

FORRESTER®

The Total Economic Impact Of Creatives TAM

Optimize Inventory, Increase Procurement Efficiency,
And Reduce Plant Downtime

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Table Of Contents

Executive Summary	1
The Creactives TAM Customer Journey	5
Interviewed Organization.....	5
Key Challenges	5
Analysis Of Benefits	6
Inventory Carrying Cost Reduction	6
Reduced Maverick Buying.....	8
Procurement Efficiencies.....	10
Unquantified Benefits	11
Flexibility.....	11
Analysis Of Costs	13
Software License Fees.....	13
Implementation Costs.....	13
Administration And Training Costs	15
Financial Summary	16
Appendix A: Total Economic Impact	17

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Executive Summary

Companies that use multiple ERP systems, operate in various languages, and have warehouses globally face big challenges in generating a single, harmonized view for all their material inventory. This results in inventory and procurement inefficiencies, negatively impacting companies' financial well-being. By implementing Creatives' TAM solution, organizations go beyond simple corporate taxonomy to gain a single, unified view across their inventory. They can thus reduce working capital and related costs; find materials more quickly, including essential replacement parts or components; and eliminate maverick buying.

Creatives has developed an AI-powered suite of products for real-time process optimization and procurement insights. Its Technical Attributes Management (TAM) application uses semantics technology to cleanse and optimally govern material master data (MMD) by automatically eliminating material code duplicates and establishing the correct categorization for each item for all future entries, avoiding new duplicates. TAM can act as the single source of truth for MMD for one or many enterprise resource planning (ERP) systems, project lifecycle management (PLM) systems, and other back-end systems.

Creatives commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying its TAM product. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of TAM on their organizations.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed a decision-maker at an organization with several years of experience of using Creatives' TAM. Forrester used this experience to build a three-year financial analysis, the business case for such an investment.

Prior to using the TAM solution, the customer, an energy company that manages warehouses in many countries, used various ERP systems and operated in different languages and so did not have a holistic

KEY STATISTICS



Return on investment (ROI)

427%



Net present value (NPV)

€8.9M

view of its inventory. This resulted in materials duplication, high levels of working capital, inefficient procurement, and potential business loss due to inefficient core item replacement. Prior attempts to gain a clear view of all materials and their location resulted in insufficient value increase. The company wanted to use Creatives' TAM solution to cleanse its ERP systems, establish a single source of truth, and enforce optimal governance for all future entries.

After the investment in TAM, the customer could easily identify and locate all materials. Key results from the investment include reduced inventory, reduced maverick buying, and reduced downtime.



Material inventory reduction:

€29M

KEY FINDINGS

Quantified benefits. Risk-adjusted present value (PV) quantified benefits include:

- **Inventory carrying cost savings of €8.0 million present value over three years, resulting from a net materials and equipment reduction of nearly €29 million.** The core use of the TAM solution is to identify and eliminate duplicate item records within an organization’s ERP systems (also known as “deduping”). In the case of high-value, low-rotation item, organizations can achieve a 10% overall net decline in materials items and significantly reduce inventory carrying costs.
- **Reduced maverick buying delivering benefits of nearly €1.8 million.** By ensuring all materials are sourced through the appropriate system, organizations can avoid buying items out of agreed frameworks, ensuring they always achieve prenegotiated discounts, typically of 5%.
- **Procurement efficiencies amounting to nearly €1.2 million.** By having a reliable single source of truth, procurement professionals can find materials faster and more easily, avoid errors, and thus save time.

Unquantified benefits. Additional benefits that were not quantified for this study include:

- **Avoidance of business loss.** The interviewee told us that a strategic driver of the investment was the need to ensure that components and key parts could quickly and easily be found and shipped to maximize power plant uptime, reducing downtime costs.

Costs. Forrester identified three categories of risk-adjusted PV costs:

- **Software license fees.** The software license fees are the annual subscription costs paid to Creatives for continued access to the TAM tool.

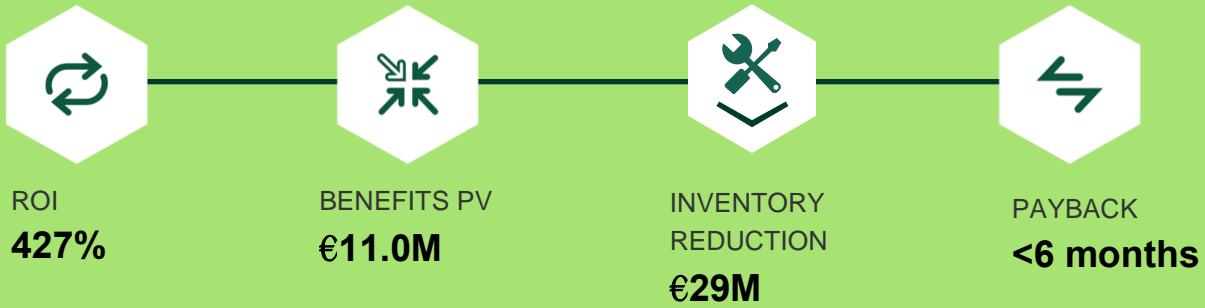
The fees are driven by the number of languages used, the size of the implementation, and the quantity of data. The three-year, present value of the software license fees amounts to nearly €647K.

“If a critical component is needed, it’s easy to search globally. If there is one available, we can ship it very quickly; this is an important benefit as an energy plant may otherwise be down and power production reduced, potentially impacting revenue and profit.”

Head of logistic and contract improvement, material and contract management, operation and maintenance, energy

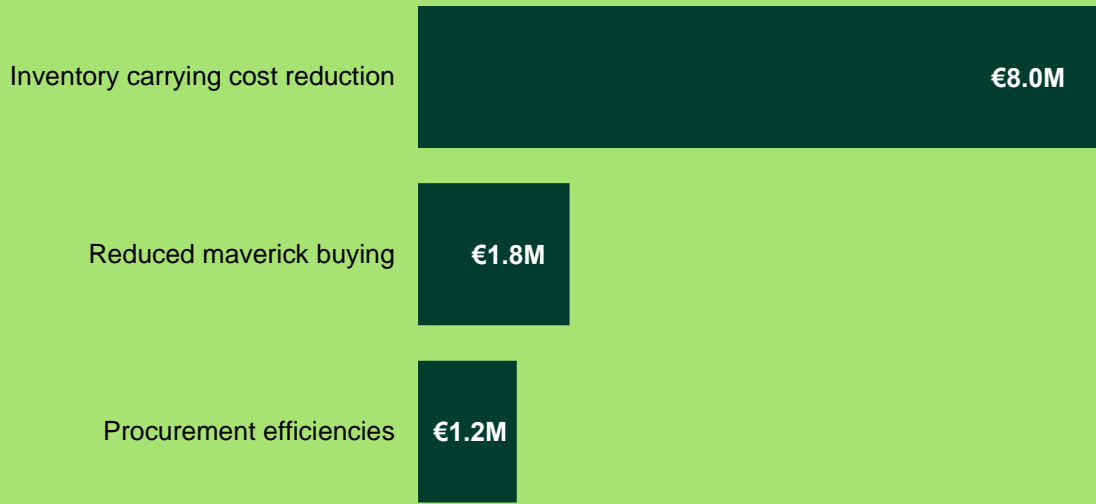
- **Implementation costs.** The implementation costs comprise Creatives’ implementation fees, third-party professional services fees, user training, and the internal resource requirement to support the planning, testing, and implementation of the tool. This yields a three-year, present value, risk-adjusted value of €971K.
- **Administration and training costs.** The ongoing costs of operating and maintaining the platform include the administration and support effort and the ongoing training requirement. This amounts to a three-year, risk-adjusted present value of more than €469K.

The interview and financial analysis found that this customer experiences benefits of €11.0M over three years versus costs of €2.1M, adding up to a net present value (NPV) of €8.9M and an ROI of 427%.



By reducing the value of materials inventory, organizations can achieve the related reduction in carrying costs, typically between 20% and 30%. These include the cost of capital, storage and warehouse fees, services costs, and costs related to depreciation and the risk of obsolescence.

Benefits (Three-Year)



TEI FRAMEWORK AND METHODOLOGY

From the information provided in the interviews, Forrester constructed a Total Economic Impact™ framework for those organizations considering an investment in the TAM solution.

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 the TAM solution can have on an organization.

DISCLOSURES

Readers should be aware of the following:

This study is commissioned by Creatives 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 the TAM solution.

Creatives 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.

Creatives provided the customer name for the interview but did not participate in the interview.



DUE DILIGENCE

Interviewed Creatives stakeholders and Forrester analysts to gather data relative to the TAM solution.



CUSTOMER INTERVIEW

Interviewed decision-makers at an organization using the TAM solution to obtain data with respect to costs, benefits, and risks.



FINANCIAL MODEL FRAMEWORK

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



CASE STUDY

Employed four fundamental elements of TEI in modeling the investment impact: benefits, costs, flexibility, and risks. Given the increasing sophistication of ROI analyses related to IT investments, Forrester's TEI methodology provides a complete picture of the total economic impact of purchase decisions. Please see Appendix A for additional information on the TEI methodology.

The Creatives TAM Customer Journey

■ Drivers leading to the TAM investment

INTERVIEWED ORGANIZATION

Forrester interviewed a long-term Creatives TAM customer with the following characteristics:

- It is a large global organization, operating in the energy sector, present in 24 countries.
- It employs nearly 70,000 employees and generates €75 billion in annual revenue.
- It first implemented the Creatives platform in 2015 and continues to add capabilities. In October 2020, the organization renewed its contract, adding additional elements to enable more benefits.

KEY CHALLENGES

The client organization manages warehouses in 24 countries and operates globally in five different languages (English, Spanish, Portuguese, Russian, and Italian). The company used 18 ERP systems, each containing different product information and each referring to products and materials using one or more of the five languages globally utilized. This created enormous complexity and large volumes of duplicates; therefore, the company embarked on a journey to reduce ERPs to four. The company wanted to eliminate as many unnecessary master data items as possible during the consolidation process.

The interviewed organization struggled with common challenges, including:

- **Inefficient logistics.** The client company struggled to efficiently supply its power plants with key components. This applied both to “emergency” suppliances (when a quick replacement was needed) and to regular suppliances; in both cases, knowing if the company already owned needed items and where it stored them would have saved time and money.

- **Reduce working capital.** To improve its financial performance, the organization looked for ways to improve cash flow and reduce costs. The high level of working capital was an important opportunity for cost reduction.

“The key driver for us was to better understand the current materials in various warehouses around the world to reduce costs and consolidate materials, which are under different names.”

Head of logistic and contract improvement, material and contract management, operation and maintenance, energy

- **Procurement inefficiencies.** The organization wanted to improve efficiency and hence costs. Executives in the procurement team spent too much time looking for materials; furthermore, when they could not find them, they tended to buy them as a free text and not as part of agreed and prenegotiated procurement frameworks and agreements.

Ultimately, these challenges led the organization to invest in the Creatives TAM solution.

Analysis Of Benefits

Quantified benefit data

Total Benefits							
Ref.	Benefit	Initial	Year 1	Year 2	Year 3	Total	Present Value
Atr	Inventory carrying cost reduction	€0	€2,017,688	€3,833,607	€4,035,376	€9,886,671	€8,034,370
Btr	Reduced maverick buying	€0	€450,000	€855,000	€900,000	€2,205,000	€1,791,886
Ctr	Procurement efficiencies	€0	€95,681	€673,313	€708,750	€1,477,744	€1,175,934
	Total benefits (risk-adjusted)	€0	€2,563,369	€5,361,920	€5,644,126	€13,569,415	€11,002,190

INVENTORY CARRYING COST REDUCTION

Evidence and data. The biggest benefit of the platform is the savings made from the reduction in inventory carrying costs. Inventory carrying cost, which is the total of all expenses related to storing unsold goods, is 25% of the reduced inventory value each year. Carrying costs include cost of capital; services costs, including insurance and taxes; storage costs; and item depreciation due to obsolescence.

- The value of materials and equipment inventory, as reported in the annual accounts at the time of the implementation, was €1.5 billion, equivalent to 2% of global revenue at the time. Sixty percent of this inventory represented high-value, low-rotation items such as power turbines and gearboxes. These items are where the savings can be made.
- The interviewee shared that the company reduced the number of materials in its system by 30% overall, covering all inventory types in terms of the frequency of rotation and value. The impact on the high-value items is much lower; the management of such inventory items is much more focused, estimated at 10%.

Modeling and assumptions. The reduction in inventory, which generates the carrying cost savings, depends on the number of duplicates identified. In the case of the high-value items, Forrester assumes only double and triple duplicates were identified:

“We saw a 30% reduction in material duplicates. This not only impacts inventory and working capital but also the cost of warehouse management.”

Head of logistic and contract improvement, material and contract management, operation and maintenance, energy

- Of the 10% of high-value items reduced, 8% were double duplicates, and the remaining 2% were triple duplicates. Forrester assumes that there were no quadruple-duplicated high-value items, though in cases where there are, the inventory reduction tends to be even higher.
- The value of inventory of double-duplicated materials, €72M, could be optimized to €50.9M by dividing the value by the square root of 2, a reduction of just about €22M.
- The value of inventory of triple-duplicated materials, nearly €18M, could be reduced to

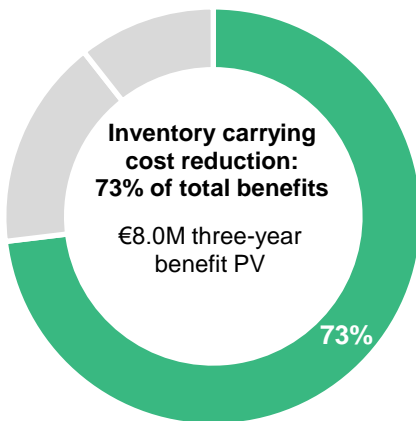
€10.3M by dividing the value by the cube root of 2, a reduction of over €7M.

- Overall, therefore, the inventory of high-value items could be reduced by over €28M over three years. With the TAM solution covering 50% of the inventory in Year 1, 95% in Year 2, and 100% in Year 3, the €28M reduction in high-value, low-rotation items broke down as follows: about €14M in Year 1, €27M in Year 2, and €28M in Year 3.
- Inventory carrying cost is 25% each year. The savings enabled by inventory carrying cost reduction were therefore €3.5M in Year 1, €6.8M in Year 2, and €7.1M in Year 3.

Given that the implementation of Creatives' TAM took place at the same time as an ERP upgrade, Forrester has attributed 25% of the inventory reduction to that upgrade, when some data cleansing typically takes place. Hence the final value of inventory carrying costs savings directly attributable to the TAM solution was nearly €2.7M in Year 1, €5.1M in Year 2, and €5.4M in Year 3.

- A lower incidence of triple-code duplicates.
- A higher impact from the ERP upgrade process.

This yielded a three-year PV of €8.0M; this is the largest benefit, accounting for nearly three-quarters of the total benefits over the three-year period.



Risks. Forrester applied a moderate risk reduction of 25% to account for potential differences in the previous environment, which could reduce the impact of this benefit. These differences include:

- The degree of control over inventory and stock levels, which could reduce the potential for material duplicates.

Inventory Carrying Cost Reduction						
Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
A1	Materials and equipment inventory		€1,500,000,000			
A2	Tool coverage		0%	50%	95%	100%
A3	Portion of materials and equipment inventory that is high value, low rotation	Interview	60%			
A4	Value of materials and equipment inventory that is high value, low rotation	A1*A3	€900,000,000			
A5	Portion of low rotation, high value with double-duplicate codes identified	Interview	8%			
A6	Portion of low rotation, high value with double-duplicate codes identified	A4*A5	€72,000,000			
A7	Optimized value of inventory with double-duplicate codes	A6/((2^0.5))	€50,911,688			
A8	Portion of low rotation, high value with triple-duplicate codes identified	Interview	2%			
A9	Portion of low rotation, high value with triple-duplicate codes identified	A4*A8	€18,000,000			
A10	Optimized value of inventory with triple-duplicate codes	A9/(3^(0.5))	€10,392,305			
A11	Optimized high-value, low-rotation inventory	A4-A6+A7-A9+A10	€871,303,993			
A12	Total reduction in inventory at the end of Year 3	A4-A11	€28,696,007			
A13	Inventory reduction	A12 _{Initial} *A2		€14,348,003	€27,261,207	€28,696,007
A14	Inventory carrying costs	Industry value		25%	25%	25%
A15	Carrying costs of inventory reduced	A13*A14		€3,587,001	€6,815,302	€7,174,002
A16	Portion attributable to ERP consolidation/upgrade			25%	25%	25%
At	Inventory carrying cost reduction	A15*(1-A16)		€2,690,251	€5,111,476	€5,380,501
	Risk adjustment	↓25%				
Atr	Inventory carrying cost reduction (risk-adjusted)		€0	€2,017,688	€3,833,607	€4,035,376
Three-year total: €9,886,671			Three-year present value: €8,034,370			

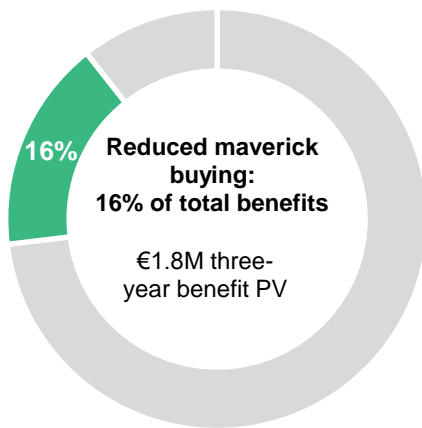
REDUCED MAVERICK BUYING

Evidence and data. Maverick buying refers to the procurement of materials outside of agreed frameworks and procurement agreements. Typically, in large organizations, the procurement team will have negotiated framework agreements with

suppliers including preagreed discounts, bundles, and other benefits. However, to benefit from these agreements, orders must go through agreed channels, and these are not always followed; this is sometimes referred to as free-text procurement. This can, in particular, occur when materials are listed in

Reduced Maverick Buying

Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
B1	Materials and equipment inventory		€1,500,000,000			
B2	Portion of material and equipment inventory that is low value, high rotation	Interview		40%	40%	40%
B3	Value of material and equipment inventory that is low value, high rotation	$B1_{Initial} * B2$		€600,000,000	€600,000,000	€600,000,000
B4	Incidence of maverick/nonbundled procurement	$B3 * 4\%$		€24,000,000	€24,000,000	€24,000,000
B5	Average discount	Interview		5.0%	5.0%	5.0%
B6	Tool coverage	Interview		50%	95%	100%
Bt	Reduced maverick buying	$B4 * B5 * B6$		€600,000	€1,140,000	€1,200,000
	Risk adjustment	↓25%				
Btr	Reduced maverick buying (risk-adjusted)		€0	€450,000	€855,000	€900,000
Three-year total: €2,205,000			Three-year present value: €1,791,886			



different languages and searches in one language do not highlight materials in another.

Modeling and assumptions. While the interviewee struggled to know the exact scope of maverick buying historically, the customer agreed that the following assumptions were reasonable and conservative, confirmed by other examples shared by Creatives:

- The portion of materials and equipment inventory that is low value, high rotation is where free-text

procurement occurs. This amounted to 40% of the total.

- The incidence of maverick buying prior to the TAM implementation was 4% of the low-value, high-rotation materials and equipment inventory value.
- The average discount that this maverick procurement was missing out on was 5%.

Given that there was only 50% coverage in Year 1, and 95% in Year 2, Forrester made appropriate adjustments to the impact in the relevant years.

Risks. Forrester applied a moderate risk adjustment of 25%, given that the legacy setup might have been able to better avoid the incidence of maverick buying. Furthermore, the level of discounts could be lower in some cases.

This yielded a three-year, risk-adjusted total PV of €1,791,886.

PROCUREMENT EFFICIENCIES

Evidence and data. The third benefit quantified in this analysis is the efficiencies enabled by the tool for the procurement team. This largely comes down to being able to find materials much more quickly and easily, particularly across different languages and regions.

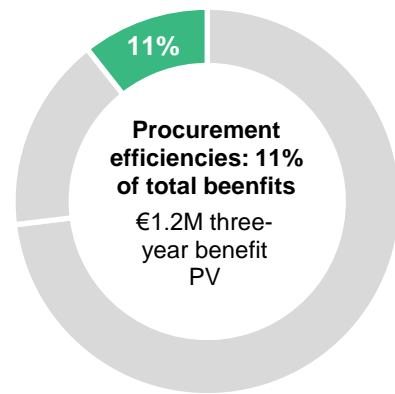
Modeling and assumptions. To quantify this benefit, Forrester assumes:

- The total number of users of the tool was 1,080 in Year 1, growing to 2,000 from Year 2 onward.
- Only half of the global users of the tool were impacted by these efficiencies.
- In Year 1, users saved half an hour per week, on average, growing to a full hour in the following year once the system was fully implemented and fine-tuned and users became familiar with it.
- Only half of the time freed up was put back to productive use, as per standard TEI best practice.

Risks. Forrester applied a moderate risk adjustment of 25% to account for the fact that prior to the implementation of the tool, certain setups could already be efficient, reducing the scope of the impact of this benefit. As a result, the total value of this benefit over the three years, discounted as a present value, came to €1,175,190.

“A single source of truth also means less searching and less errors, which impacts time and productivity.”

Head of logistic and contract improvement, material and contract management, operation and maintenance, energy



Procurement Efficiencies						
Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
C1	Number of users	Interview		1,080	2,000	2,000
C2	Portion of users impacted	Interview		50%	50%	50%
C3	Average time saving per impacted user (hours/week)	Interview		0.5	1.0	1.0
C4	Average user hourly rate (rounded to nearest euro)	€75,000/45/5/8		€42	€42	€42
C5	Total value of time saved	$C1 * C2 * C3 * C4 * 45$		€510,300	€1,890,000	€1,890,000
C6	Tool coverage			50%	95%	100%
C7	Productivity conversion factor	Assumption		50%	50%	50%
Ct	Procurement efficiencies	$C5 * C6 * C7$		€127,575	€897,750	€945,000
	Risk adjustment	↓25%				
Ctr	Procurement efficiencies (risk-adjusted)		€0	€95,681	€673,313	€708,750
Three-year total: €1,477,744			Three-year present value: €1,175,934			

UNQUANTIFIED BENEFITS

An additional benefit that Forrester did not quantify is the **faster identification and shipping of key components, resulting in reduced plant downtime**. The interviewee told us that an important, strategic element of the investment was to be able to quickly find and ship important parts or components that might break down or require replacement.

In the case of this power supplier, that might be a turbine or gearbox, without which a particular power plant cannot properly function. The potential upside of this benefit is significant: The cost of a power plant not at full capacity can impact revenue.

Similar impacts can arise for other high-capital industries such as manufacturing, oil and gas, transport, mining, utilities, and engineering. It is worth noting, therefore, that the actual ROI could be significantly higher than that stated in this study

because the value of this benefit could not be quantified.



Reduction in material items during ERP consolidation

1 million

FLEXIBILITY

The value of flexibility is unique to each customer. There are a number of scenarios in which a customer might implement the TAM solution and later make additional **related investments to uncover further benefits**. These might include:

- **Spending analysis tool.** This capability analyzes spending across the organization and

suggests changes and adjustments to enable additional savings and cost avoidance.

- **Cleansing and enriching dedicated service.** This supplemental service helps cleanse, harmonize, and enrich procurement data, ensuring the benefits of the core system are maintained and potentially further reduce inventory levels.
- **Data assistants.** These services can be embedded in the ERP's transactions (purchase requisitions, purchase orders, demand planning, master data management) and support end users to quickly find what they are looking for. If the objects of search are not available inside the master data, the catalogs, or the frame contracts, the data assistants support the end user to correctly categorize the new entries.

Analysis Of Costs

■ Quantified cost data

Total Costs							
Ref.	Cost	Initial	Year 1	Year 2	Year 3	Total	Present Value
Dtr	Software license fees	€0	€260,000	€260,000	€260,000	€780,000	€646,582
Etr	Implementation costs	€604,808	€403,205	€0	€0	€1,008,013	€971,358
Ftr	Administration and ongoing training costs	€0	€162,338	€203,963	€203,963	€570,263	€469,384
	Total costs (risk-adjusted)	€605,000	€825,833	€464,167	€464,167	€2,359,167	€2,087,324

SOFTWARE LICENSE FEES

The software license fees are the annual subscription costs paid to Creatives for continued access to the TAM tool. The fees are driven by the number of languages used, the size of the implementation, and the quantity of data.

- For the scope of this implementation, the annual fees were €260K.
- Forrester did not apply a risk adjustment, as there is no uncertainty over the scope of these costs.

The three-year, present value of the software license fees amounted to nearly €647K.

Software License Fees

Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
D1	License fees (at full coverage)	Creatives		€260,000	€260,000	€260,000
Dt	Software license fees			€260,000	€260,000	€260,000
	Risk adjustment	0%				
Dtr	Software license fees (risk-adjusted)		€0	€260,000	€260,000	€260,000
Three-year total: €780,000			Three-year present value: €646,582			

IMPLEMENTATION COSTS

The implementation costs consist of Creatives' implementation fees, third-party professional services

fees, user training, and the internal resource requirement to support the planning, integration, and deployment of the tool.

Sixty percent of the implementation was completed initially, with full deployment being completed at the

these employees had an average fully loaded salary rate of €75K, equivalent to an hourly rate

Implementation Costs						
Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
E1	Creactives implementation fees	Creactives	€300,000	€200,000	€0	€0
E2	Professional services fees	Interview	€30,000	€20,000	€0	€0
E3	Total days of internal resource effort	Assumption	312	208	0	
E4	Number of new users	Interview	1,200	800	0	0
E5	Hours of training per new user	Interview	1	1	1	1
E6	Average FTE daily rate (rounded to nearest euro)	€75,000/45/5	€333	€333	€333	€333
Et	Implementation costs	$(E1+E2)+(E3*E6)+(E4*E5*(E6/8))$	€483,846	€322,564	€0	€0
	Risk adjustment	↑25%				
Etr	Implementation costs (risk-adjusted)		€604,808	€403,205	€0	€0
Three-year total: €1,008,013			Three-year present value: €971,358			

end of Year 1. This reflects the typical implementation plan for the Creatives’ TAM solution for large organizations, which tend to break it out into a number of phases — typically on a regional basis. However, the faster the implementation, the sooner the benefits can be achieved.

- The total Creatives’ implementation fees came to €500K, 60% of which were incurred prior to launch and the remaining 40% in the Year 1.
- Additional third-party professional services fees of €50K were incurred to support the integration with the ERP systems. This was also spread as 60% and 40% in Years 1 and 2, respectively.
- The internal effort required 20 FTEs to each allocate 16 days prior to Year 1. In addition, during Year 1, 10 FTEs each worked for 21 days to complete the project, part of which was to fine-tune the tool post-launch. Forrester assumes that

of €333.

- Initially, 1,200 users had to be trained to use the tool; a further 800 were added in Year 1. Only an hour was required for the users to gain training and become familiar with the interface. As above, the average salary for these users was €75K.
- No further implementation costs were incurred after Year 1.

Forrester applied a moderate risk adjustment of 25%, given that different organizations have different legacy environments with varying ERP implementations, skills capabilities, geographic coverage, and other factors that could impact the required implementation effort and cost. This yielded a three-year, present value, risk-adjusted value of €971K.

Administration And Ongoing Training Costs						
Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
F1	Number of people for administration	Interview		2	2	2
F2	Days per month	Interview		10	10	10
F3	Daily rate per person (rounded to the nearest euro)	€75,000/45/5		€333	€333	€333
F4	Number of users	Interview		1,200	2,000	2,000
F5	Annual training time (existing users)	F4*1 hour		1,200	2,000	2,000
Ft	Administration and ongoing training costs	$(F1*F2*F3*12)+(F5*(F3/8))$	€0	€129,870	€163,170	€163,170
	Risk adjustment	↑25%				
Ftr	Administration and ongoing training costs (risk-adjusted)		€0	€162,338	€203,963	€203,963
Three-year total: €570,263			Three-year present value: €469,384			

ADMINISTRATION AND TRAINING COSTS

The ongoing costs of operating and maintaining the platform include the administration and support effort and the ongoing training requirement.

Administration effort includes the governance, support, maintenance, and any time required to update data. The interviewee reported that the effort was 2 FTEs each putting in 10 days per month.

To ensure users can utilize all the latest features and to update them on governance requirements,

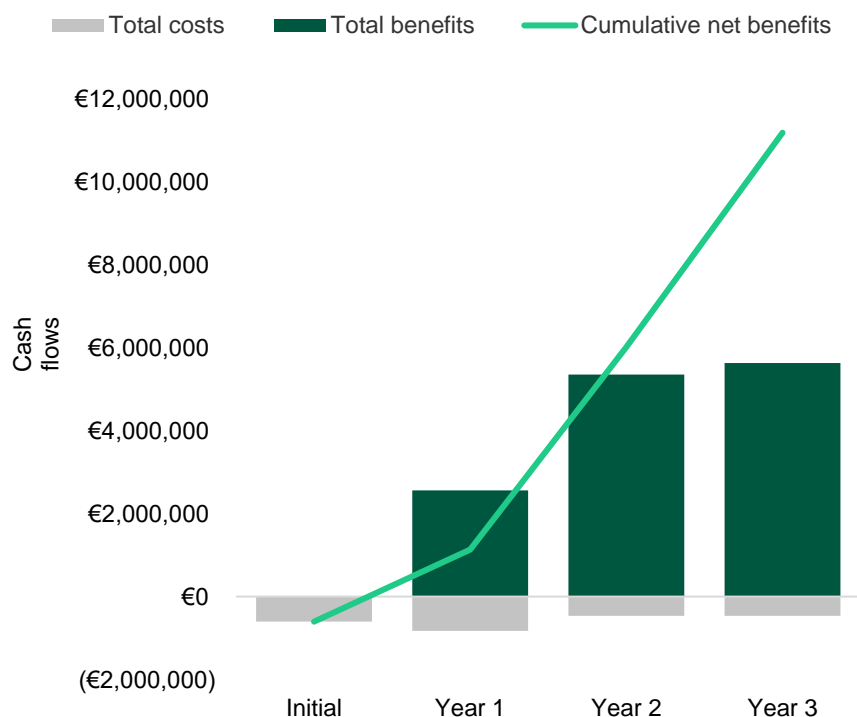
Forrester assumes each user needs an hour of training per year.

Forrester applied a moderate risk adjustment of 25% to adjust for uncertainties around the administration effort required, which could be more in organizations with more complex structures or setups. This resulted in a three-year, risk-adjusted present value of more than €469K.

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 Analysis (Risk-Adjusted Estimates)

	Initial	Year 1	Year 2	Year 3	Total	Present Value
Total costs	(€604,808)	(€825,543)	(€463,963)	(€463,963)	(€2,358,275)	(€2,087,324)
Total benefits	€0	€2,563,369	€5,361,920	€5,644,126	€13,569,415	€11,002,190
Net benefits	(€604,808)	€1,737,827	€4,897,957	€5,180,163	€11,211,140	€8,914,866
ROI						427%
Payback period (months)						<6

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."



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.

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