
SOFTWARE

PRODUCT SUPPORT

AND

MAINTENANCE OUTSOURCING

Prepared By



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EXECUTIVE SUMMARY

- ▶ 72%: percentage of software product companies who will release a new product each year
- ▶ 9 months: s/w product life cycle
- ▶ < 10%: success rate of new products
- ▶ 60%: average percentage of maintenance costs to the total cost in the product life-cycle
- ▶ \$USD 173,397 million: size of global s/w product market
- ▶ “Innovate or Perish”: CEO’s new mantra

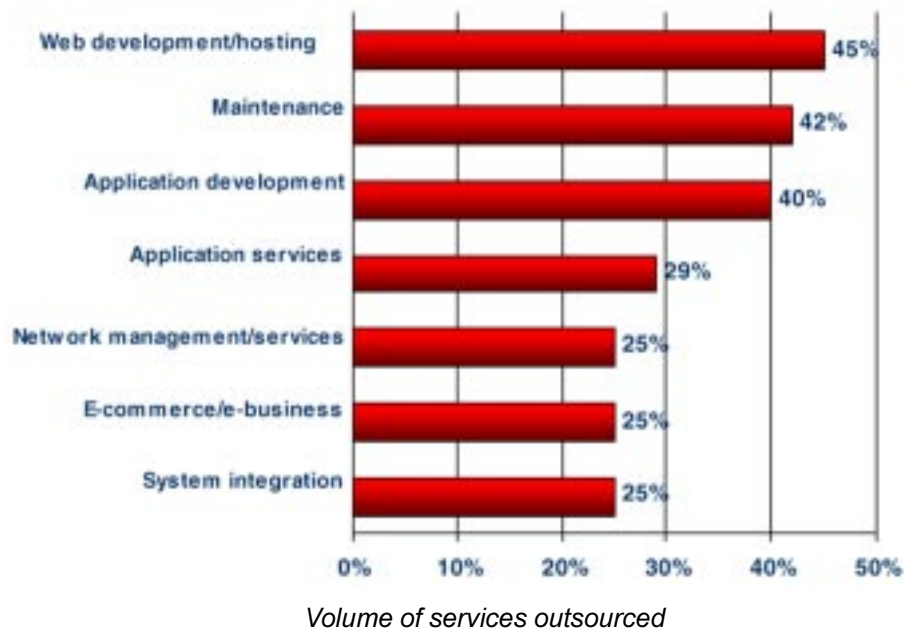
Support and Maintenance of a software product intended for a long operational life poses special management problems and covers aspects such as maintenance releases, upgrading and new releases. The support and maintenance phase of the product life-cycle is widely recognized as, not only the highest, but also the most critical cost for any software product company, looking at continued profits over a span of time. Gibson [1] notes that typical software product companies devote, in many cases, in excess of 50% of their total programming effort to support and maintenance (including upgrades). In view of the spiraling costs associated with support, several software product companies like Microsoft and Oracle, have realized the benefits associated with outsourcing the support of their products to offshore destinations like India, Ireland and the Philippines. Some of the support functions being outsourced by product development companies include code maintenance, bug fixing, version management, help desk, software upgrades, software optimization, feature enhancement, testing, software auditing, GUI modification (localization), interfaces development to other applications and porting to different architectures and operating systems. The nature of the outsourcing industry has changed, with companies becoming more quality conscious and demanding a lot more accountability from their vendors.

The concept of outsourcing has evolved from mere “cost-effectiveness” and now represents a critical part of many software product companies’ global strategy. This has enabled product companies to focus on their core activity of new product design and development.

INTRODUCTION

Heavy or light, old or new, delivering and supporting software products has been a maddening challenge full of paradox and ambiguity. Whether your company delivers a wireless solution containing millions of lines of code, or a shrink-wrapped software product, or an in-house CRM application to internal customers, you are all in the product business, or more precisely, in the solutions business within which software products are an ever-growing piece

Customers are demanding enhanced and latest products, with more features at a lesser cost. Competitors are vying for the same market space and eager to attract unsatisfied customers and take over the companies’ market space. With products becoming outdated at an ever-faster pace, product companies are having to invest more effort and money on market trends and address its customers’ needs squarely, to come out with new-generation products that satisfy the customers’ wants and desires. Now, companies are looking at alternatives by which they can upgrade their products faster, give total customer satisfaction and bring down the price at the same time.



It has become increasingly clear to product development companies that support and maintenance of their products is a critical activity. This includes upgrades and other changes which have to be made quickly and effectively, while maintaining the quality of the product.

Typically, problem requests associated with maintenance needs require faster turnaround times and consume up to 50% of the total cost of product development, over the life cycle. This necessitates a re-think for software product companies, for which many of them are turning to outsourcing

The phrase may be relatively new but the concept is not: Outsourcing support and maintenance activities has been around since corporations first contracted with other companies to outsource their payroll function. It was non-core, non-critical processes like these that started companies on the way to the support and product outsourcing we see used by many software product companies of today. The opportunity to have such services provided better and economical by people who specialized in those fields easily overcame the fear of losing control. By the time of the “Internet” revolution of the 1990s, many businesses found that outsourcing support and maintenance could play a key role in breaking down traditional corporate hierarchies and allowing companies to restructure around their core processes. During the same period, the premium placed on speed in modern business increased with the net. Whether or not companies embraced the potential of “e-business,” they found that the new technology in the hands of their suppliers, customers, and competitors had compressed business cycles. That means companies no longer had the time—let alone the capital, in many cases—for support and maintenance activities that involved allocation of their scarce development resources. With dwindling resources, management also no longer could juggle the twin competing demands of enhanced value through superior support and maintenance and developing the next upgrade for new release. If high-speed and high quality weren’t demanding enough, they must be satisfied in an environment of constant turbulence in both business and technology. All these and more led to software product companies slowly, but steadily, embracing offshore outsourcing. Companies like British Airways, HSBC, GE, have outsourced most of their operations.

Another prime driver behind the increasing number of software product companies, which are outsourcing their support and maintenance functions, is the old cliché, “Success too soon, too fast”. If a company’s product does succeed, the demand to come out with the next version or another product becomes overwhelming and the consequent pressure on the development staff takes its toll on support and maintenance activities

In summary, some of the specific challenges being faced by software product companies are:

- ▶ A combination of constant upgrades Internet-time competition or “running faster just to stay in the same place”
- ▶ Staffing issues
- ▶ Development staff becoming support staff
- ▶ Customization for individual clients eat up resources

The solution: a new, more comprehensive Internet-enabled approach to support and maintenance, that drives down costs, while improving efficiency

THE SOLUTION – OUTSOURCING

“Products are not built, they evolve”

A successful long-term product life cycle is feature-driven. This means focusing on customer value and then building on that. A classic example is Microsoft’s strategy for its products. Most companies are not able to do this for they are caught between developing newer versions and supporting their current installation

Several product companies who outsourced their support and maintenance functions have demonstrated rapid growth. Companies with rapidly expanding market share or Mergers and Acquisitions strategies have been quick to appreciate the time-to-value advantages of outsourcing their support and maintenance activities. That’s because, like a good car, product support and maintenance outsourcing offers companies the opportunity for smooth, rapid acceleration. The outsourcing is scaleable, that is, the provider has the ability to expand services promptly at minimal cost. In this regard, the Everest Group has published valuable research into the tremendous cost savings of up to 50% associated with offshore outsourcing by companies such as Tracmail. Fortune 500 companies such as Microsoft and Oracle have been taking advantage of the cost differentials and have contracted world-class offshore support and maintenance centers for their products

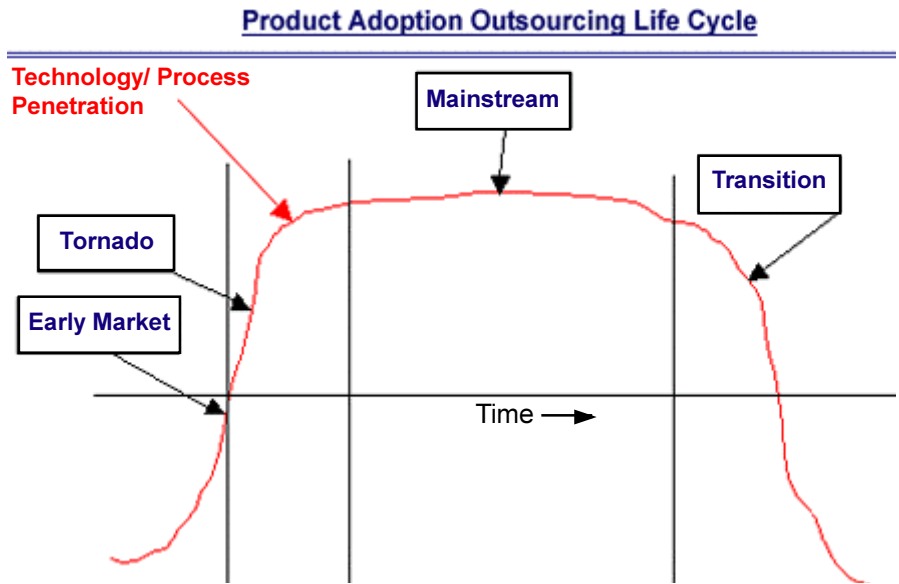
In the recent past, a measured approach to offshore outsourcing of software application activities has paid rich dividends to many. The same approach, when applied to outsourcing support and maintenance functions has been found helpful. This is explained by the long-term nature of support and maintenance activities and their correspondingly, greater share as a percentage of total product cost (over full life cycle)

Peter Bendor-Samuel has developed a definitive model for a Product Adoption Outsourcing Life Cycle as illustrated in the graph below

He argues that with the exception of the Early Market Stage, in each of the preceding stages right up to the end of the product life cycle and beyond, outsourcing is and must be a critical component of any company's strategy. The authors of this white paper opine that 'Maintenance' is a good way to test the waters of outsourcing, eventually paving the way for a broader relationship

The key to successful outsourcing is a slow and measured build-up. As discussed later in this paper, effective outsourcing of support and maintenance activities

depends on a phased approach to all the various facets, such as knowledge transfer, trust building, mirroring processes and so on. Today's global networked world has led to the development of support and maintenance centers, which could be tens of thousands of miles from the customer. The next time you call your software vendors 1-800 line for support, the Samantha attending to your call is actually a Shilpa sitting in New Delhi, India or an Imelda sitting in the Philippines



THE CHALLENGES OF OUTSOURCING

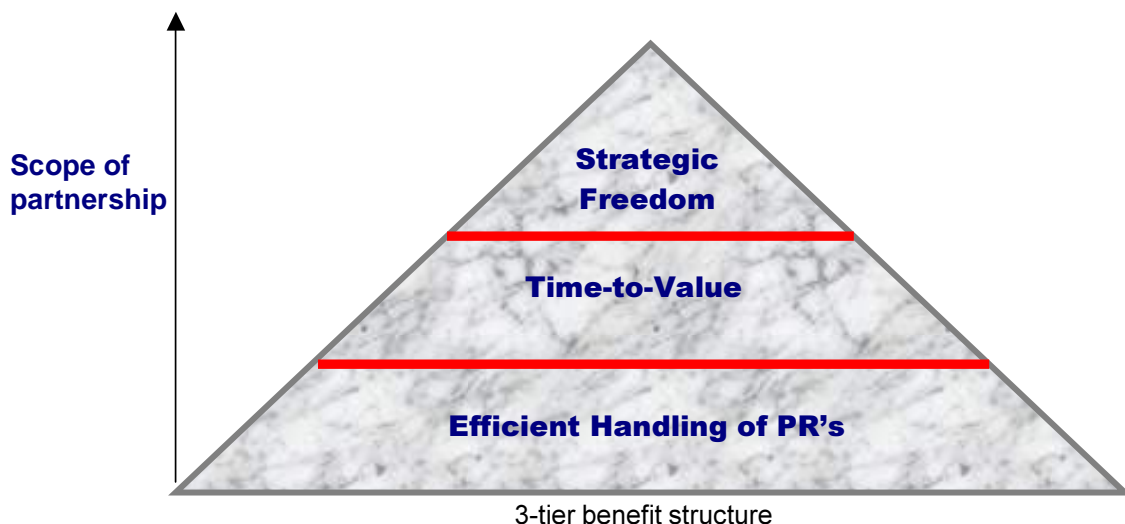
Outsourcing support and maintenance functions is still a perilous activity fraught with complexity, unseen dangers and many traps for the unwary. However, like all such exercises the potential rewards are staggering. Some of the potential pot-holes to be negotiated while deciding to outsource support and maintenance functions for a product are:

- ▶ Knowledge transfer
- ▶ Sharing of responsibility in remote management
- ▶ Fear of placing paying clients in the hands of outsourcing vendors
- ▶ Service Level Agreements
- ▶ Adherence to quality standards

In the case of offshore outsourcing, two additional factors creep in:

- ▶ Managing social and cultural difference and,
- ▶ Language incompatibility

THE BENEFITS OF OUTSOURCING



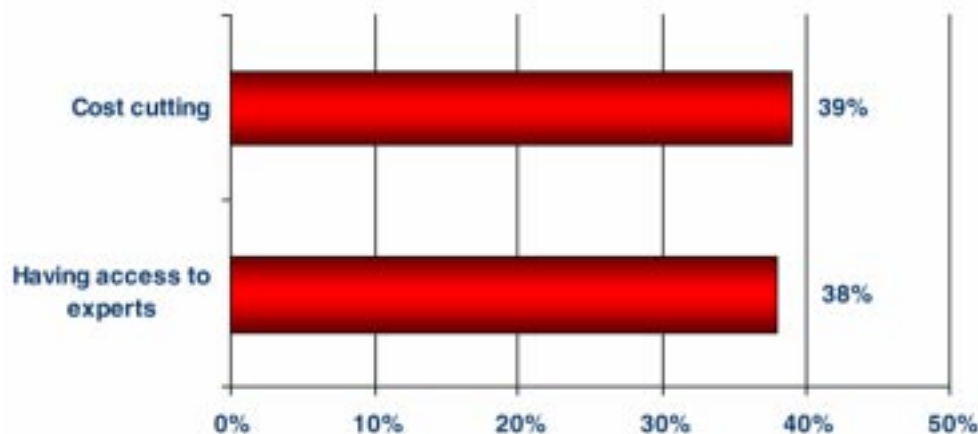
Consider the competitive advantages of product outsourcing to be a pyramid. At the base of the pyramid is the reliable and efficient handling of support and maintenance requests. Moving up the pyramid of benefits, the next level savings and competitive advantages offered by improved “time-to-value”. A product-outsourcing vendor offers ready access to a tier one support and maintenance platform and the skilled personnel required to make it work. Finally at the top of the pyramid, comes the freedom product outsourcing provides for strategic decision-making.

This pyramid also has another axis, namely that of the increasing scope of the partnership between the client and the vendor. Starting with a basic relationship where the vendor is mainly responsible for small problem resolution and moving up to bug fixing and then developing upgrades to a full fledged development partner the width and breadth of the outsourcing relationship is vast

Some of the other potential rewards are

1. Free core resources and Focus on core business

By outsourcing their operational activities, the software product companies can concentrate on market dynamics instead of the product dynamics. Companies can focus on their core businesses by having operational functions taken over by an outside expert, freeing resources on fulfilling customer’s needs. With a strong customer focus, companies can get better market-oriented products and focus on areas that add value to the product; like marketing and R&D



Key reasons for outsourcing,
Computerworld,
2001

2. Respond faster to market opportunities

Outsourcing ensures that project cycles are cut down and timely releases ensured. The offshore model ensures this with simultaneous guarantee of reduced costs. This helps the companies in gaining a competitive edge and the first mover advantage in their market space. By hastening the release of new products and versions, companies ensure that they have a competitive edge in:

- ▶ Time-to-Market: The fastest to market gets the mind-share of the customers.
- ▶ Time-to-Respond: The fastest to meet demand gets the margin in the market

3. Lower costs

Reduced support and maintenance costs directly translates to lower product cost for the customer and higher margins for the product companies

4. Flexible Resource Pool

Due to attrition and market conditions maintaining an up-to-date optimum pool of skilled professionals is becoming an expensive task. Since outsourcing partners gain experience and expertise by working with many clients facing similar challenges, they are sometimes the best source of obtaining expertise in shortest span of time. This combination of specialization and expertise gives companies a competitive advantage and helps them avoid the cost of chasing technology and repeated training

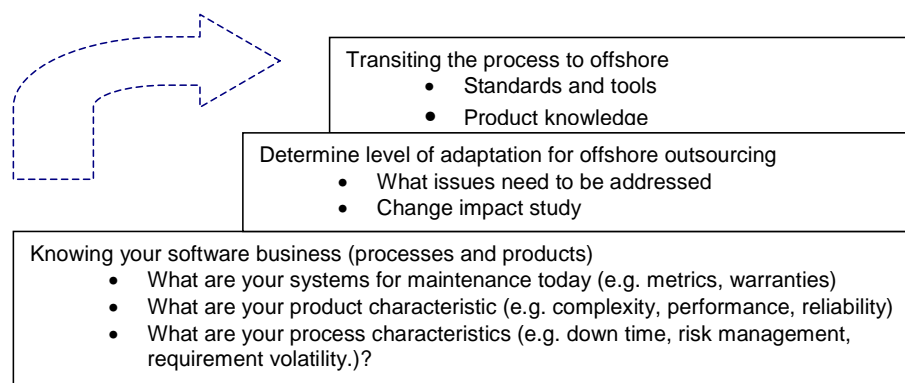
THE PROCESS

For a software product company, the key to successful outsourcing of support and maintenance can be defined as the “virtual” and “seamless” replacement of their internal processes of product support and maintenance.

A product support and maintenance outsourcing partner will translate a support and maintenance requirements document into a full-blown support and maintenance proposal, which includes:

- ▶ Defining service levels
- ▶ Establishing the Baselines for each service level
- ▶ Change management
- ▶ Defining effective communication protocols and channels
- ▶ Defining a smooth knowledge transfer policy
- ▶ Defining performance measurement process
- ▶ Defining metrics to be used
- ▶ Define reporting formats
- ▶ Compensation and bonuses
- ▶ Result validation

A phased approach wherein your processes and work culture is seamlessly transferred to the offshore outsourcing center is the driving philosophy behind successful offshore outsourcing. The idea behind this process is as depicted in the figure below:



Mentioned below is a typical roadmap many software product companies follow when outsourcing their support and maintenance functions to vendors:

Phase I

- ▶ Clear offshore team selection based upon the execution platform, operating systems, software environment, business environment, databases, etc.
- ▶ Provide a minimal understanding of the business domain and a maximal understanding of the application implementation to the vendor

Phase II

- ▶ Develop infrastructure and the support processes at the vendor
- ▶ Provide thorough understanding of the scope and complexity of technical and business issues

Phase III

- ▶ Complete knowledge transfer with respect to application execution environment, operational knowledge, business logic and structural/design knowledge
- ▶ Support and maintenance team to perform most change request activities on its own, including help desk calls

Phase IV

- ▶ Providing steady state support
- ▶ Handling entire maintenance operation, from versioning and end-user support, to help desk activities
- ▶ Monitor the support and maintenance process

PERFORMANCE METRICS

To help maintain quality and monitor the support and maintenance activities metrics used. The usage of these rest on the premise that unless the measurements are made the progress or the improvement cannot be gauged properly and once the measurements are made in any unit the same can be converted into other units easily and the comparisons over period will show the causes for problems. Close analysis of the causes enables the taking of suitable steps to make progress/improvement. The intention of metrics is only to improve the processes and not to find any fault with the personnel. The metrics should not be used to gauge their performance. Some of the metrics which can be used are:

- ▶ Nature of problem requests (PR) per day/week/month
- ▶ Mean time / Average time / Average resources required to resolve a PR
- ▶ PRs received via e-mail/telephone/fax
- ▶ Average telephonic time spent on each PR resolution
- ▶ Number of code fixes per day/week/month
- ▶ Average number of lines of code affected per PR
- ▶ Average time spent for PR that requires code modification
- ▶ Responsiveness
- ▶ Average case resolution time.
- ▶ Ease of logging a case for the customer.

The above are only a few of the metrics that can be collected to track and measure performance. Several other metrics are collected in areas like testing, release management, customer satisfaction etc.

THE ROLE OF THE VENDOR

Needless to say – vendor selection holds the key for success in outsourcing

In any outsourcing relationship, the company looks at the vendor as a long-term asset that is a source of ongoing value to the company. As an asset, time and resources are dedicated to managing the relationship and maximizing its value. The company's resources are held accountable for extracting value from the outsourcing relationship. Companies and Vendors must behave as integrated supply chain rather than win/lose adversaries.

Some of the critical elements that companies should look for from an outsourcing partner are as below:

- ▶ The partner must have a critical mass of resources
- ▶ The partner must have a solid management team
- ▶ Work with a partner that understands the importance of quality
- ▶ The partner should provide some additional value-added capability
- ▶ There should be a cultural match
- ▶ Technological capabilities
- ▶ Proven track record and Reputation
- ▶ Prior working relationship
- ▶ Vendor stability
- ▶ Price
- ▶ Infrastructure and bandwidth connectivity

CONCLUSION

Software product companies, today, are looking at outsourcing their support and maintenance process as an area for competitive advantage. They are unlocking the potential of the Internet and the global nature of business to offer their customers the limitless savings and economies of offshore outsourcing

Several companies have successfully demonstrated outsourcing of support function not only helps the bottom line, but also establishes a concrete roadmap for long-term success, with associated advantages percolating to other facets of business. The few identified uncertainties can be tackled with proven processes and by choosing the right vendor

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