

A Forrester Total Economic Impact™ Study
Commissioned By Sage
March 2020

The Total Economic Impact™ Of Sage X3 Solution For Manufacturing Organizations

Cost Savings And Business Benefits Enabled By Sage X3

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Executive Summary

Key Benefits



Total headcount saved:
5.5 FTEs



Sales discount savings:
\$250,000 annually



Reduction in inventory levels:
15%

The manufacturing industry is going through a rapid change. Manufacturing organizations are under immense pressure to transform into digital businesses, become increasingly agile and efficient, and reduce production costs. Most digital transformation initiatives in manufacturing industries are about improving operational efficiencies. Forward-thinking manufacturing organizations are increasingly turning to business management solutions that help automate business processes, reduce risks, produce new levels of customer and operational intelligence, and ultimately fuel digital transformation.

Sage provides a business management solution for manufacturing operations that assists customers with the entire process — from financial management to supply chain management and production management. Sage commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) organizations may realize by deploying Sage X3. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of the Sage X3 on their manufacturing organizations.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed four Sage X3 manufacturing customers, each with significant experience of using Sage X3.

For this TEI study, Forrester has created a composite *Organization* to illustrate the quantifiable benefits and costs of investing in Sage X3 for Manufacturing. Based on characteristics of the interviewed customers, the *Organization* is a global, midsize company in the discrete and process manufacturing industry. It has major operations in North America, Europe, and Africa, and it has minor multisite operations globally. It has been using Sage X3 for five years to enable its business process activities. For more information, see the section titled: The Composite *Organization*

Key Findings

Quantified benefits. The composite Organization experiences the following risk-adjusted present value (PV) quantified benefits totaling \$2,646,632 (see the Financial Analysis section for more details):

- › Financial management — labor savings for reporting: \$193,974.
- › Purchasing — materials and productivity savings: \$676,424.
- › Sales management — sales discount savings: \$559,542.
- › Inventory management — reduced inventory levels: \$532,186.
- › Customer service — productivity improvements: \$50,359.
- › Manufacturing management — production cost reductions: \$335,725.
- › New features — production, supply chain, and financial management productivity savings: \$298,422.



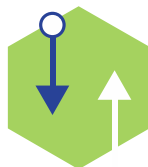
ROI
250%



Benefits PV
\$2.6 million



NPV
\$1.9 million



Payback
6 months

Unquantified benefits. The interviewed organizations experienced the following benefits, which are not quantified for this study:

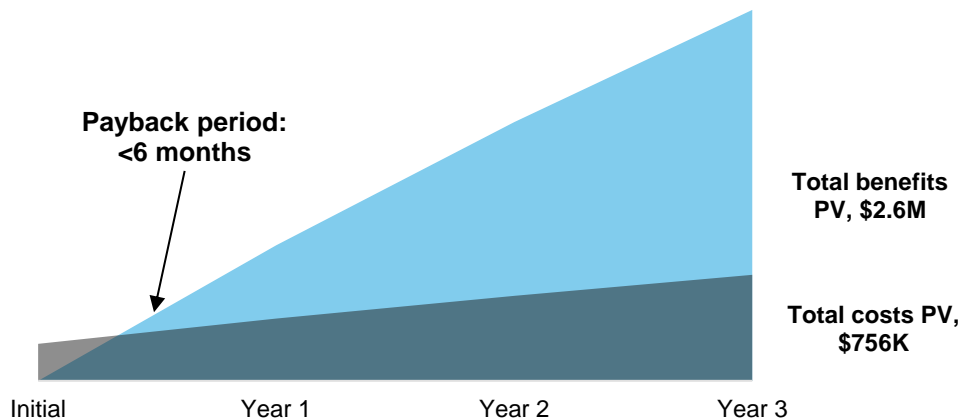
- › Interviewed customers reported that the workflow automation and alerts functionality within Sage X3 encourages users to adhere to policies and speeds up processes. In the past, an employee would have to chase somebody down to approve a purchase order. With Sage X3, the automated workflow alerts notify the appropriate staff, and approvals are done in a more reasonable amount of time.
- › With documentation and office collaboration functionality in Sage X3, every vendor invoice is scanned into a document management system and PDFs are uploaded into Sage X3 and attached to the records. Invoices are now accessible by anyone who needs to see them, including business units and purchasing, receiving dock, and accounts payable employees. With Sage X3, employees don't have to search physical file cabinets anymore; they just access Sage X3 on their computers.

Costs. The *Organization* experiences the following present value (PV) costs (see the Financial Analysis section for more details):

- › Internal labor to plan and deploy Sage X3: \$60,000.
- › Sage X3 fees: \$378,948.
- › Ongoing internal administrative labor for Sage X3: \$248,685.
- › Implementation costs will vary depending on the size and scope of implementation. Readers are encouraged to reach out to Sage for a more tailored quote based on specific requirements and planned business outcomes. To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year risk-adjusted total PV of \$756,397.

Forrester's interviews and subsequent financial analysis found that the *Organization* experiences benefits of \$2,646,632 over three years versus costs of \$756,397, adding up to a net present value (NPV) of \$1,890,235, with a payback period of less than six months and an ROI of 250%. Depending on the size and scope of implementation, on average most manufacturing organizations would expect to receive payback within six to 12 months.

Financial Summary



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 Framework And Methodology

From the information provided in the interviews, Forrester has constructed a Total Economic Impact™ (TEI) framework for those organizations considering implementing Sage X3.

The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that affect the investment decision. Forrester took a multistep approach to evaluate the impact that Sage X3 can have on an organization:



DUE DILIGENCE

Interviewed Sage stakeholders and Forrester analysts to gather data relative to Sage X3.



CUSTOMER INTERVIEWS

Interviewed four organizations using Sage X3 to obtain data with respect to costs, benefits, and risks.



COMPOSITE ORGANIZATION

Designed a composite organization based on characteristics of the interviewed organizations.



FINANCIAL MODEL FRAMEWORK

Constructed a financial model representative of the interviews using the TEI methodology and risk-adjusted the financial model based on issues and concerns of the interviewed organizations.



CASE STUDY

Employed four fundamental elements of TEI in modeling Sage X3'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 A for additional information on the TEI methodology.

DISCLOSURES

Readers should be aware of the following:

This study is commissioned by Sage 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 Sage X3.

Sage 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.

Sage provided the customer names for the interviews but did not participate in the interviews.

The Sage X3 Customer Journey

BEFORE AND AFTER THE SAGE X3 INVESTMENT

Interviewed Organizations

For this study, Forrester conducted four interviews with Sage X3 manufacturing customers. Interviewed customers include the following (each requesting anonymity):

INDUSTRY	REGION	INTERVIEWEE	NUMBER OF USERS
Food products	Headquartered in the US	Technology director	480
Equipment and other products	Headquartered in the US	Technology manager	65
Structure and other products	Headquartered in South Africa	Chief information officer (CIO)	110
Consumer products	Headquartered in the US	Vice president	130

The Composite Organization

For this TEI study, Forrester created a composite *Organization* to illustrate the quantifiable benefits and costs of investing in Sage X3 for manufacturing operations. The composite *Organization* is a global, midsize manufacturing company. It has major operations in North America, Europe, and Africa with minor multisite operations globally. It has been using Sage X3 for five years to integrate its manufacturing business process activities and currently has 100 active users of Sage X3.

Key Challenges

The composite *Organization* shared the same issues and challenges as the four interviewed customers:

- › The *Organization* was outgrowing the capacity of existing business management software.
- › Inefficiencies of its legacy business management systems undermined growth potential.
- › It was losing insight into operations because of organizational growth and loosely integrated management tools.
- › It had a need to stay competitive within a limited budget.
- › It had a need for more agility and flexibility in an enterprise resource planning (ERP) solution.

“Our legacy systems couldn't deliver reports on a global scale, and we had to manually consolidate things. So reporting was a big issue for us. With Sage X3, there were quick gains and we could get real time information. Another reason why we chose Sage X3 was the customization. We could develop new modules and develop reporting functionalities on a global scale per business needs.”

Chief information officer



Solution Requirements

The composite *Organization* searched for a solution that could:

- › Consolidate disparate manufacturing business systems into one solution.
- › Achieve process and product consistency across its varied operations.

- › Gain real-time visibility and insights across the global supply chain.
- › Accommodate future merger and acquisition activity.
- › Promote a leaner and more agile organization.
- › Have web access support for its mobile sales force.

Key Results

The customer interviews revealed several key and beneficial results attributed to their investment in Sage X3 for Manufacturing. Here are the composite *Organization* results (more detail is available in the Financial Analysis section):

- › **Financial management.** The Sage X3 financial management module produced labor and time savings in the following areas and tasks:
 - The ability to report monthly company financials using multiple local currencies, along with consolidated financials using its headquarters' local currency.
 - The ability to adjust inventory levels and allow production control and manufacturing groups to monitor processes on a daily basis.
 - Better cash management insight and practices.
- › **Purchasing.** The *Organization* now has the ability to standardize purchasing processes globally, with purchasing managers adhering to standards to ensure the best possible prices and volume discounts from suppliers. In addition, Sage X3 facilitates a more streamlined and less labor-intensive purchasing process.
- › **Sales management.** Sage X3 promotes standardized sales processes, allowing account managers worldwide to operate under the same guidelines and within the same sales database. The *Organization* can review customer activity globally and monitor, manage, and adjust discount levels.
- › **Inventory management.** The *Organization* now has visibility into its entire production inventory for all global sites. It has experienced a reduction in average levels of certain inventory, using Sage X3 inventory management functionality to increase inventory turns.
- › **Customer service.** Customer service functionality in Sage X3 provides the *Organization* with more visibility into customer service and accounts receivable issues. There has been customer service productivity and customer satisfaction improvements in the way relationships are managed.
- › **Manufacturing management.** The investment in Sage X3 allows the *Organization* to move to a completely automated manufacturing process at most sites. Prior to Sage X3, manufacturing analysts would record production transactions once per month and do a physical inventory at the end of each month. With Sage X3, the *Organization* accesses manufacturing transactions and inventory in real time with more accurate inventories and production schedules.
- › **New features.** The *Organization* achieves production, supply chain, and financial reporting productivity by using the new Sage X3 features.

“Sage X3 introduced lots of flexibility and was a natural progression for our business. We are able to do things faster and more conveniently.”

Technology manager



Analysis Of Benefits

QUANTIFIED BENEFIT DATA AS APPLIED TO THE COMPOSITE

Total Benefits						
REF.	BENEFIT	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Atr	Sage X3 Financial management — labor savings for reporting	\$78,000	\$78,000	\$78,000	\$234,000	\$193,974
Btr	Sage X3 Purchasing savings	\$272,000	\$272,000	\$272,000	\$816,000	\$676,424
Ctr	Sage X3 Sales management — sales discount savings	\$225,000	\$225,000	\$225,000	\$675,000	\$559,542
Dtr	Sage X3 Inventory management savings	\$214,000	\$214,000	\$214,000	\$642,000	\$532,186
Etr	Sage X3 Customer service savings	\$20,250	\$20,250	\$20,250	\$60,750	\$50,359
Ftr	Sage X3 Manufacturing — production cost reductions	\$135,000	\$135,000	\$135,000	\$405,000	\$335,725
Gtr	New features: production, supply chain, and reporting productivity	\$120,000	\$120,000	\$120,000	\$360,000	\$298,422
Total benefits (risk-adjusted)		\$1,064,250	\$1,064,250	\$1,064,250	\$3,192,750	\$2,646,632

Sage X3 Financial Management Module — Labor Savings For Reporting

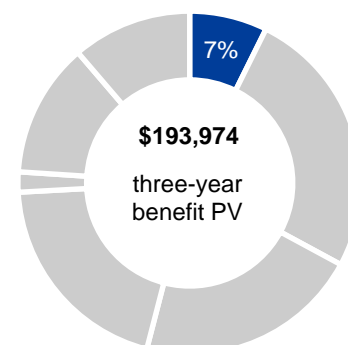
According to the interviewed customers, the implementation of the Sage X3 financial management module results in labor and time savings in the following areas and tasks for the *Organization*.

The *Organization* is now able to report monthly company financials using multiple local currencies, along with consolidated financials using its HQ's local currency. Prior to Sage X3, the *Organization* made no attempts to produce interim reporting during the month, as it deemed the reporting too labor intensive. With Sage X3, real-time reporting allows purchasing and inventory management groups to review and adjust inventory levels. It allows the production control and manufacturing groups to monitor processes on a daily basis, and the *Organization* has better cash management insight and practices.

Modeling and assumptions. Based on customer interviews, the *Organization* would have needed to add 1.50 full-time equivalents (FTEs) to produce real-time reports with the legacy ERP environment and to match the current reporting capabilities of Sage X3. Forrester used a fully loaded annual cost of \$65,000 for the 1.50 FTEs (financial analysts).

Risks. Forrester considered the following potential risks when assigning a risk adjustment. The labor savings have been risk-adjusted (reduced) by 20% in the table below because the *Organization* never hired the financial analysts, so there's some uncertainty as to the benefit amount. To account for these risks, Forrester adjusted this benefit downward by 20%, yielding a three-year risk-adjusted total PV of \$193,974.

The table above shows the total of all benefits across the areas listed below, as well as present values (PVs) discounted at 10%. Over three years, the composite organization expects risk-adjusted total benefits to be a PV of more than \$2.6 million.



**Labor savings for reporting:
7% of total benefits**

Sage X3 Financial Management — Labor Savings For Reporting

REF.	METRIC	CALC./SOURCE	YEAR 1	YEAR 2	YEAR 3
A1	Labor savings — financial reporting	FTE	1.50	1.50	1.50
A2	Average cost for finance analyst	Industry average	\$65,000	\$65,000	\$65,000
At	Sage X3 Financial management — labor savings for reporting	A1*A2	\$97,500	\$97,500	\$97,500
	Risk adjustment	↓20%			
Atr	Sage X3 Financial management — labor savings or reporting (risk-adjusted)	At-20%	\$78,000	\$78,000	\$78,000

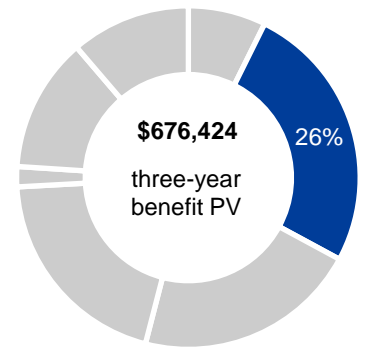
Sage X3 Purchasing Module — Materials And Productivity Savings

With Sage X3, the *Organization* is now able to standardize its purchasing process globally, with purchasing managers adhering to standards to ensure the best possible prices from suppliers.

Modeling and assumptions. With Sage X3, the *Organization* now manages purchasing and inventory levels across all sites, saving 5% annually (\$200,000) on the cost of certain materials through global volume discounts from suppliers. In addition, Sage X3 facilitated a more streamlined, less labor-intensive purchasing process, saving the *Organization* 1.5 FTEs annually. Forrester used a fully loaded annual cost of \$80,000 for the 1.5 FTEs (purchasing managers).

Risks. To be conservative, Forrester risk-adjusted (reduced) the materials and labor savings by 15% in the table below to reflect variations in inventory discount savings, as well as how long it may take to redeploy purchasing staff to other tasks or positions in the *Organization*.

To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year risk-adjusted total PV of \$676,424.



**Purchasing savings:
26% of total benefits**

Sage X3 Purchasing — Materials And Productivity Savings

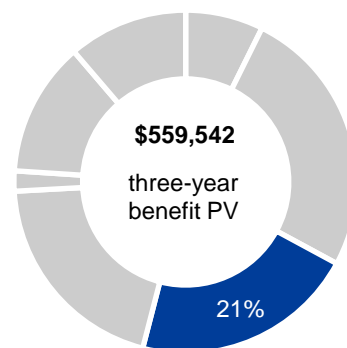
REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
B1	Certain annual materials purchased	Interviews	\$4,000,000	\$4,080,000	\$4,161,600
B2	Materials cost savings	B1*5%	\$200,000	\$204,000	\$208,080
B3	Purchasing labor savings (FTEs)	Interviews	1.5	1.5	1.5
B4	Fully loaded cost per FTE	Industry average	\$80,000	\$80,000	\$80,000
B5	Purchasing labor savings (FTEs)	B3*B4	\$120,000	\$120,000	\$120,000
Bt	Sage X3 Purchasing savings	B2+B5	\$320,000	\$320,000	\$320,000
	Risk adjustment	↓15%			
Btr	Sage X3 Purchasing savings (risk-adjusted)	Bt-15%	\$272,000	\$272,000	\$272,000

Sage X3 Sales Management Module — Reduced Sales Discounting

With Sage X3, the *Organization* has standardized sales processes, allowing account managers worldwide to operate under the same guidelines and within the same sales database. The *Organization* has a complex discount structure that is further complicated by multiple geographies and currencies. Now the *Organization* can review customer activity globally and monitor, manage, and reduce discount levels. Prior to Sage X3, account managers would get discounts approved locally — exceeding the allowable discount levels and creating unprofitable business in some cases. Interviewed customers agreed that having an ERP system with sales management capability built on a single database reduces unauthorized discounting.

Modeling and assumptions. The *Organization* is saving two-tenths of 1% of sales on discounts, representing pure bottom-line profit.

Risks. To be conservative, Forrester risk-adjusted (reduced) discounting benefits by 10% in the table below to reflect variations in discounts approved and denied within the *Organization*. This yielded a three-year risk-adjusted total PV of \$559,542.



Reduced sales discounts:
21% of total benefits

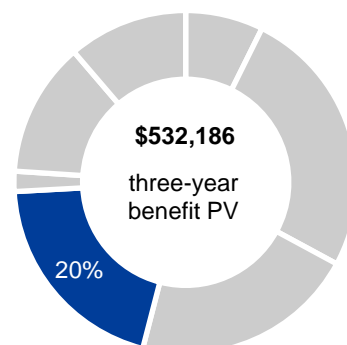
Sage X3 Sales Management — Reduced Sales Discounting

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
C1	Annual revenues	Forrester	\$125,000,000	\$125,000,000	\$125,000,000
C2	Discounts avoided (.02% of revenues)	C1*.002	\$250,000	\$250,000	\$250,000
Ct	Sage X3 Sales management — sales discount savings	C2	\$250,000	\$250,000	\$250,000
	Risk adjustment	↓10%			
Ctr	Sage X3 Sales management — sales discount savings (risk-adjusted)	Ct-10%	\$225,000	\$225,000	\$225,000

Sage X3 Inventory Management Module — Savings

With its investment in Sage X3, the *Organization* now has better visibility into its entire production inventory for all global sites. For example, if one of the distribution sites does not have a product, it can see that the product is available on another site/location and request shipment from there. The *Organization* experiences a reduction in average levels of certain inventory using Sage X3 inventory management functionality to increase inventory turns.

Modeling and assumptions. The *Organization* is able to increase inventory turns, resulting in a 15% reduction in average levels of certain inventory, saving \$607,500 (before risk adjustments) in inventory-carrying costs over three years. The *Organization* is also able to reduce headcount associated with inventory management activities, such as quickly capturing inventory transactions and relocating inventory. The *Organization* is able to benefit from these activities and permanently reduces inventory analysts' workloads by one FTE, or \$195,000 (before risk adjustments) over three years.



Inventory management savings: 20% of total benefits

Risks. To be conservative, Forrester risk-adjusted (reduced) the materials and labor savings by 20% in the table below to reflect variations in inventory levels and how long it may take to redeploy inventory management staff to other tasks or positions in the *Organization*. This yielded a three-year risk-adjusted total PV of \$532,186.

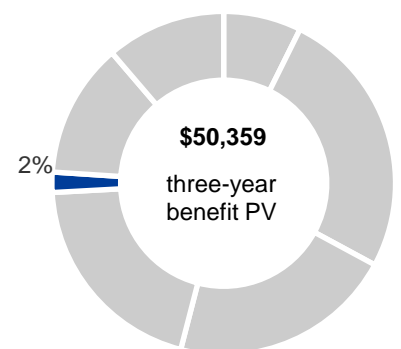
Sage X3 Inventory Management Savings					
REF.	METRIC	CALC./SOURCE	YEAR 1	YEAR 2	YEAR 3
D1	Average level of certain inventory before Sage X3	Interviews	\$9,000,000	\$9,000,000	\$9,000,000
D2	Average inventory with Sage X3	Interviews	\$7,650,000	\$7,650,000	\$7,650,000
D3	Average 15% reduction in inventory using Sage X3	D1-D2	\$1,350,000	\$1,350,000	\$1,350,000
D4	Carrying cost savings of certain inventory	D3*15%	\$202,500	\$202,500	\$202,500
D5	Increased productivity — inventory transactions	1.0 FTE saved per year	1.0	1.0	1.0
D6	Cost per inventory control FTE	Industry average	\$65,000	\$65,000	\$65,000
D7	Labor savings using Sage X3	D5*D6	\$65,000	\$65,000	\$65,000
Dt	Sage X3 Inventory Management savings	D4+D7	\$267,500	\$267,500	\$267,500
	Risk adjustment	↓20%			
Dtr	Sage X3 Inventory Management savings (risk-adjusted)	Dt-20%	\$214,000	\$214,000	\$214,000

Sage X3 Customer Service Module — Productivity Improvements

Customer service functionality in Sage X3 provides the *Organization* with more visibility into customer service and accounts receivable issues. There are productivity and customer relationship improvements in the way relationships are managed.

Modeling and assumptions. The *Organization's* five customer service agents experience productivity benefits, saving each agent four hour per week. At an average cost of \$45,000 per year (\$21.63 per hour), annual customer service agent productivity savings are \$22,500 ($\$21.63 * 4 * 5 * 52$ weeks), or \$67,500 (before risk adjustments) over the three years of our analysis.

Risks. To be conservative, Forrester risk-adjusted (reduced) the productivity improvement benefits by 10% in the table below to reflect how long it may take to redeploy agents to other customer service tasks in the *Organization*. This yielded a three-year risk-adjusted total PV of \$50,359.



Customer service savings:
2% of total benefits

Sage X3 Customer Service Savings

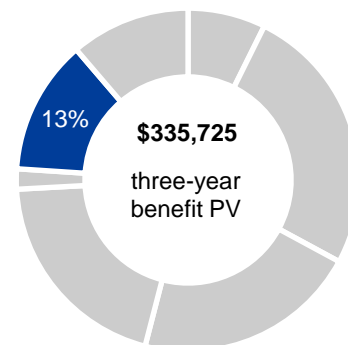
REF	METRIC	CALC.SOURCE	YEAR 1	YEAR 2	YEAR 3
E1	Number of customer service agents	Interview	5	5	5
E2	Total hours saved per week per agent	Interview	4	4	4
E3	Average annual salary — customer service agents	Interviews	\$45,000	\$45,000	\$45,000
E4	Cost per hour — customer service agents	\$45,000/2,080 hours per year	\$21.63	\$21.63	\$21.63
Et	Sage X3 Customer Service savings	(E1*E2)*E4*52 weeks	\$22,500	\$22,500	\$22,500
	Risk adjustment	↓10%			
Etr	Sage X3 Customer Service savings (risk-adjusted)	Et-10%	\$20,250	\$20,250	\$21,250

Sage X3 Manufacturing Module — Production Cost Reductions

The investment in Sage X3 allows the *Organization* to move to a completely automated process at most sites. Prior to Sage X3, manufacturing analysts would record production transactions once per month and do a physical inventory at the end of each month. With Sage X3, the *Organization* can access its manufacturing transactions and inventory in real time with more accurate inventories and production schedules. The *Organization* also has immediate access to inventory scrap rates and the ability to fix the manufacturing problems if scrap rates trend higher.

Modeling and assumptions. Sage X3 allows the *Organization* to reduce its overall cost of producing certain goods by one-half of 1% due to current and more accurate reporting.

Risks. Consistent with previous benefit categories, Forrester risk-adjusted (reduced) the manufacturing management benefit by 10% in the table below to reflect variability in manufacturing processes, yielding a three-year risk-adjusted total PV of \$335,725.



Production cost reductions:
13% of total benefits

Sage X3 Manufacturing — Production Cost Reductions

REF.	METRIC	CALC./SOURCE	YEAR 1	YEAR 2	YEAR 3
F1	Costs of producing certain goods before Sage X3	Interviews	\$30,000,000	\$30,000,000	\$30,000,000
F2	Savings with Sage X3	One-half of 1% of costs	0.50%	0.50%	0.50%
Ft	Sage X3 Manufacturing — production cost reductions	F1*F2	\$150,000	\$150,000	\$150,000
	Risk adjustment	↓10%			
Ftr	Sage X3 Manufacturing — production cost reductions (risk-adjusted)	Ft-10%	\$135,000	\$135,000	\$135,000

Sage X3 Manufacturing — New Features: Production, Supply Chain And Financial Reporting Productivity

Sage has incorporated new features and improvements for production, supply chain, and financial management into Sage X3. Interviewed customers estimated value and benefits as follows:

Production management

- › **Project management.** Manage all aspects of a project across financial, distribution, and/or manufacturing processes, from quoting to planning resources and material, tracking costs and schedule, invoicing, and analyzing profits.
- › **Production scheduling.** Optimize production cycles and control lead times with more flexible graphical production planning and scheduling capabilities.
- › **Automated bank statements.** Improve the efficiency of the financial process by automatically generating the transactions matching open items or unbalanced operations when importing bank statements.

Supply chain management

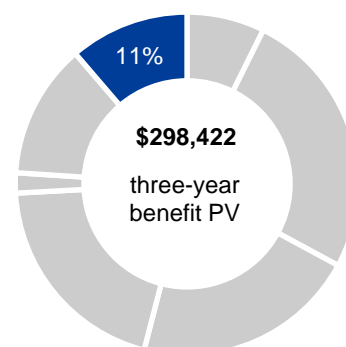
- › **eCommerce.** Build or customize a comprehensive webstore within days, and manage catalogs, pricing, inventory, customers, and all transactions as part of the Sage X3 core supply chain management processes.

Financial management

- › **Financial reporting.** Easily design reports with intuitive Excel-based reporting capabilities integrated with Sage X3 financial management and automate the running and distribution of reports to teams or individuals.

Modeling and assumptions. Interviewed customers estimated the new features of Sage X3 would improve productivity by 0.50 FTEs each for financial reporting, production, and supply chain management.

Risks. Consistent with previous benefit categories, Forrester risk-adjusted (reduced) the new features benefit by 20% to reflect some uncertainty in achieving the productivity gains for this relatively new functionality. This yielded a three-year risk-adjusted total PV of \$298,422.



New features: production, supply chain and reporting productivity: 11% of total benefits

New Features: Production, Supply Chain, And Reporting Productivity

REF.	METRIC	CALC./SOURCE	YEAR 1	YEAR 2	YEAR 3
G1	Production management savings	FTE	0.50	0.50	0.50
G2	Supply chain management savings	FTE	0.50	0.50	0.50
G3	Financial management savings	FTE	0.50	0.50	0.50
G4	Average fully loaded cost of FTEs	Industry average	\$100,000	\$100,000	\$100,000
Gt	New features: production, supply chain, and reporting productivity	$(G1+G2+G3)*G4$	\$150,000	\$150,000	\$150,000
	Risk adjustment	↓20%			
Gtr	New Features: production, supply chain, and reporting productivity (risk-adjusted)	Gt-20%	\$120,000	\$120,000	\$120,000

Unquantified Benefits

Unquantified benefits. The interviewed customers experienced the following benefits that are not quantifiable for this study:

- › The workflow automation and alerts functionality within Sage X3 encourages users to adhere to policies and speeds up processes. In the past, an employee would have had to chase somebody down to approve a purchase order. With Sage X3, the automated workflow alerts notify the appropriate staff, and approvals are done in a more reasonable amount of time.
- › With the documentation and office collaboration functionality in Sage X3, every vendor invoice is scanned into a document management system and PDFs are uploaded into Sage X3 and attached to the records. Invoices are now accessible by anyone who needs to see them, including business units and purchasing, receiving dock, and accounts payable employees. With Sage X3, employees don't have to search physical file cabinets anymore; they just access Sage X3 on their computers.

Flexibility

The value of flexibility is clearly unique to each customer, and the measure of its value varies from organization to organization. There are scenarios in which a customer might choose to implement Sage X3's solution and later realize additional uses and business opportunities. There are two future flexibility options that the *Organization* considers:

- › **Mobile.** Sage X3 can be used on any familiar web browser or mobile device.
- › **Mergers and acquisitions.** According to the interviewed customers, having Sage X3 allowed them to acquire companies and move them onto the company ERP model much faster and easier.

The value of flexibility would be quantified when evaluated as part of a specific project (described in more detail in Appendix A).

Flexibility, as defined by TEI, represents an investment in additional capacity or capability that could be turned into business benefit for a 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.

Analysis Of Costs

QUANTIFIED COST DATA AS APPLIED TO THE COMPOSITE

Total Costs							
REF.	COST	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
H1	Labor to plan and deploy Sage X3	\$60,000	\$0	\$0	\$0	\$60,000	\$60,000
H2	Sage X3 fees	\$180,000	\$80,000	\$80,000	\$80,000	\$420,000	\$378,948
H3	Ongoing administrative labor for Sage X3	\$0	\$100,000	\$100,000	\$100,000	\$300,000	\$248,685
Ht	Total costs associated with Sage X3 solution (H1:H3)	\$240,000	\$180,000	\$180,000	\$180,000	\$780,000	\$687,633
	Risk adjustment	↑10%					
Htr	Total costs associated with Sage X3 solution (risk-adjusted up 10%)	\$264,000	\$198,000	\$198,000	\$198,000	\$858,000	\$756,397

Total Costs Associated With Sage X3 For Manufacturing

The internal labor associated with planning and deploying Sage X3 for the *Organization* equates to one FTE across three staff members over six months. The average annual fully loaded cost of an FTE is \$120,000. Three FTEs spend about one-third of their time over six months (in aggregate) for planning and deployment of Sage X3 at a cost of \$60,000 as an initial investment period expense. Preplanning and deployment tasks included:

- › Sharing documentation with Sage or Sage partners.
- › Working with Sage or Sage partner professional services on requirements, configuration setups, data conversion, analysis and modeling, and training.
- › Training employees to use Sage X3.

Sage X3 fees are \$378,948. Sage X3 solution fees include the following:

- › Sage or partner professional services. This includes software installation, post-installation support, configuration setup, data conversion, analysis and modeling, testing, and training.

Ongoing administrative labor for Sage X3 is \$248,685. This includes ongoing labor to operate and maintain the integration points with other systems and applications, along with help desk support and training new users.

Implementation costs will vary depending on:

- › Resource salary/costs.
- › The size and scope of implementation.

To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year risk-adjusted total PV of \$756,397.

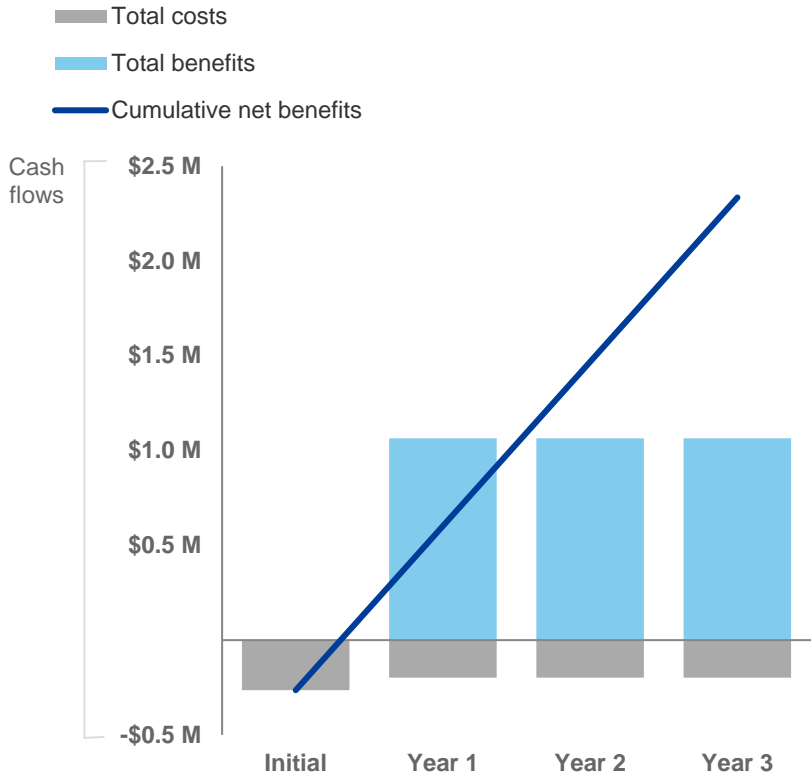
The table above shows the total of all costs across the areas listed below, as well as present values (PVs) discounted at 10%. Over three years, the composite organization expects risk-adjusted total costs to be a PV of \$756,397.

Implementation risk is the risk that a proposed investment may deviate from the original or expected requirements, resulting in higher costs than anticipated. The greater the uncertainty, the wider the potential range of outcomes for cost estimates.

Financial Summary

CONSOLIDATED THREE-YEAR RISK-ADJUSTED METRICS

Cash Flow Chart (Risk-Adjusted)



The financial results calculated in the Benefits and Costs sections can be used to determine the ROI, NPV, and payback period for the composite organization's investment. Forrester assumes a yearly discount rate of 10% for this analysis.



These risk-adjusted ROI, NPV, and payback period values are determined by applying risk-adjustment factors to the unadjusted results in each Benefit and Cost section.

Cash Flow Table (Risk-Adjusted)

	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Total costs	(\$264,000)	(\$198,000)	(\$198,000)	(\$198,000)	(\$858,000)	(\$756,397)
Total benefits	\$0	\$1,064,250	\$1,064,250	\$1,064,250	\$3,192,750	\$2,646,632
Net benefits	(\$264,000)	\$866,250	\$866,250	\$866,250	\$2,334,750	\$1,890,235
ROI						250%
Payback period						<6

Sage X3: Overview

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

Sage X3 helps business thrive and stay competitive in the face of growing complexity and competitive pressures. This complete business management solution transforms how organizations manage operations, processes and people, enabling businesses to respond faster to changing customer demands.

Sage X3 is faster, more intuitive, and tailored than conventional ERP. Sage X3 is available through multiple deployment options including on-premises and cloud giving organizations flexibility to choose the service offering that works the best for their organization.

Thrive as
a global
business

Gain faster
business
insight

Tailor your
experience

Intuitively
manage
operations

Generate
industry
leading ROI

Flexible
deployment

Appendix A: Total Economic Impact

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.

Total Economic Impact Approach



Benefits represent the value delivered to the business by the product. The TEI methodology places 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.



Costs consider all expenses necessary to deliver the proposed value, or benefits, of the product. The cost category within TEI captures incremental costs over the existing environment for ongoing costs associated with the solution.



Flexibility represents the strategic value that can be obtained for some future additional investment building on top of the initial investment already made. Having the ability to capture that benefit has a PV that can be estimated.



Risks measure the uncertainty of benefit and cost estimates given: 1) the likelihood that estimates will meet original projections and 2) the likelihood that estimates will be tracked over time. TEI risk factors are based on "triangular distribution."

The initial investment column contains costs incurred at "time 0" or at the beginning of Year 1 that are not discounted. All other cash flows are discounted using the discount rate at the end of the year. PV calculations are calculated for each total cost and benefit estimate. NPV calculations in 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.



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.



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.



Return on investment (ROI)

A project's expected return in percentage terms. ROI is calculated by dividing net benefits (benefits less costs) by costs.



Discount rate

The interest rate used in cash flow analysis to take into account the time value of money. Organizations typically use discount rates between 8% and 16%.



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.