

A Forrester Total Economic  
Impact™ Study  
Commissioned By  
Oracle

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# The Total Economic Impact™ Of Oracle WebLogic Suite And Oracle Coherence

Cost Savings And Business Benefits

FORRESTER®

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### ABOUT FORRESTER CONSULTING

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## Executive Summary

Oracle commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying WebLogic Suite — particularly its Coherence component. The purpose of this study is to provide a framework to evaluate the potential financial impact of WebLogic Suite on their organizations.

To better understand the benefits, costs, and risks associated with a WebLogic Suite implementation, Forrester interviewed two customers with multiple years of experience using the products. WebLogic Suite includes the WebLogic Server Enterprise Edition application server and the Coherence Enterprise Edition in-memory data grid. Although very different, both interviewed customers had transformative experiences with WebLogic Server and Coherence. For the purposes of our financial analysis, we have blended the characteristics and metrics of each to demonstrate this impact on a hypothetical composite organization.

Both organizations were challenged to support unpredictable growth in customer demand using traditional Java architectures. In-house attempts to address these issues yielded limited success, leaving both organizations vulnerable to uptime and performance issues from spikes in traffic. These limitations hindered application innovation, hurt customer experience, and resulted in lost business for both companies.

With WebLogic Suite and Coherence, the organizations were able to standardize on one application server solution and one cache solution, streamline management and development processes, deploy frequently accessed information in memory, and gain access to real-time functionality for application enhancement. This enabled the firms to support business growth and capture incremental revenue, increase efficiency, provide an improved customer experience, and keep costs in check. Said one associate director, “The main business case for Coherence is to be able to handle the volume we are getting into any system, be able to dynamically scale when there is a need, and improve response time.”

### WEBLOGIC SUITE BOOSTS REVENUE AND EFFICIENCY AND ENABLES COST SAVINGS

Using the data from our interviews, Forrester created a composite organization representing both customers' experiences. The composite organization realized the risk-adjusted ROI, benefits, and costs shown in Figure 1. See Appendix A for a description of the composite organization.

The composite organization analysis points to benefits of \$8,454,025 over three years versus costs of \$1,909,022, adding up to a net present value (NPV) of \$6,545,003.

**WebLogic Suite helps organizations maintain customer experience while supporting business growth:**

**The technology becomes an enabler to achieve our business goals. Without WebLogic Suite and Coherence, it would have been extremely frustrating and complicated to maintain the stability of the platform. And most probably, we would have been losing customers.**

**Head of technology**

#### FIGURE 1

#### Financial Summary Showing Three-Year Risk-Adjusted Results

**ROI:  
343%**

**NPV:  
\$6,545,003**

**Payback:  
7 months**

**Time-to-market: ▼ 30%**

Source: Forrester Research, Inc.

- › **Benefits.** The composite organization experienced the following risk-adjusted benefits that represent those experienced by the interviewed companies:
  - **Revenue enhancement of up to \$4 million in Year 3.** The composite organization was able to capture incremental revenue driven by new application functionality as well as revenue previously lost to downtime and maintenance.
  - **Thirty percent reduction in time-to-market.** Reduction in risk mitigation and fast deployment speed delivery time for four projects each year.
  - **Reduction in training time for new hires.** Overall standardization on WebLogic Suite for application infrastructure needs reduce the training ramp by five months. Forty percent of this reduction is attributable to the WebLogic Suite investment.
  - **Infrastructure and resource cost savings of \$315,000 per year.** Use of commodity hardware and reduction in storage costs drive infrastructure savings, while reduction in required administrative support means two full-time equivalents (FTEs) can be reallocated or new hires can be avoided.
  - **Cost savings from reduced downtime of \$1,044,000 per year.** In addition to capturing revenue lost due to downtime, the composite organization is also able to avoid cost outlays associated with downtime.
- › **Costs.** The composite organization experienced the following risk-adjusted costs:
  - **WebLogic Suite/Coherence license and support costs.** This includes upfront license costs of \$600,000 and assumes project growth of 10% per year for additional capacity as well as corresponding annual support costs.
  - **Additional physical server purchases.** In order to support the WebLogic Suite investment, the composite organization needed to purchase 10 additional servers upfront and one per year after to support additional capacity.
  - **Resource costs for implementation and ongoing maintenance.** A team of six FTEs were responsible for implementation and deployment of WebLogic Suite over nine months, and a total of 12 FTE hours are spent per week on maintenance.

## Disclosures

The reader should be aware of the following:

- › The study is commissioned by Oracle and delivered by Forrester Consulting. It is not meant to be used as a competitive analysis.
- › Forrester makes no assumptions as to the potential ROI that other organizations will receive. Forrester strongly advises that readers use their own estimates within the framework provided in the report to determine the appropriateness of an investment in WebLogic Suite.
- › Oracle reviewed and provided feedback to Forrester, but Forrester maintains editorial control over the study and its findings and does not accept changes to the study that contradict Forrester's findings or obscure the meaning of the study.
- › Oracle provided the customer names for the interviews but did not participate in the interviews.

## TEI Framework And Methodology

### INTRODUCTION

From the information provided in the interviews, Forrester has constructed a Total Economic Impact (TEI) framework for those organizations considering implementing WebLogic Suite. The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that affect the investment decision, to help organizations understand how to take advantage of specific benefits, reduce costs, and improve the overall business goals of winning, serving, and retaining customers.

### APPROACH AND METHODOLOGY

Forrester took a multistep approach to evaluate the impact that WebLogic Suite can have on an organization (see Figure 2). Specifically, we:

- › Interviewed Oracle marketing, sales, and consulting personnel, along with Forrester analysts, to gather data relative to WebLogic Suite and the marketplace for WebLogic Suite.
- › Interviewed two organizations currently using WebLogic Suite, including WebLogic Server and Coherence, to obtain data with respect to costs, benefits, and risks.
- › Designed a composite organization based on characteristics of the interviewed organizations (see Appendix A).
- › Constructed a financial model representative of the interviews using the TEI methodology. The financial model is populated with the cost and benefit data obtained from the interviews as applied to the composite organization.
- › Risk-adjusted the financial model based on issues and concerns the interviewed organizations highlighted in interviews. Risk adjustment is a key part of the TEI methodology. While interviewed organizations provided cost and benefit estimates, some categories included a broad range of responses or had a number of outside forces that might have affected the results. For that reason, some cost and benefit totals have been risk-adjusted and are detailed in each relevant section.

Forrester employed four fundamental elements of TEI in modeling WebLogic Suite's impact: benefits, costs, flexibility, and risks.

Given the increasing sophistication that enterprises have regarding ROI analyses related to IT investments, Forrester's TEI methodology serves to provide a complete picture of the total economic impact of purchase decisions. Please see Appendix B for additional information on the TEI methodology.

**FIGURE 2**  
TEI Approach



Source: Forrester Research, Inc.

## Analysis

### COMPOSITE ORGANIZATION

For this study, Forrester conducted a total of two interviews with representatives from the following companies, which are Oracle customers:

- › A US-based telecommunications organization that delivers phone, Internet, and television services to millions of customers. The organization has been using Coherence for over two years and has partially upgraded to WebLogic Suite.
- › A global travel and tourism organization headquartered in Germany that provides accommodation, transfer, and activity services to millions of customers in over 30 markets. The organization has been using Coherence for over three years and WebLogic Suite for three years.

Based on the interviews, Forrester constructed a TEI framework, a composite company, and an associated ROI analysis that illustrates the areas financially affected. The composite organization, referred to as *The Organization*, that Forrester synthesized from these results represents an organization with the following characteristics:

- › Is a global online services organization with approximately 10 million customers.
- › Has \$1.5 billion in recent fiscal year net sales.
- › Has multiple data centers and primarily used a traditional database management system.
- › Was using various application server solutions and attempted to use other cache solutions prior to the adoption of WebLogic Suite.

### INTERVIEW HIGHLIGHTS

*The Organization* is focused on delivering services to millions of customers via its website, mobile application, and call centers. In order to remain competitive, performance and availability of applications are crucial.

#### *Situation*

Prior to the investment in WebLogic Suite, *The Organization* faced a number of challenges:

- › *The Organization* was benefiting from steady business growth, but rapidly increasing traffic to its website and applications placed unsustainable demand on data center resources. Most of *The Organization*'s critical and frequently accessed data was still stored in the database.
- › *The Organization* wanted to improve customer experience for existing customers and recognized that the performance and reliability of external-facing and call center applications were an important component to customer satisfaction and loyalty. Strain on the back end led to issues with latency and unexpected outages, hurting customer experience.
- › *The Organization* needed the ability to continue innovating and enhancing applications with new functionality that could help capture additional revenue and increase competitiveness. *The Organization* needed a stable, scalable, and reliable platform to support this growth.

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*“We had a business that we needed to grow; a platform that needs to be stable, scalable, and flexible; and a standard way of doing things. We decided the best way to achieve this was with Oracle.”*

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~ Head of technology

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## Solution

*The Organization* selected WebLogic Suite Enterprise Edition and Coherence Grid Edition to improve the uptime and responsiveness of applications, speed application delivery, and gain access to the data caching, real-time processing, and distributed computing benefits from Coherence. Key features for *The Organization* include Coherence Live Events, GoldenGate HotCache via the upgrade to Coherence Grid Edition, and Active GridLink for RAC.

Following the selection of WebLogic Suite, *The Organization* began deployment:

- › Implementation and deployment spanned nine months and was completed by IT FTEs without the use of professional services support.
- › *The Organization* focused on consolidating applications on WebLogic Suite and process standardization with this investment.

## Results

The interviews revealed that:

- › **Infrastructure scalability is important for quality of service and future growth.** One of the most significant benefits experienced was the ability to reduce strain on the database by caching frequently accessed and changing data in memory. Automatic scaling and failover as well as less reliance on the database meant that site uptime and application performance improved, significantly reducing or eliminating the risk of latency or outages during high-volume periods. Additionally, Coherence features such as real-time functionality and database updates support application innovation and enhancement that drives business growth. Always-available applications, reliable website performance, and new functionality help the organizations better meet customer needs and capture additional revenue.
- › **Standardization and consolidation accompanying the WebLogic Suite investment simplifies management.** With the WebLogic Suite investment, the organizations are able to consolidate application infrastructure and standardize processes, simplifying management and speeding training. This means they can support additional growth without investing in additional FTE resources, and they can also reallocate some existing administrator time to other high-value tasks.
- › **WebLogic Suite provides a stable, reliable platform to support the business.** The fault-tolerant and scalable features of Coherence eliminate latency issues and outages from volume spikes that were previously caused by overloaded data center resources. Application developers no longer need to worry about the impact of new deployments on systems, speeding delivery. The ability to pull part of a cluster out of service while performing maintenance on underlying hardware means applications are no longer affected by maintenance periods. All of these factors make the WebLogic Suite platform an important component to ensuring the reliability of mission-critical applications and services. As the head of technology notes, “In terms of performance from the system perspective, it’s amazingly fast and it’s stable.”

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*“Availability is very critical for both customer experience and the call center. With Coherence, we have completely deployed all the information on the grid. Response time used to be 3 seconds; now it’s less than 300 milliseconds. Now we don’t have to worry about being down; we are available 24x7.”*

~ Associate director

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## BENEFITS

*The Organization* experienced a number of quantified benefits:

- › Revenue enhancement.
- › Application development and deployment efficiencies.
- › Training efficiencies.
- › Infrastructure and resource cost savings.
- › Reduced downtime cost savings.

Other important benefits mentioned by *The Organization* were reduced call handling times in the call center and further cost savings from consolidation enabled by WebLogic Suite. Though *The Organization* was unable to quantify these, they are discussed in more detail below.



### Revenue Enhancement

*The Organization* wanted to easily introduce new offers and services and take advantage of new uses of data to capture additional customer share. By relying on the database for these high-traffic applications and services, *The Organization* was also concerned about further overloading data center resources. With the WebLogic Suite investment, *The Organization* was able to move its most volatile and frequently accessed data in memory, providing immediate access to that data and automatic scalability to support fluctuating customer traffic. With GoldenGate HotCache, the data grid is always accurate and up to date, and *The Organization* can process data in real time. This is especially important for its mobile applications that need to instantly act on context-specific information, such as the customer's location, to provide service availability and price. As one organization noted, "If you think about that capability and the fact that we can do that calculation in a nanosecond, that was pretty quick." These features allow *The Organization* to roll out new functionality and offers, without concern for the impact on systems, enhancing revenue. While *The Organization* was ramping incremental revenue generation in years 1 and 2, by Year 3 *The Organization* captured \$4 million in net sales attributable to this investment.

Prior to the WebLogic Suite investment, reliance on the database for all data management, including session and identity data, would create a bottleneck. This led to outages and latency during surges in traffic. When critical call center applications experienced outages, the call center agents wouldn't be able to assist customers, resulting in lost revenue and negative customer experiences. *The Organization* estimates that each hour of downtime in the call center resulted in \$400,000 in lost revenue, and *The Organization* would incur 2 hours of downtime from these outages each year. By moving frequently accessed data into Coherence, there is continuous data availability and no single point of failure. Coherence automatically adapts to unpredictable user spikes with built-in high-availability options that prevent hardware outages, eliminating those previous outages and preserving \$800,000 in revenue each year.

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*"When you're able to calculate in real time on the grid and provide a price for a customer that leads to a booking, then that's one of the best uses of Coherence for our business."*

~ Head of technology

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Additionally, previous weekend maintenance sessions would lead to application downtime. Customer traffic and transactions were often higher on weekends than weekdays, resulting in hundreds of lost transactions per maintenance session. *The Organization* estimates that this is equivalent to \$14,400 in lost revenue per maintenance session. With Coherence, *The Organization* is able to pull part of a cluster out of production when maintenance is performed, and Coherence allows some transactions to continue during a maintenance period, so maintenance no longer affects data and application availability. The result is over \$374,400 in lost revenue saved each year.

Interviewed organizations provided a broad range of revenue enhancement values since there are a variety of internal and external forces that might also have an impact on this. To compensate, this benefit was risk-adjusted and reduced by 25%. The risk-adjusted total benefit resulting from revenue enhancement over the three years was \$6,092,400. See the section on Risks for more detail.

**TABLE 1**  
**Revenue Enhancement**

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
A1	Incremental net sales			\$600,000	\$4,000,000
A2	Reduction in hours of downtime		2	2	2
A3	Prior lost revenue per hour of downtime in call center		\$400,000	\$400,000	\$400,000
A4	Instances of scheduled maintenance eliminated		26	26	26
A5	Prior average revenue lost per maintenance		\$14,400	\$14,400	\$14,400
At	Revenue enhancement	$A1+(A2*A3)+(A4*A5)$	\$1,174,400	\$1,774,400	\$5,174,400
	Risk adjustment	↓ 25%			
<b>Atr</b>	<b>Revenue enhancement (risk-adjusted)</b>		<b>\$880,800</b>	<b>\$1,330,800</b>	<b>\$3,880,800</b>

Source: Forrester Research, Inc.



### Application Development And Delivery Efficiencies

With WebLogic Suite, application development and deployment is easier and less risky, resulting in a 30% improvement in time-to-market. Prior to this investment, considerable time was spent planning for the impact of deployment and additional load on systems as well as reducing the risk of the application not working. On average, *The Organization* has four projects per year affected by the WebLogic Suite investment. Prior to WebLogic Suite, each project would take an average of six FTEs six weeks to complete. Now that these risks have been minimized, 30% of that time is saved, resulting in \$83,077 in time savings per year.

Application development and delivery efficiency benefits vary due to the level of risk in the prior environment, the impact of the WebLogic Suite investment, and the number of projects and FTEs affected. To compensate, this

benefit was risk-adjusted and reduced by 5%. The risk-adjusted total benefit resulting from application development and delivery efficiency over the three years was \$236,769. See the section on Risks for more detail.

**TABLE 2**  
**Application Development And Deployment Efficiencies**

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
B1	Number of projects per year		4	4	4
B2	Prior total FTE hours per project		1,440	1,440	1,440
B3	Reduction in total FTE hours		30%	30%	30%
B4	Average FTE annual fully loaded compensation		\$100,000	\$100,000	\$100,000
Bt	Application development and deployment efficiency	$B1*B2*B3*(B4/2,080)$	\$83,077	\$83,077	\$83,077
	Risk adjustment	↓ 5%			
<b>Btr</b>	<b>Application development and deployment efficiency (risk-adjusted)</b>		<b>\$78,923</b>	<b>\$78,923</b>	<b>\$78,923</b>

Source: Forrester Research, Inc.



### Training Efficiencies

Due to *The Organization's* emphasis on standardizing processes and standardizing on one application server and one caching technology accompanying the investment in WebLogic Suite, training time for new hires was significantly reduced. *The Organization* estimates that overall training was reduced by five months, and that 40% of that reduction was due to the WebLogic Suite investment. Year 1 and some of Year 2 was spent better understanding WebLogic Suite functionality and adjusting to the new environment, but for the rest of Year 2 and Year 3, new hires were on the shorter training ramp.

Training efficiency benefits vary due to environment complexity, the impact of the new investment, and the number of new hires affected. To compensate, this benefit was risk-adjusted and reduced by 5%. The risk-adjusted total benefit resulting from training efficiencies over the three years was \$79,167. See the section on Risks for more detail.

**TABLE 3**  
**Training Efficiencies**

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
C1	IT FTE hires			2	3
C2	Reduction in training ramp (months)			5	5
C3	Average FTE annual fully loaded compensation			\$100,000	\$100,000
C4	Percent of improvement attributable to WebLogic Suite			40%	40%
Ct	Training efficiency	$C1 \cdot C2 \cdot (C3/12) \cdot C4$	\$0	\$33,333	\$50,000
	Risk adjustment	↓ 5%			
<b>Ctr</b>	<b>Training efficiency (risk-adjusted)</b>		<b>\$0</b>	<b>\$31,667</b>	<b>\$47,500</b>

Source: Forrester Research, Inc.



### Infrastructure And Resource Cost Savings

Compared with its prior environment, *The Organization* is able to realize cost savings from a reduction in storage costs and strategic hardware utilization. This results in \$150,000 per year in hardware and software cost savings.

In addition, by moving to a more stable and standardized platform, *The Organization* reduces the efforts needed for administrative support. Administrators are able to support more applications and more growth than they could prior to WebLogic Suite. *The Organization* is able to reallocate administrator time to other tasks and avoid future hires that would have been needed. In total, two administrator FTEs are reallocated or avoided for a cost savings of \$200,000 per year.

Variability in these cost savings will depend on the prior environment, prioritization of standardization and consolidation, and the ability to repurpose administrator time or avoid new hires. To compensate, this benefit was risk-adjusted and reduced by 10%. The risk-adjusted total benefit resulting from infrastructure and resource savings over the three years was \$945,000. See the section on Risks for more detail.

**TABLE 4**  
**Infrastructure And Resource Cost Savings**

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
D1	Hardware/software cost savings		\$150,000	\$150,000	\$150,000
D2	Administrator FTE hires avoided and resources reallocated		2	2	2
D3	Average FTE annual fully loaded compensation		\$100,000	\$100,000	\$100,000
Dt	Infrastructure and resource cost savings	$D1+(D2*D3)$	\$350,000	\$350,000	\$350,000
	Risk adjustment	↓ 10%			
<b>Dtr</b>	<b>Infrastructure and resource cost savings (risk-adjusted)</b>		<b>\$315,000</b>	<b>\$315,000</b>	<b>\$315,000</b>

Source: Forrester Research, Inc.



### Reduced Downtime Cost Savings

Prior to the WebLogic Suite investment, *The Organization* struggled with handling increasing traffic and spikes in volume that could lead to unpredictable outages. Due to the fault-tolerant architecture of Coherence and the ability to horizontally scale, *The Organization* is able to eliminate downtime from these outages. The result is 2 hours of downtime avoided, representing a cost savings of \$580,000 per hour of downtime, or \$1.16 million in savings per year. These cost savings represent previous costs associated with assessing and fixing systems, while lost revenue associated with this downtime is captured in the revenue enhancement benefit.

Cost savings from reduced downtime may vary based on the prevalence and cost of prior outages. To compensate, this benefit was risk-adjusted and reduced by 10%. The risk-adjusted total benefit resulting from reduced downtime cost savings over the three years was \$3,132,000. See the section on Risks for more detail.

**TABLE 5**  
**Reduced Downtime Cost Savings**

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
E1	Hours of downtime avoided		2	2	2
E2	Average cost per hour of downtime		\$580,000	\$580,000	\$580,000
Et	Reduced downtime cost savings	E1*E2	\$1,160,000	\$1,160,000	\$1,160,000
	Risk adjustment	↓ 10%			
<b>Etr</b>	<b>Reduced downtime cost savings (risk-adjusted)</b>		<b>\$1,044,000</b>	<b>\$1,044,000</b>	<b>\$1,044,000</b>

Source: Forrester Research, Inc.



### Nonquantified Benefits

By improving the performance of applications used in the call center, *The Organization* was able to reduce call handling times. This means that call center agents were more productive, though *The Organization* was not able to attribute a specific impact on metrics to WebLogic Suite. *The Organization* also realized additional cost savings resulting from the ability to consolidate application infrastructure due to the WebLogic Suite investment but was unable to track this impact. While *The Organization* wasn't able to quantify these benefits, Forrester encourages readers to consider these for their business cases.

### Total Benefits

Table 6 shows the total of all benefits across the five areas listed above, as well as present values (PVs) discounted at 10%. Over three years, *The Organization* expects risk-adjusted total benefits to be a PV of more than \$8.4 million.

**TABLE 6**  
**Total Benefits (Risk-Adjusted)**

<b>Ref.</b>	<b>Benefit Category</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>	<b>Present Value</b>
Atr	Revenue enhancement	\$880,800	\$1,330,800	\$3,880,800	\$6,092,400	\$4,816,264
Btr	Application development and deployment efficiencies	\$78,923	\$78,923	\$78,923	\$236,769	\$196,270
Ctr	Training efficiencies	\$0	\$31,667	\$47,500	\$79,167	\$61,858
Dtr	Infrastructure and resource cost savings	\$315,000	\$315,000	\$315,000	\$945,000	\$783,358
Etr	Reduced downtime cost savings	\$1,044,000	\$1,044,000	\$1,044,000	\$3,132,000	\$2,596,273
<b>Total benefits (risk-adjusted)</b>		<b>\$2,318,723</b>	<b>\$2,800,390</b>	<b>\$5,366,223</b>	<b>\$10,485,336</b>	<b>\$8,454,025</b>

Source: Forrester Research, Inc.

## COSTS

*The Organization* experienced a number of costs associated with the WebLogic Suite investment:

- › WebLogic Suite license and support costs.
- › Additional physical server costs.
- › Resource costs for implementation and maintenance.

These represent the mix of internal and external costs experienced by *The Organization* for initial planning, implementation, and ongoing maintenance associated with the solution.



### WebLogic Suite License And Support Costs

For the WebLogic Suite investment, *The Organization* purchased licenses for the WebLogic Suite Enterprise Edition application servers (12.1.3) and Coherence Grid Edition (12.1.2). *The Organization's* upfront license costs totaled \$600,000, inclusive of a typical discount, and *The Organization* incurred \$60,000 in license costs each year following the initial investment in order to add additional capacity to support growth. *The Organization* pays 22% of total license costs each year for annual support.

Software costs vary from organization to organization, considering different licensing agreements, what other products may be licensed from the same vendor, and other discounts. To compensate, this cost was risk-adjusted up by 20%. The risk-adjusted cost of software licenses and support over the three years was \$1,458,720. See the section on Risks for more detail.

TABLE 7

WebLogic Suite License And Support Costs

Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
F1	WebLogic Suite license costs		\$600,000	\$60,000	\$60,000	\$60,000
F2	Annual support costs			\$132,000	\$145,200	\$158,400
Ft	WebLogic Suite license and support costs	F1+F2	\$600,000	\$192,000	\$205,200	\$218,400
	Risk adjustment	↑ 20%				
Ftr	<b>WebLogic Suite license and support costs (risk-adjusted)</b>		<b>\$720,000</b>	<b>\$230,400</b>	<b>\$246,240</b>	<b>\$262,080</b>

Source: Forrester Research, Inc.



### Additional Physical Server Costs

*The Organization* uses commodity servers to support the WebLogic Suite investment. *The Organization* requires a total of 10 servers upfront and one additional server each year related to this investment. This includes servers to support load balancing.

Server costs may vary slightly. To compensate, this cost was risk-adjusted up by 5%. The risk-adjusted cost of physical server purchases over the three years was \$136,500. See the section on Risks for more detail.

**TABLE 8**  
Additional Physical Server Costs

Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
G1	Number of physical servers		10	1	1	1
G2	Cost per server		\$10,000	\$10,000	\$10,000	\$10,000
Gt	Additional physical servers	G1*G2	\$100,000	\$10,000	\$10,000	\$10,000
	Risk adjustment	↑ 5%				
<b>Gtr</b>	<b>Additional physical servers (risk-adjusted)</b>		<b>\$105,000</b>	<b>\$10,500</b>	<b>\$10,500</b>	<b>\$10,500</b>

Source: Forrester Research, Inc.



### Resource Costs For Implementation And Maintenance

The Organization relied on internal FTEs to implement and deploy WebLogic Suite, with minimal support and training from Oracle and no use of third-party professional services. The implementation and deployment period lasted nine months, with six FTEs spending approximately 70% of their time on these activities. On an ongoing basis, the IT team spends an average of 12 hours per week total on maintenance and support.

Resource costs are more variable from organization to organization, considering some organizations outsource or rely on professional services more than others, and implementation and deployment complexity can vary. To compensate, this cost was risk-adjusted up by 15%. The risk-adjusted cost of implementation and maintenance over the three years was \$465,750. See the section on Risks for more detail.

**TABLE 9**  
Resource Costs For Implementation And Maintenance

Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
H1	Total IT FTE hours		6,552	624	624	624
H2	Average FTE annual fully loaded compensation		\$100,000	\$100,000	\$100,000	\$100,000
Ht	Resource costs	H1*(H2/2,080)	\$315,000	\$30,000	\$30,000	\$30,000
	Risk adjustment	↑ 15%				
<b>Htr</b>	<b>Resource costs (risk-adjusted)</b>		<b>\$362,250</b>	<b>\$34,500</b>	<b>\$34,500</b>	<b>\$34,500</b>

Source: Forrester Research, Inc.

## Total Costs

Table 10 shows the total of all costs as well as associated present values, discounted at 10%. Over three years, *The Organization* expects risk-adjusted total costs to total a PV of a little less than \$2 million.

**TABLE 10**  
**Total Costs (Risk-Adjusted)**

Ref.	Cost Category	Initial	Year 1	Year 2	Year 3	Total	Present Value
Ftr	WebLogic Suite license and support costs	\$720,000	\$230,400	\$246,240	\$262,080	\$1,458,720	\$1,329,863
Gtr	Additional physical server costs	\$105,000	\$10,500	\$10,500	\$10,500	\$136,500	\$131,112
Htr	Resource costs for implementation and maintenance	\$362,250	\$34,500	\$34,500	\$34,500	\$465,750	\$448,046
	<b>Total costs (risk-adjusted)</b>	<b>\$1,187,250</b>	<b>\$275,400</b>	<b>\$291,240</b>	<b>\$307,080</b>	<b>\$2,060,970</b>	<b>\$1,909,022</b>

Source: Forrester Research, Inc.

## FLEXIBILITY

Flexibility, as defined by TEI, represents an investment in additional capacity or capability that could be turned into business benefit for some future additional investment. This provides an organization with the “right” or the ability to engage in future initiatives but not the obligation to do so. There are multiple scenarios in which a customer might choose to implement WebLogic Suite and later realize additional uses and business opportunities. Flexibility would also be quantified when evaluated as part of a specific project (described in more detail in Appendix B).

*The Organization* identified two new ways it could use its Coherence investment in the future:

- › *The Organization* is interested in using Coherence for pricing, not just storing and syncing data. *The Organization* envisions running different pricing equations in Coherence in real time, possibly generating additional efficiencies and revenue opportunities.
- › *The Organization* also wants to provide Coherence-as-a-service. This would allow any other applications or systems to leverage the in-memory grid service, putting their data on the grid for anyone to access from the grid directly. This could help *The Organization* continue toward its goals of providing better customer experience and better services.

## RISKS

Forrester defines two types of risk associated with this analysis: “implementation risk” and “impact risk.” Implementation risk is the risk that a proposed investment in WebLogic Suite may deviate from the original or expected requirements, resulting in higher costs than anticipated. Impact risk refers to the risk that the business or technology needs of the organization may not be met by the investment in WebLogic Suite, resulting in lower overall total benefits. The greater the uncertainty, the wider the potential range of outcomes for cost and benefit estimates.

**TABLE 11**  
**Benefit And Cost Risk Adjustments**

<b>Benefits</b>	<b>Adjustment</b>
Revenue enhancement	↓ 25%
Application deployment and training efficiencies	↓ 5%
Infrastructure and resource cost savings	↓ 10%
Reduced downtime cost savings	↓ 10%
<b>Costs</b>	<b>Adjustment</b>
WebLogic Suite license and support costs	↑ 20%
Additional physical server costs	↑ 5%
Resource costs for implementation and management	↑ 15%

Source: Forrester Research, Inc.

Quantitatively capturing implementation risk and impact risk by directly adjusting the financial estimates results provides more meaningful and accurate estimates and a more accurate projection of the ROI. In general, risks affect costs by raising the original estimates, and they affect benefits by reducing the original estimates. The risk-adjusted numbers should be taken as “realistic” expectations since they represent the expected values considering risk.

The following impact risks that affect benefits are identified as part of the analysis:

- › The ability to capture incremental revenue is dependent on an organization’s business model and growth stage and the ability to generate new transactions from application improvements.
- › Efficiency benefits vary due to environment complexity, the impact of the new investment, and the number of FTEs affected.
- › Infrastructure cost savings and management efficiencies will depend on the prior environment, ability to standardize processes and simplify application infrastructure, and the ability to repurpose administrator time or avoid administrator hires.
- › The business impact of a reduction in downtime from outages and maintenance will vary based on the prior occurrence of downtime, the costs and lost revenue associated with this downtime, and the ability to recoup these costs and revenue following deployment.

The following implementation risks that affect costs are identified as part of this analysis:

- › Software and hardware costs vary based on different licensing arrangements, others products used by the vendor, and other discounts.
- › Resource costs will vary based on compensation differences, degrees of reliance on outside support, and complexity and challenges during the implementation and deployment period.

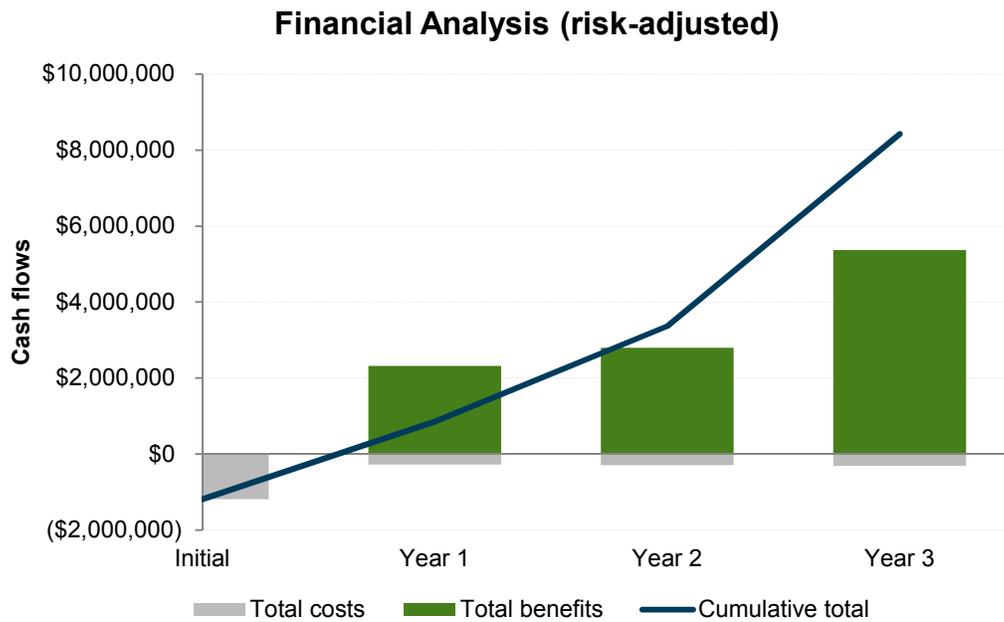
Table 11 shows the values used to adjust for risk and uncertainty in the cost and benefit estimates for *The Organization*. Readers are urged to apply their own risk ranges based on their own degree of confidence in the cost and benefit estimates.

## Financial Summary

The financial results calculated in the Benefits and Costs sections can be used to determine the ROI, NPV, and payback period for *The Organization's* investment in WebLogic Suite.

Table 12 below shows the risk-adjusted ROI, NPV, and payback period values. These values are determined by applying the risk-adjustment values from Table 11 in the Risks section to the unadjusted results in each relevant cost and benefit section.

**FIGURE 3**  
Cash Flow Chart (Risk-Adjusted)



Source: Forrester Research, Inc.

**TABLE 12**  
Cash Flow (Risk-Adjusted)

	Initial	Year 1	Year 2	Year 3	Total	Present Value
Costs	(\$1,187,250)	(\$275,400)	(\$291,240)	(\$307,080)	(\$2,060,970)	(\$1,909,022)
Benefits	\$0	\$2,318,723	\$2,800,390	\$5,366,223	\$10,485,336	\$8,454,025
Net benefits	<b>(\$1,187,250)</b>	<b>\$2,043,323</b>	<b>\$2,509,150</b>	<b>\$5,059,143</b>	<b>\$8,424,366</b>	<b>\$6,545,003</b>
ROI						<b>343%</b>
Payback period						<b>7 months</b>

Source: Forrester Research, Inc.

## Oracle WebLogic Suite And Oracle Coherence: Overview

The following information is provided by Oracle. Forrester has not validated any claims and does not endorse Oracle or its offerings.

Oracle WebLogic Suite brings together performance, scalability, efficiency, and manageability in a single, unified application server offering. Oracle Coherence is included with (and available separately from) WebLogic Suite, and provides in-memory data grid technology to customers for real-time application processing, application data scalability, and offloading of shared services. WebLogic Suite:

- › Integrates with other Oracle products through Oracle GridLink for RAC, Oracle WebLogic Enterprise Grid Messaging (Java Messaging Service [JMS]-compliant with enterprise extensions), and other connection technologies.
- › Is optimized for Oracle Exalogic Elastic Cloud, an engineered system for cloud computing.
- › Is tested and tuned by Oracle to provide a foundation for Java applications, Oracle applications, and other enterprise applications to run with high performance.
- › Includes Oracle WebLogic Server 12c, which is certified for the full Java EE 6 platform specification and has improved integration with Oracle Real Application Clusters (Oracle RAC).

Benefits include the ability to:

- › Combine the functionality of Oracle WebLogic Server and Oracle Application Server for custom, legacy, and/or packaged applications.
- › Pool and share resources with dynamic adjustment across multiple applications to lower operational costs and outperform competitors.
- › Cache data in memory for consistently high responsiveness at any scale of users and transactions and to offload and avoid a single point of bottleneck/single point of failure in back-end data sources.
- › Push processing to data grid to support scalable architectures and avoid excessive data movement.
- › Configure and connect to Oracle Database, Oracle Fusion Middleware, and Oracle Applications with ease.

## Appendix A: Composite Organization Description

For this TEI study, Forrester created a composite organization, *The Organization*, to quantify the benefits and costs of implementing WebLogic Suite. The composite organization is an online services organization with 10 million customers and \$1.5 billion in net sales and is based on the common characteristics of two real customers.

Prior to investing in WebLogic Suite, *The Organization* had primarily traditional three-tier Java architectures that were difficult to scale to support the increased volume of traffic to its website and applications and the resulting rise in transaction loads. Spikes in volume caused outages and/or latency issues that interrupted customer experience, resulting in lost business. While *The Organization* tried to address these issues, ultimately reliance on a relational database to manage all application data constrained new initiatives and future growth.

Following the WebLogic Suite deployment, *The Organization* experienced the following business impact:

- › WebLogic Suite's Coherence component allowed for dynamic scaling, adjusting to spikes in volume. This improved the performance and uptime of its website and applications and eliminated outages.
- › Always-available, high-performing applications help to cut call center handling times and improve customer service. Reliable websites improve customer experience and boost revenue.
- › Consolidating application infrastructure and standardizing management and development processes create efficiencies and cost savings.
- › Application innovation and new uses of data boost business growth and revenue.

For the purpose of the analysis, Forrester assumes that *The Organization* provides various online services to customers via website and mobile application. *The Organization* stores data relevant to providing these services, such as product information, in memory as part of this investment. *The Organization* is able to implement and deploy WebLogic Suite using skills available in-house and has developer skills on hand to take advantage of new functionality provided through this investment. *The Organization* has chosen to upgrade to Coherence Grid Edition to gain access to GoldenGate HotCache functionality. Additionally, *The Organization* only needs to make minor incremental investments to support growth over the three-year analysis period.

### FRAMEWORK ASSUMPTIONS

Table 13 provides the model assumptions that Forrester used in this analysis.

The discount rate used in the PV and NPV calculations is 10%, and the time horizon used for the financial modeling is three years. Organizations typically use discount rates between 8% and 16% based on their current environment. Readers are urged to consult with their respective company's finance department to determine the most appropriate discount rate to use within their own organizations.

**TABLE 13**  
**Model Assumptions**

<b>Ref.</b>	<b>Metric</b>	<b>Calculation</b>	<b>Value</b>
X1	Hours per week		40
X2	Weeks per year		52
X3	Hours per year (M-F, 9-5)		2,080
X4	Hours per year (24x7)		8,736
X5	IT FTE fully-loaded annual compensation		\$100,000
X6	Hourly	(C5/C3)	\$48

Source: Forrester Research, Inc.

## Appendix B: Total Economic Impact™ Overview

Total Economic Impact is a methodology developed by Forrester Research that enhances a company's technology decision-making processes and assists vendors in communicating the value proposition of their products and services to clients. The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders. TEI assists technology vendors in winning, serving, and retaining customers.

The TEI methodology consists of four components to evaluate investment value: benefits, costs, flexibility, and risks.

### BENEFITS

Benefits represent the value delivered to the user organization — IT and/or business units — by the proposed product or project. Often, product or project justification exercises focus just on IT cost and cost reduction, leaving little room to analyze the effect of the technology on the entire organization. The TEI methodology and the resulting financial model place equal weight on the measure of benefits and the measure of costs, allowing for a full examination of the effect of the technology on the entire organization. Calculation of benefit estimates involves a clear dialogue with the user organization to understand the specific value that is created. In addition, Forrester also requires that there be a clear line of accountability established between the measurement and justification of benefit estimates after the project has been completed. This ensures that benefit estimates tie back directly to the bottom line.

### COSTS

Costs represent the investment necessary to capture the value, or benefits, of the proposed project. IT or the business units may incur costs in the form of fully burdened labor, subcontractors, or materials. Costs consider all the investments and expenses necessary to deliver the proposed value. In addition, the cost category within TEI captures any incremental costs over the existing environment for ongoing costs associated with the solution. All costs must be tied to the benefits that are created.

### FLEXIBILITY

Within the TEI methodology, direct benefits represent one part of the investment value. While direct benefits can typically be the primary way to justify a project, Forrester believes that organizations should be able to measure the strategic value of an investment. Flexibility represents the value that can be obtained for some future additional investment building on top of the initial investment already made. For instance, an investment in an enterprisewide upgrade of an office productivity suite can potentially increase standardization (to increase efficiency) and reduce licensing costs. However, an embedded collaboration feature may translate to greater worker productivity if activated. The collaboration can only be used with additional investment in training at some future point. However, having the ability to capture that benefit has a PV that can be estimated. The flexibility component of TEI captures that value.

### RISKS

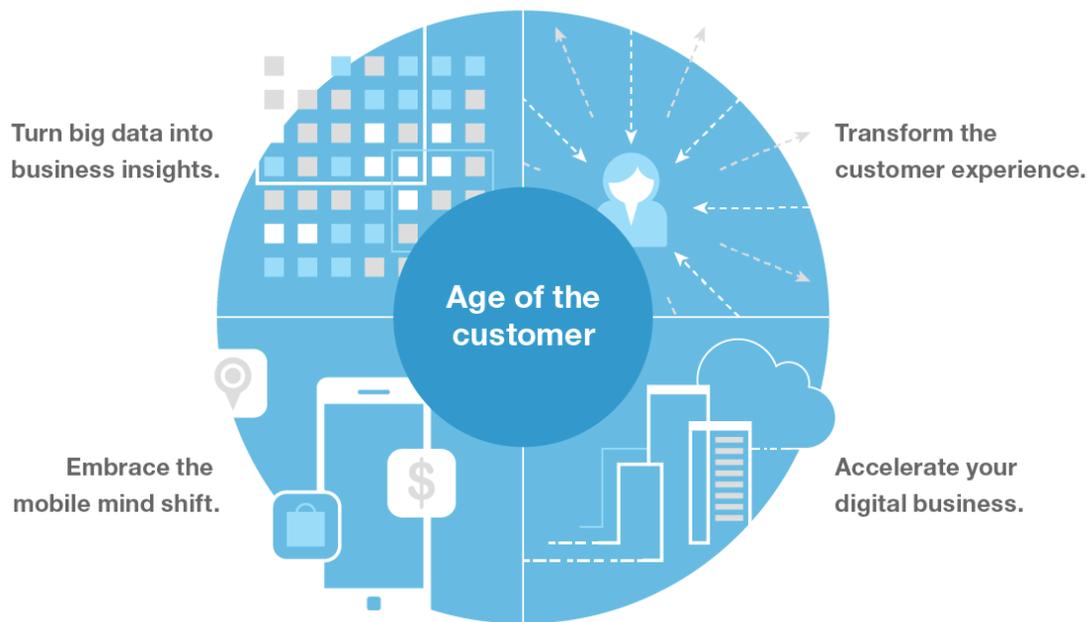
Risks measure the uncertainty of benefit and cost estimates contained within the investment. Uncertainty is measured in two ways: 1) the likelihood that the cost and benefit estimates will meet the original projections and 2) the likelihood that the estimates will be measured and tracked over time. TEI risk factors are based on a probability density function known as "triangular distribution" to the values entered. At a minimum, three values are calculated to estimate the risk factor around each cost and benefit.

## Appendix C: Forrester And The Age Of The Customer

Your technology-empowered customers now know more than you do about your products and services, pricing, and reputation. Your competitors can copy or undermine the moves you take to compete. The only way to win, serve, and retain customers is to become customer-obsessed.

A customer-obsessed enterprise focuses its strategy, energy, and budget on processes that enhance knowledge of and engagement with customers and prioritizes these over maintaining traditional competitive barriers.

**CMOs and CIOs must work together to create this companywide transformation.**



Forrester has a four-part blueprint for strategy in the age of the customer, including the following imperatives to help establish new competitive advantages:



Transform the customer experience to gain sustainable competitive advantage.



Accelerate your digital business with new technology strategies that fuel business growth.



Embrace the mobile mind shift by giving customers what they want, when they want it.



Turn (big) data into business insights through innovative analytics.

## Appendix D: Glossary

**Discount rate:** The interest rate used in cash flow analysis to take into account the time value of money. Companies set their own discount rate based on their business and investment environment. Forrester assumes a yearly discount rate of 10% for this analysis. Organizations typically use discount rates between 8% and 16% based on their current environment. Readers are urged to consult their respective organizations to determine the most appropriate discount rate to use in their own environment.

**Net present value (NPV):** The present or current value of (discounted) future net cash flows given an interest rate (the discount rate). A positive project NPV normally indicates that the investment should be made, unless other projects have higher NPVs.

**Present value (PV):** The present or current value of (discounted) cost and benefit estimates given at an interest rate (the discount rate). The PV of costs and benefits feed into the total NPV of cash flows.

**Payback period:** The breakeven point for an investment. This is the point in time at which net benefits (benefits minus costs) equal initial investment or cost.

**Return on investment (ROI):** A measure of a project's expected return in percentage terms. ROI is calculated by dividing net benefits (benefits minus costs) by costs.

### A NOTE ON CASH FLOW TABLES

The following is a note on the cash flow tables used in this study (see the example table below). The initial investment column contains costs incurred at "time 0" or at the beginning of Year 1. Those costs are not discounted. All other cash flows in years 1 through 3 are discounted using the discount rate (shown in the Framework Assumptions section) at the end of the year. PV calculations are calculated for each total cost and benefit estimate. NPV calculations are not calculated until the summary tables are the sum of the initial investment and the discounted cash flows in each year.

Sums and present value calculations of the Total Benefits, Total Costs, and Cash Flow tables may not exactly add up, as some rounding may occur.

TABLE [EXAMPLE]

Example Table

Ref.	Metric	Calculation	Year 1	Year 2	Year 3

Source: Forrester Research, Inc.