



NUCLEUS
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THE BOTTOM LINE

In analyzing the experience of enterprise resource planning (ERP) customers, Nucleus found that the total cost of ownership of traditional on-premise ERP deployments was 2.1 times more than Oracle ERP Cloud. In looking at the key ERP cost areas — software, hardware, consulting, personnel, and training over a 3-year period — we found that initial costs for on-premise ERP were 2.4 times higher than Oracle ERP cloud. After deployment, personnel costs were the primary differentiator, with overall annual costs for cloud ERP averaging 1.8 times less than on premise.

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THE SITUATION

Customers considering an enterprise resource planning (ERP) application deployment, be it an upgrade, replacement, or new project, have a range of options with varying cost profiles. The decision can be a complicated one, for a number of reasons:

- Historically ERP implementations have been lengthy, costly, and somewhat unpredictable, with extensive customizations and expensive consulting engagements.
- Limited IT resources mean that companies must evaluate both the initial and ongoing skills and resources needed to support their ERP footprint.
- As the common backbone for financial, human resources, operations, and production management, modern ERP solutions must be scalable and robust enough to support the complexities of the business, yet flexible enough to support changing needs over time (without the pain and disruption of traditional ERP upgrades or changes).
- Software is only a small portion of the total cost equation, and cloud options impact almost all cost factors of a deployment on an initial and ongoing basis.

THE SOLUTION

Oracle ERP Cloud is a suite of integrated business software that provides customers with tools to manage company finances, procurement, and projects, along with transactional visibility and embedded reporting capabilities. Oracle ERP Cloud also

includes mobile, analytic, and social collaboration capabilities. Oracle ERP Cloud includes the following modules:

- Enterprise Performance Management (EPM)
- Financials
- Manufacturing
- Order Management
- Procurement
- Project Portfolio Management (PPM)
- Risk Management

To better understand the total cost of ownership (TCO) of Oracle ERP Cloud relative to other ERP systems, Nucleus gathered data from existing Nucleus ROI case studies and conducted in-depth interviews with Oracle ERP Cloud customers. Many were moving from existing on-premise deployments and were able to provide an “apples-to-apples” comparison of their initial and ongoing costs. Nucleus further validated the comparisons with data from case studies of companies with similar size and ERP footprint.

We looked at initial and ongoing costs over a 3-year period for software, hardware, consulting, personnel, and training as three years is the standard timeframe used for Nucleus ROI case study calculations.

COST COMPARISON

Nucleus calculated the average TCO comparisons for two scenarios of customers:

- Customers moving from non-Oracle ERP on-premise to Oracle ERP Cloud. This included customers of SAP, Microsoft, Epicor, Infor, and other non-Oracle on-premise ERP applications.
- Customers moving from existing on-premise Oracle ERP solutions to Oracle ERP Cloud. This included customers of Oracle PeopleSoft, JD Edwards, and E-Business Suite.

Nucleus also analyzed the experience of customers that had no prior ERP solution before implementing Oracle ERP Cloud. These customers were operating using Excel or QuickBooks, or other basic cloud or on-premise accounting applications to manage their business.

KEY COST AREAS

	<u>On-Premise ERP</u>	<u>Cloud ERP</u>
<u>Software</u>		
Initial	<ul style="list-style-type: none"> ▪ Perpetual license 	<ul style="list-style-type: none"> ▪ Annual subscription fee
Ongoing	<ul style="list-style-type: none"> ▪ Annual maintenance 	
<u>Hardware</u>		
Initial	<ul style="list-style-type: none"> ▪ Hardware provisioning ▪ Deployment ▪ Testing ▪ Instance development 	None
Ongoing	<ul style="list-style-type: none"> ▪ Maintenance 	
<u>Consulting</u>		
Initial	<ul style="list-style-type: none"> ▪ Planning ▪ Scoping ▪ Customizations 	<ul style="list-style-type: none"> ▪ Planning ▪ Scoping ▪ Configurations
Ongoing	<ul style="list-style-type: none"> ▪ Additional features, upgrades, and solutions 	
<u>Personnel</u>		
Initial	<ul style="list-style-type: none"> ▪ Hardware scoping, testing ▪ System developers, integrators ▪ Database administrators ▪ Applications developers ▪ Support and hardware administrators 	<ul style="list-style-type: none"> ▪ System integrators ▪ Application developers ▪ System super users
Ongoing	<ul style="list-style-type: none"> ▪ System administrators ▪ Application developers ▪ Troubleshooters ▪ Database administrators 	<ul style="list-style-type: none"> ▪ Business analysts ▪ Change managers ▪ Application developers
<u>Training</u>		

INITIAL COSTS

INITIAL SOFTWARE

Not surprisingly, initial software costs for on-premise ERP deployments – a perpetual license – are a significant capital expense – in contrast with Oracle ERP Cloud license subscriptions, which are on an annual per-user basis. Nucleus found most Oracle ERP Cloud customers committed to a 3-year subscription contract to gain additional discounts. As a result, the initial software costs for ERP Cloud were a fraction of the cost of on-premise deployments.

Initial Software

Solution	Average	Considerations
Non-Oracle ERP on-premise	\$1,850,000	▪ Average perpetual license cost
Oracle ERP on-premise	\$1,725,000	
Oracle ERP Cloud	\$440,000	▪ Average annual subscription cost

INITIAL HARDWARE

Avoiding hardware costs is an obvious benefit of a cloud ERP deployment. Nucleus found that many customers deploying on-premise ERP systems tend to err on the side of overbuying hardware to avoid scalability and performance issues. In contrast, with ERP Cloud, hardware provisioning and capacity utilization are managed by Oracle and opaque to the customer.

One customer said: *"We wanted to operate like a start-up. Going to the cloud was part of our business plan and long-term goals."*

Initial Hardware

Solution	Average Cost	Considerations
Non-Oracle ERP on-premise	\$880,000	▪ Instance development ▪ Testing, costing, provisioning
Oracle ERP on-premise	\$285,000	
Oracle ERP Cloud	\$0	▪ No hardware provisioning

INITIAL CONSULTING

All the customers Nucleus analyzed used third-party consultants or systems integrators to support their ERP Cloud deployments. In general, we found that their previous on-premise ERP solutions had longer deployment timelines and more complex customization and integration work, resulting in significant consulting costs. Oracle ERP Cloud customers also needed consultants but were able to go live in fewer billable hours.

Initial Consulting

Solution	Average Cost	Considerations
Non-Oracle ERP on-premise	\$2,250,000	<ul style="list-style-type: none"> ▪ Planning, scoping, costing ▪ Customizations
Oracle ERP on-premise	\$1,600,000	
Oracle ERP Cloud	\$1,475,000	<ul style="list-style-type: none"> ▪ Planning, scoping, costing ▪ Configurations

INITIAL PERSONNEL

Initial personnel costs for an ERP deployment vary considerably depending on the number of modules, complexity of the deployment, and internal personnel skill and ability.

On-premise ERP customers incurred higher initial personnel costs due to the additional time needed to develop, test, and manage the system hardware. By moving to Oracle ERP Cloud customers avoid the personnel costs associated with deploying and provisioning hardware.

On-premise deployments also require more high-cost employees that integrate and customize the deployment. When deploying Oracle ERP Cloud, customers were able to do more with fewer employees and could accomplish many of the front-end tasks, such as charting the necessary accounts, with business analysts as opposed to database administrators.

One customer said: *"We looked at some other solutions and even looked at on-premise solutions. We found the cloud to be drastically cheaper moving forward because of the smaller IT personnel need."*

Initial Personnel

Solution	Average Cost	Considerations
Non-Oracle ERP on-premise	\$2,480,000	<ul style="list-style-type: none"> Database administrators, application developers, support and hardware administrators Average of 31 FTEs over 12-month deployment with \$80,000/year fully loaded cost
Oracle ERP on-premise	\$675,000	<ul style="list-style-type: none"> Database administrators, application developers, support and hardware administrators Average of 6.75 FTEs over 12-month deployment with \$100,000/year fully loaded cost
Oracle ERP Cloud	\$455,000	<ul style="list-style-type: none"> Change management administrators Application developers Average of 9.1 FTEs over 6-month deployment with \$100,000/year fully loaded cost

INITIAL TRAINING

Nucleus found that customers moving to Oracle ERP Cloud were able to deploy with significantly fewer training hours than with traditional on-premise applications, largely because of the modern user interface, role-based views, and other features designed to drive high usability (Nucleus Research *q14 – Oracle weds cloud UI with simple and flexible*, January 2016).

Initial Training

Solution	Average Cost	Considerations
Non-Oracle ERP on-premise	\$550,000	<ul style="list-style-type: none"> 50 hours of training on average
Oracle ERP on-premise	\$528,000	
Oracle ERP Cloud	\$275,000	<ul style="list-style-type: none"> 25 hours of training on average

INITIAL COST SUMMARY

The initial cost comparison between Oracle ERP Cloud and on-premise deployments illustrates the relative savings for each cost component. Since cloud ERP has no hardware costs, a cost comparison cannot be calculated. The total initial cost difference includes the average hardware spending for on-premise customers.

Initial Cost Savings for Oracle ERP Cloud

<u>Cost Category</u>	<u>Non-Oracle ERP on-premise</u>	<u>Oracle ERP on-premise</u>
Software	4.2X	3.9X
Hardware	NA	NA
Consulting	1.5X	1.1X
Personnel	5.5X	1.5X
Training	2.0X	1.9X
Total	<u>3.0X</u>	<u>1.8X</u>

Note: Total includes average hardware spend.

ONGOING COSTS

ONGOING SOFTWARE

With on-premise ERP customers spending an average of 22 percent of their initial perpetual license fee on license maintenance, it is not surprising that there was not a significant difference between ongoing software costs between ERP Cloud and non-cloud ERP deployments.

Ongoing Software

Solution	Average Annual Cost	Considerations
Non-Oracle ERP on-premise	\$407,000	▪ 22 percent annual maintenance
Oracle ERP on-premise	\$380,000	
Oracle ERP Cloud	\$440,000	▪ Total average subscription cost

ONGOING HARDWARE

None of the firms Nucleus analyzed had incurred additional hardware costs beyond their initial deployment investment for their on-premise system. To avoid incurring additional costs, customers frequently overspent on provisioning their legacy ERP

systems. Ongoing hardware costs extend beyond the large capital expense for the physical hardware, but include maintenance and upkeep costs. Additional costs associated with hardware are captured in consulting and personnel costs, which are incurred performing upgrades or adding additional functionality. Customers with cloud deployments can reassign or shrink their IT administrators to other tasks with no need to manage a legacy system.

ONGOING CONSULTING

Ongoing consulting costs for on-premise ERP customers varied significantly depending upon the initial customization of their applications, their upgrade cadence, and the availability of skilled internal staff to manage patches and bug fixes. In contrast, Oracle ERP Cloud customers can take advantage of upgrades with limited additional consulting expense. Given that many ERP Cloud customers are still executing a multi-phase deployment, and many partners are still developing their expertise, Nucleus believes this ERP Cloud cost estimate may be overstated and expects that ongoing ERP Cloud consulting expenditures will trend lower over time.

Ongoing Consulting

Solution	Average Annual Cost	Considerations
Non-Oracle ERP on-premise	\$55,000	▪ Additional features, product support, maintenance
Oracle ERP on-premise	\$168,000	
Oracle ERP Cloud	\$57,000	

ONGOING PERSONNEL

Ongoing personnel savings are a considerable benefit for moving to Oracle ERP Cloud. Rather than devoting database administrators, application developers, and support administrators to supporting ERP, many of those staff can be devoted to other applications and projects. Additionally, less expensive business analyst resources can be used for ongoing application updates and changes.

In addition to assigning them to different projects, cloud customers redefined many of their IT department's roles. Personnel can shift their focus to process improvements and business applications that increase operational efficiency. With Oracle ERP Cloud, upgrades are simpler, and infrastructure management and

maintenance are provided by the vendor. As a result, customers can manage their solutions with half or fewer as many employees as on-premise deployments.

Customers said: *"A lean IT department and flexibility to grow were key facets in our decision to go cloud."*

"We had 2-3 database administrators and 10-12 developers. Now we are down to six developers that we are transforming into change managers. Seventy-five percent of their time is devoted to process improvement rather than system management."

Ongoing Personnel

<i>Solution</i>	<i>Average Annual Cost</i>	<i>Considerations</i>
Non-Oracle ERP on-premise	\$1,120,000	<ul style="list-style-type: none"> ▪ Database administrators, application developers, support administrators ▪ Average of 14 FTEs with \$80,000/year fully loaded cost
Oracle ERP on-premise	\$530,000	<ul style="list-style-type: none"> ▪ Database administrators, application developers, support administrators ▪ Average of 5.3 FTEs with \$100,000/year fully loaded cost
Oracle ERP Cloud	\$240,000	<ul style="list-style-type: none"> ▪ Change management administrators, business analysts ▪ Average 2.4 FTEs with \$100,000/year fully loaded cost

ONGOING TRAINING

As firms grow and undergo employee turnover they incur costs to train replacements. Additionally, if ERP customers decide to update or upgrade their ERP deployment, users need to be trained on the new features. The cost difference between on-premise and cloud deployments is consistent with the initial training, with the number of hours required to train new employees remaining unchanged.

ONGOING COST SUMMARY

Ongoing cost differences demonstrate how Oracle ERP Cloud saved customers money in consulting, personnel, and training.

Ongoing Annual Savings for Oracle ERP Cloud

<u>Cost Category</u>	<u>Non-Oracle ERP on-premise</u>	<u>Oracle ERP On-Premise</u>
Software	0.9X	0.9X
Hardware	NA	NA
Consulting	1.0X	2.9X
Personnel	4.7X	2.2X
Training	1.8X	1.8X
Total	2.1X	1.5X

Although ongoing software maintenance costs for on-premise deployment were comparable with cloud deployments, the cost summary does not account for the difference in year-one software costs, where on-premise customers pay 3.9 to 4.2 times more in perpetual license fees. Additionally, cloud customers avoid overspending by paying for only as many user subscriptions as they need.

ANALYSIS SUMMARY

To calculate the difference in TCO, Nucleus summed the initial costs with the total ongoing costs over a 3-year period, which reflects the upper bound of the payback period Nucleus expects for an ERP deployment. A payback period longer than three years has investment risk too high to justify the expense. The combined initial and ongoing cost multipliers show that the average on-premise solution has a TCO 2.1 times higher than Oracle ERP Cloud.

Cost Difference of Oracle ERP Cloud

<u>Existing ERP System</u>	<u>Initial Cost</u>	<u>Ongoing Cost</u>	<u>Total 3-year Cost</u>
Non-Oracle ERP on-premise	3.0X	2.1X	2.6X
Oracle ERP on-premise	1.8X	1.5X	1.7X

NET NEW ERP DEPLOYMENTS

In considering the total cost of ownership of solutions for customers who had no prior traditional ERP system before deploying Oracle ERP Cloud, obviously a comparison with the TCO of any ERP system would be misleading. The cost of software, hardware, consulting, personnel, and training for a company with no ERP solution always appears less than for a company that has deployed an ERP solution.

For example, customers who were operating on Excel or QuickBooks prior to deploying Oracle ERP Cloud would have incurred no consulting expenses. Software license fees and training costs would be very small relative to an ERP solution. Personnel costs would be low due to minimal maintenance or management required. A comparison between the relative costs is like comparing apples and oranges; there is almost no resemblance.

Despite the utility of a TCO analysis being minimal, comparing the experience of customers, who moved from managing their enterprise with Excel or QuickBooks to Oracle ERP Cloud, is useful in the following ways:

- **Opacity vs. visibility** — Deploying Oracle ERP Cloud gave customers full visibility of their enterprise and all the connected accounts and departments. As a result, customers reduced inefficiency by eliminating siloed information, as well as cumbersome and error-prone information sharing processes.
- **Batch vs. real-time** — Excel or QuickBooks can be used to track the financial health of the enterprise, but in batches rather than real-time. Customers deploying Oracle ERP Cloud are able to view the financial situation of the organization in real-time, allowing for better-informed, strategic decision making.
- **Digitalization** — Customers with no traditional ERP system who deployed Oracle ERP Cloud achieved reduced error rates and eliminated paper-driven processes. By digitizing manual processes, such as purchase orders, receipts, and data entry, customers improved employee performance and achieved greater productivity.
- **Stop workaround processes** — Oracle ERP Cloud allows critical processes to be streamlined, eliminating the shadow tracking systems employees had maintained. Customers were able to automate many processes that were previously manually performed, thereby reducing errors and saving time.

While ERP solutions always appear to be more expensive than Excel and QuickBooks, ERP customers are afforded greater functionality and usability that deliver greater efficiency, improve business processes, and drive profitability.

One customer said: *"My CFO says that we could have never done what we've done without Oracle."*

ADDITIONAL BENEFITS

In addition to benefitting from a lower TCO than legacy on-premise ERP systems, customers who deployed Oracle ERP Cloud experienced additional benefits that improved the value proposition of moving to the cloud and changed how users perform tasks for the better.

EASE OF DEPLOYMENT

Cloud customers moving to Oracle ERP Cloud benefit from easier and shorter deployments. Despite needing fewer consultants and personnel hours to configure and connect the chart of accounts to get the ERP system live, deployments for Oracle ERP Cloud took less time. Customers avoided installing, testing, and provisioning hardware. Customer also leveraged virtual testing environments, eliminating downtime.

OUTSOURCING SECURITY AND COMPLIANCE

Customers moving to Oracle ERP Cloud ceased to maintain internal extensive security systems and expensive IT security personnel. Security measures are built into the cloud, removing it as an ongoing concern for the customers. Additionally, Oracle ERP Cloud has many compliance measures are centralized and baked-in, removing the need for customers to perform time-consuming compliance procedures.

RETURN ON INVESTMENT

Oracle ERP Cloud customers realized a positive ROI on their deployments due to the improved performance and productivity they were able to achieve. Customers with legacy ERP deployments achieved positive returns on their old solutions, but averaged longer payback periods due to the higher initial and ongoing costs.

BUSINESS TRANSFORMATION SURPRISES

Oracle ERP Cloud customers were able to transform parts of their business by leveraging the capability in the cloud solution. Frequently, customers realized changes to business processes that they could not fathom before switching to

Oracle ERP Cloud. For instance, customers are able to reduce the time needed to complete a complex financial close by 80 percent.

One customer said: *"Oracle's cloud applications have enabled us to implement best practices, utilizing embedded workflows, mobile capabilities, and business critical analytics that help our executive team make the best decisions for our organization in real time."*

CONCLUSION

Through our analysis, Nucleus found that customers spend less and do more with cloud ERP deployments. The average initial and ongoing costs of Oracle ERP Cloud were less than similar on-premise solutions, while delivering capabilities and functionality that produced business benefits. Oracle ERP Cloud helped customers transform their businesses by gaining greater visibility over the organization and increasing efficiency through streamlined and automated processes. By eliminating costly hardware and IT management personnel, as well as enabling faster deployments, smoother upgrades, lower maintenance, and fewer customizations, Oracle ERP Cloud costs less over the lifetime of the deployment relative to on-premise systems.