily, weekly, and monthly reports, and face-to-face meetings, cross team visits, and any emergency meetings. To ensure inevitable costs don't get out of hand, consider points like these:

- Do project management methodologies conform to best practices in the U.S.?
- Does the vendor provide quantitative measurement to gauge the quality of service at any time during the development cycle? Is the reporting easy to understand? A 500 page document that no one reads is of no value.

- Is there full documentation on design, implementation, defects, performance, installation, and operation instruction? Are source files compact and optimized codes documented clearly? Cryptic comments are a potential source of problems.
- How is QA testing conducted? Does it include proper benchmarking? At acceptance testing, you don't want to discover the project has "quick and dirty code." Bugs and rework costs add up quickly.

Hidden Costs Add Up



Reap the Full Benefits of Offshore Outsourcing: Choose the Best Embedded Systems Vendor

There are many outsourcing vendors competing in the marketplace today. However, the technology requirement of delivering embedded system products is a challenge most outsourcers cannot meet. To ensure that your company realizes the greatest return on an R&D outsourcing investment, it is critical that due diligence includes the specific requirements of delivering software and hardware specifically for the embedded systems environment.

While offshore engineering wages of \$25 versus \$90 per hour in the U.S. are a persuasive bargain, wages are just a part of the equation. Many companies do not realize until too late that success realized through lower costs and greater productivity and efficiency depends on more than low hourly wages and technically competent personnel.

The majority of contributions to the cost of outsourcing are predictable. Some of them are readily apparent, while some are not. To choose the outsourcing vendor that will best align with a company's business goals, enterprises must weigh all of the costs of the total product development project and *then* make an informed decision.



The Long Circle Advantage: Intelligent Collaboration and Cost Control

At Long Circle, we focus on embedded and distributed product development. With our on-shore/off-shore business model, our U.S. team works closely with our U.S. clients on project definition and management, while our China Engineering Center of Excellence carries out the project. The advantage? Our clients realize a significant cost advantage through offshore development, while retaining the benefits of collaboration, communication, and control with the development team.

As a customer-centric company, Long Circle goes beyond satisfying basic service needs. We want to become your partner. We leverage our expertise to help streamline your business process and we organize and energize our people around this goal. We pride ourselves on our ability to scale up and down quickly, our low cost structure, our broad technical skill sets, and our total embrace of change. By combining our customers' domain expertise with our engineering service excellence, the result is a whole that is greater than the parts.

¹ John F. Kennedy Library and Museum

About the Author

Hayden Hong, the founder and CEO of Long Circle, has over a decade of outsourcing and consulting experience. Prior to founding Long Circle, Hong was the president and founder of MacaoDude, a consulting firm that counts among its clients Motorola, Nortel, and various high technology companies in the Boston 128 area. In 2005, Hong merged the two companies to provide U.S. companies with low-risk, convenient access to China's engineering talent, manufacturing industry, and emerging markets. His background includes managing U.S.–China offshore R&D projects for GE, as well as management positions at Broad Reach Communications, a GE partner. Hong received a MSEE degree from Purdue University and a BSEE degree from Northeastern University, graduating magna cum laude. To learn more about Long Circle, visit <http://www.longcircle.com>.

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