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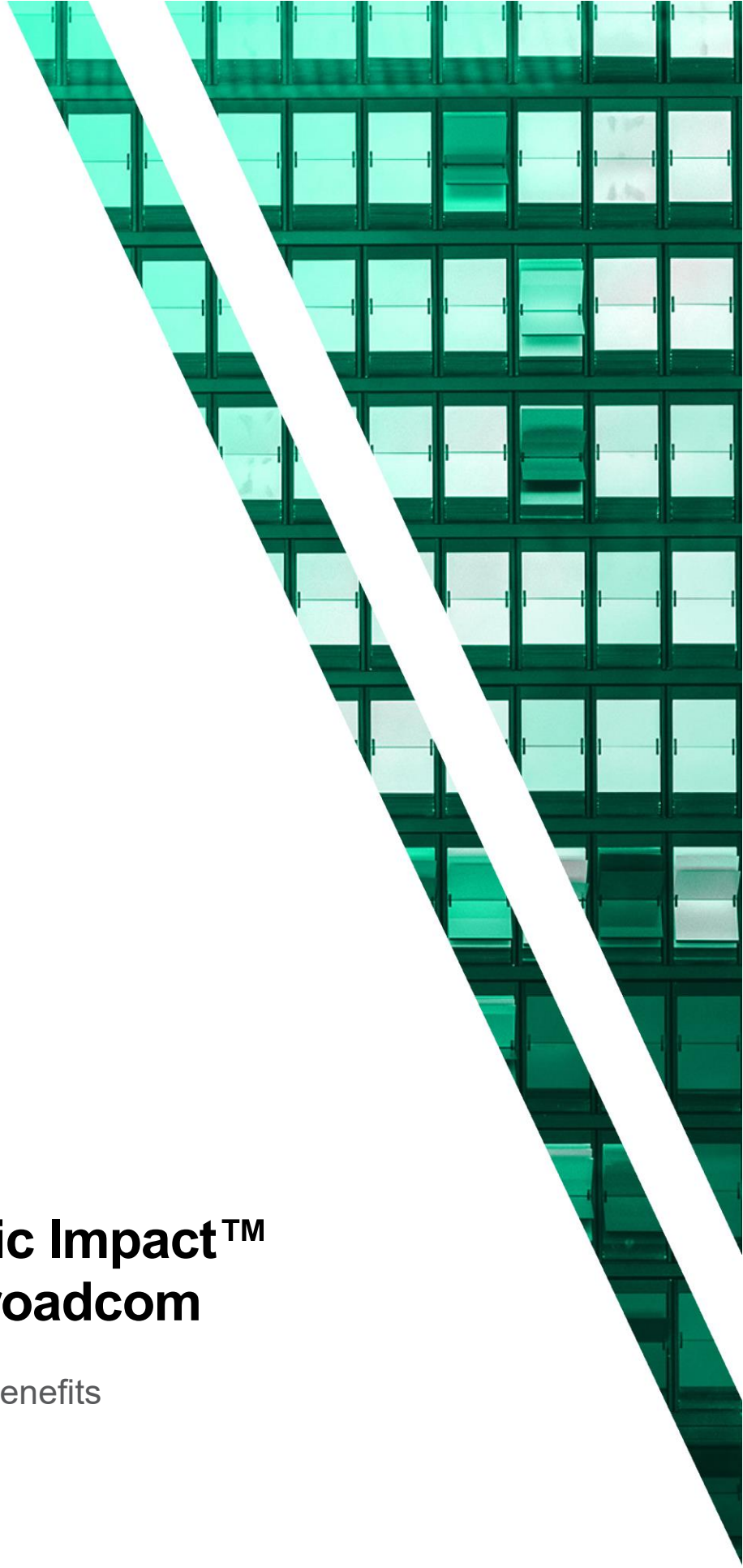

The Total Economic Impact™ Of ValueOps by Broadcom

Cost Savings And Business Benefits Enabled By ValueOps

NOVEMBER 2023

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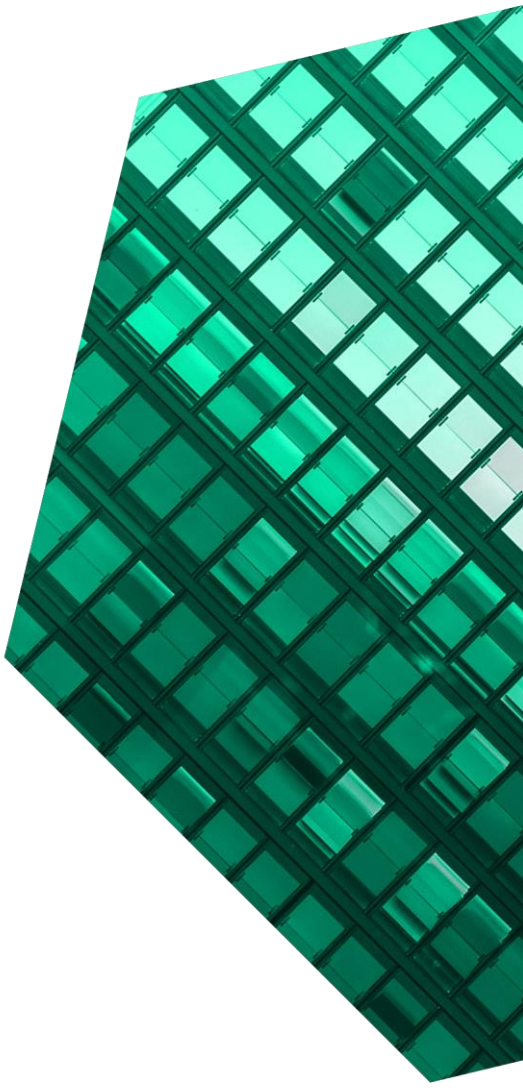


ABOUT FORRESTER CONSULTING

Forrester provides independent and objective research-based consulting to help leaders deliver key outcomes. Fueled by our customer-obsessed research, Forrester's seasoned consultants partner with leaders to execute their specific priorities using a unique engagement model that ensures lasting impact. For more information, visit forrester.com/consulting.

Executive Summary

Organizations are turning to value stream management as a methodology to optimize the end-to-end processes that deliver value to customers. Its goal is to enable teams to enhance the flow of value from concept to delivery, reduce waste, accelerate innovation, and improve customer outcomes. Using a VSM solution that is purpose-built to provide teams with the data and tools they need to operate within this new environment, such as ValueOps by Broadcom, can be a key success driver.

ValueOps by Broadcom helps break down technology silos and makes it easier for business and IT leaders to align priorities, capacity, progress, and results across the enterprise.[1] It extends the benefits of value stream management (VSM) beyond DevOps and operational roles to include capabilities and metrics that matter to business leaders, such as demonstrating return on investment across a product lifecycle. As a result, everyone in the organization is operating from a common end-to-end view.

Broadcom commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying ValueOps.[2] The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of ValueOps on their organizations.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed a product portfolio leader at a large manufacturing organization who has experience using ValueOps.

IT team productivity gain:

+20% to 50%

KEY STATISTICS

Return on investment (ROI)
471%

Net present value (NPV)
$81.63M

Forrester used this experience to project a three-year financial analysis.

Prior to using ValueOps, the interviewee noted how people in their organization struggled to agree on project prioritization and how to track and communicate progress and problems. They told Forrester: “Before 2010, we were doing everything in homegrown tools, spreadsheets, [presentations], or whatever you had on your desktop and sharing it [internally]. We got a new CIO who had used [ValueOps] at their previous job. We brought the solution on board, and it immediately showed efficiency savings that we continue to show to this day.”

After the investment in ValueOps, the interviewee’s organization is able to focus on the projects that represent the highest value to the company. Key results from the investment include better priority alignment, better measurement and reporting of

progress on those priorities, and significant productivity gains from eliminating waste.

KEY FINDINGS

Quantified benefits. Three-year, risk-adjusted present value (PV) quantified benefits include:

- **Increased visibility to reduce project waste saved the company $65.4 million.** Having all of the team's projects and resources mapped back to individual value streams makes it relatively easy to see projects that should be eliminated because they don't support any value stream. Projects that overlap or use too many resources for the value expected can also be eliminated. Moving people off these projects frees up developer and other time to advance the projects that are clearly more valuable.
- **Improved team efficiency freed up $18.9 million in human resource time.** Reliance on common data and software makes intrateam communication more rapid and intuitive. ValueOps' built-in collaboration tools reduce the need to jump between platforms, copy and paste updates and messages, and discuss project progress (or lack of progress).

"With everything in one place when you do your reviews …you don't have to redo anything for different groups. You just show it with a different filter. So, that's huge efficiency right there."

Product portfolio leader, manufacturing

- **Aligned organizational structure delivered $10.3 million in savings.** With greater visibility into what and how various employees are contributing to projects, it is easy to detect duplication and wasted effort. Management can then determine how changes in team or organizational structures may improve results.
- **Streamlined financial processes lowered expenses by $4.3 million.** ValueOps connects the DevOps and business reporting sides of the organization, which eliminates the need for manual intervention to develop and communicate annual plans and to provide project managers with the financial impact information they need to manage projects profitably.

Unquantified benefits. Benefits that are not quantified in this study include:

- **Improved resource dedication to the highest-value priorities of the organization.** The core of the value stream management approach involves managing the business to prioritize and achieve its highest-value outcomes first. ValueOps fundamentally facilitates that goal by keeping everyone in the organization aware of and focused on achieving those objectives.
- **Increased alignment on goals and progress.** With a single source of truth available for all functions to access, it is easier to align the organization and make progress on its most valuable projects and investments. It is much more difficult for anyone to argue about whether or not a project is valuable to the organization or where it stands in terms of progress or other KPIs.
- **Exposure to new concepts and skills.** The value stream management approach that ValueOps supports enables IT team members to be more aware of the larger organization's priorities and to see how their work contributes to its success. Because of ValueOps' data transparency, they have a chance to view their projects from another perspective and to learn more about managing the business.

Costs. Three-year, risk-adjusted PV costs include:

- **Broadcom fees for ValueOps of $5.9 million** The organization pays an annual fee to Broadcom to license ValueOps for its IT team and employees in other functions who manage and track projects.
- **Implementation costs of $9.6 million.** ValueOps supports organizational transformation by using a value stream management approach. This type of change does not happen overnight, and the organization takes the time to roll out ValueOps over a period of 18 months with the help of several senior engineers and executives. They devote a significant amount of their time to the deployment.
- **Ongoing management costs of $1.8 million.** The organization hires a mix of onshore and offshore employees to manage the administration and configuration of the solution as it rolls out across the organization.

The interview and financial analysis found that the representative's organization experiences benefits of $98.98M over three years versus costs of $17.34 million, adding up to a net present value (NPV) of $81.63 million and an ROI of 471%.

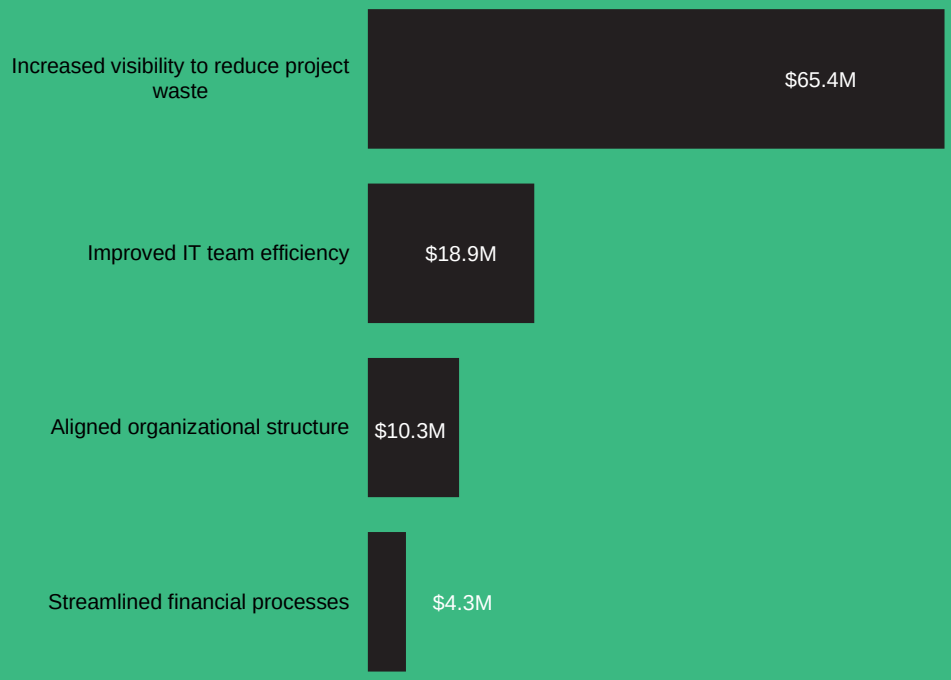
ROI
471%

BENEFITS PV
$98.98M

NPV
$81.63M

PAYBACK
9 months

Benefits (Three-Year)



“We used to do a lot more top-down planning, which isn’t necessarily good for the customer. We would start with affordability rather than starting with what’s needed for the most valuable work and funding into that.”

Product portfolio leader, manufacturing

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 ValueOps.

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 ValueOps can have on an organization.

DUE DILIGENCE

Interviewed Broadcom stakeholders and Forrester analysts to gather data relative to ValueOps.

INTERVIEW

Interviewed the representative of an organization using ValueOps 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 interviewee.

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 ValueOps by Broadcom Customer Journey

Drivers leading to the ValueOps investment

INTERVIEWEE'S ORGANIZATION

Forrester interviewed the representative of an organization who has experience using Broadcom ValueOps. Their organization has the following characteristics:

- Global manufacturing company.
- More than 3,000 IT team members using ValueOps, 300 of them project managers.
- Over 10,000 total ValueOps users.

KEY CHALLENGES

Before investing in ValueOps, the organization used a variety of tools to plan and report progress on its teams' activities. Different teams used different software and sources of information and tracked and reported on progress in the way that made sense for them. As a result, it was difficult for teams in different lines of business or functions to agree on priorities or the amount of progress being made on those priorities.

The interviewee noted how their organization struggled with common challenges, including:

- **Lack of alignment on highest priority projects.** Business and IT teams were using separate systems to plan, track, and report progress and obstacles. This led to frequent disagreement over which work should have priority as well as frequent confusion about which projects supported which goals and how they were advancing the company's overall strategic plan.
- **Lack of visibility into project status and financials for all functions on the team.** In addition to disagreement over which projects were priorities, there was also a lack of clarity around what progress was being made, how many resources were being devoted, and what obstacles and bottlenecks were holding up progress. While the goal was to put the resources towards the highest-value work, it could be difficult to tell if that goal was being achieved or how to get teams back on track when they were not making the expected progress.
- **Excessive administrative burden on project managers and agile teams.** The disintegration of core management and reporting systems put undue burdens on business and IT teams as they had to rephrase their progress data and status reports in terms other teams could understand. The resulting time spent preparing, presenting, and defending each team's view of the situation in what felt like a constant stream of meetings could be much better applied to making progress on key projects and objectives.

USE CASE DESCRIPTION

The hiring of a new chief information officer (CIO) brought this dysfunction into sharper focus. They turned to Broadcom and the solution they had used at their previous company. At the same time, the entire organization began a transformation journey from a portfolio-management approach to a value-stream-management approach. ValueOps was introduced and adopted throughout the organization and benefitted from and further facilitated that transformation.

As is often the case with operational change like this, it took the investment of time, communication, and management focus to successfully transform the organization. That was reflected in the continuously growing impact of the solution in delivering improvements, in decision-making data visibility, in cross-team alignment and in overall efficiency.

Analysis Of Benefits

Quantified benefit data

Total Benefits						
Ref.	**Benefit**	**Year 1**	**Year 2**	**Year 3**	**Total**	**Present Value**
Atr	Increased visibility to reduce project waste	$7,500,000	$30,000,000	$45,000,000	$82,500,000	$65,420,736
Btr	Improved IT team efficiency	$3,426,818	$8,155,512	$12,036,893	$23,619,223	$18,898,877
Ctr	Aligned organizational structure	$0	$5,737,500	$7,458,750	$13,196,250	$10,345,605
Dtr	Streamlined financial processes	$500,072	$1,772,624	$3,181,380	$5,454,076	$4,309,807
	Total benefits (risk-adjusted)	$11,426,890	$45,665,636	$67,677,023	$124,769,549	$98,975,025

INCREASED VISIBILITY TO REDUCE PROJECT WASTE

Evidence and data. The interviewed product manager explained that the first and largest source of savings from ValueOps was the visibility it gave their organizations' teams into all the projects in progress, the resources each used, and the priorities they were supporting. As the company advanced through its product transformation journey, ValueOps gave the IT team the information it needed to identify projects that were duplicative or were not supporting high-value priorities.

According to the interviewee: "As an IT group, we work for the company's various money-making businesses, and we want to fund [its] most valuable work. By having all the data together, rolling it up, and looking at the value proposition for the work products, we can make very well-informed decisions with the business on what should be funded and prioritized, and then [we can] actually move the valuable resources to that work."

As significant as these savings were, they were also the product of a great deal of change management effort. With such a large-scale transformation in progress, many employees and managers were slow to fully embrace ValueOps, to use it consistently, and to rely on the data it provided to make decisions. As a result, it took time to see the full impact of the waste reduction effort. This was true even after the solution had been rolled out to and adopted by work groups.

Modeling and assumptions. To model the value of this benefit, Forrester assumes:

- The IT team operates with an annual budget of $500 million.
- During the first year of deployment, the team begins its change management journey by identifying and eliminating nonstrategic projects worth 5% of the team's budget.
- In the next year the team identifies and eliminates projects valued at an additional 5% of the budget as the change is further embraced.
- In Year 3, projects worth an additional 2% of the budget are shut down.
- ValueOps is adopted by 40% of the organization in Year 1, 80% in Year 2 and 100% in Year 3.

Risks. The risk that an organization may realize a different value for this benefit is driven by:

- The size of the initial budget.

- The extent to which budget was dedicated to low-value projects before deployment of ValueOps.
- The speed with which teams can adapt to change, identify low-value projects, and close them down.

Results. To account for these risks, Forrester adjusted this benefit downward by 25%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $65.4 million.

Increased Visibility to Reduce Project Waste

Ref.	Metric	Source	Year 1	Year 2	Year 3
A1	Annual IT spending on product management projects	Estimate	$500,000,000	$500,000,000	$500,000,000
A2	Projects eliminated as wasted effort	Interview	5%	10%	12%
A3	Adoption factor	Model	40%	80%	100%
At	Increased visibility to reduce project waste	A1*A2*A3	$10,000,000	$40,000,000	$60,000,000
	Risk adjustment	↓25%			
Atr	Increased visibility to reduce project waste (risk-adjusted)		$7,500,000	$30,000,000	$45,000,000
	Three-year total: $82,500,000			**Three-year present value: $65,420,736**	

“I brought a business unit onto the tool and [a year later] they gave us an award because they achieved 50% better efficiency by not using spreadsheets, [presentations], or [file sharing], and having everyone in the tool.”

Product portfolio leader, manufacturing

IMPROVED IT TEAM EFFICIENCY

Evidence and data. A second key benefit of using ValueOps was the increased efficiency the IT team experienced when it was relieved of much of the administrative burden it carried. The interviewee identified a number of ways in which ValueOps lightened the IT team's administrative load.

First, the flexibility of the solution allowed users from any function to easily see progress (or lack thereof) against team priorities and objectives. The interviewee told Forrester, “By configuring in the actual tool, you can make it so the different groups can pull up their own views that are important to them, be it technology or customer.”

Second, this easy availability of data also reduced the time devoted to both attending and preparing for meetings. The interviewee claimed: “There’s definitely fewer meetings with the value stream management approach that ValueOps facilitates. We have quarterly business reviews with all of the leadership and customer teams on the products. The ValueOps tool supports those with OKRs [objectives and key results] as standard objects, for instance. In our former project management approach, you might have several different status meetings for different levels of management. The time savings there is amazing.”

Finally, ValueOps includes tools that allowed project teams to collaborate more efficiently using the functionality built into the solution itself. As the product manager described: “Broadcom has done things to enhance teamwork. They have areas for teams to work together and have conversations all in the one tool; you don’t have to go out to [office messaging solution] or any place outside of the tool. In addition, they have things like to-do lists where you can create a list for your team and check off items as they are completed.”

Modeling and assumptions. To model that value of this benefit, Forrester assumes:

- The organization employs over 3,000 IT employees, 300 of whom are project managers.
- Team members spend an average of 15% of their work time actively collaborating with each other — discussing projects, solving problems, brainstorming, etc.
- After deploying ValueOps, team members save 25% of that work time in Year 1 by using its tools to collaborate more efficiently.
- Efficiency improvements increase to 30% in Year 2 and 35% in Year 3.
- Affected team members earn an average fully burdened hourly wage of $71.
- Project managers spent an additional 25% of their working time before ValueOps on administrative tasks, such as preparing targeted presentations for frequent status update meetings with different functions, requesting and reviewing customized project tracking data, and reporting various measures of progress back to stakeholders.
- By deploying ValueOps and providing project managers with the means to track, report on and take action on their projects more easily and

seamlessly, the organization reduces the time they spend on administrative tasks by 35% in Year 1, 40% in Year 2 and 50% in Year 3.

- Project managers earn an average fully burdened hourly wage of $65.
- The average fully burdened hourly wage across the IT team (including project managers) is $65.
- The organization recaptures 50% of the time saved through all these efficiency improvements.
- ValueOps is adopted by 40% of the organization in Year 1, 80% in Year 2 and 100% in Year 3.

Risks. The risk that an organization may experience a different value for this benefit is related to:

- The size of the team transitioning to ValueOps.
- The amount of time team members spend together in collaborative activities.
- The amount of time project managers devote to administrative tasks related to reporting, preparing for, and attending meetings.
- The rate of pay for affected employees.
- The percentage of time savings the organization can recapture for other tasks.
- The speed with which the organization adopts and institutionalizes ValueOps.

Results. To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year, risk-adjusted total PV of $18.9 million.

Improved IT Team Efficiency

Ref.	Metric	Source	Year 1	Year 2	Year 3
B1	IT employees using ValueOps	Interview	3,000	3,000	3,000
B2	Average hours per year spent actively coordinating with teammates	2080*15%	312	312	312
B3	Percent reduction in coordination effort due to ValueOps	Interview	25%	30%	35%
B4	Average fully burdened hourly wage	TEI standard	$71	$71	$71
B5	Subtotal: More efficient coordination	B1*B2*B3*B4	$16,614,000	$19,936,800	$23,259,600
B6	Project managers within IT	Composite	300	300	300
B7	PM hours per year on administrative tasks before ValueOps	2080*25%	520	520	520
B8	Percent reduction in administrative time attributable to Value Ops	Interview	35%	40%	50%
B9	Fully burdened hourly wage	TEI standard	$65	$65	$65
B10	Subtotal: Reduced administrative burden	B6*B7*B8*B9	$3,543,750	$4,050,000	$5,062,500
B11	Productivity recaptured	TEI standard	50%	50%	50%
B12	Adoption factor	Assumption	40%	80%	100%
Bt	Improved IT team efficiency	(B5+B10)*B11	$4,031,550	$9,594,720	$14,161,050
	Risk adjustment	↓15%			
Btr	Improved IT team efficiency (risk-adjusted)		$3,426,818	$8,155,512	$12,036,893
	Three-year total: $23,619,222			**Three-year present value: $18,898,877**	

ALIGNED ANALYTICS ORGANIZATION

Evidence and data. The interviewee related that the visibility ValueOps provided led to several organizational changes that improved outcomes. The one they were most familiar with was the establishment of a centralized analytics function after team managers saw how much analytics work was being done in different teams and silos. Other organizations may find this kind of restructuring appropriate for other functions, either instead of or in addition to the analytics function.

The interviewee explained: "We got substantial results in the first year, and they just continue. There was an immediate impact by just looking at all the work. You could say things like, 'Well, everybody at the company is doing analytics. Let's have a team that does that for you.' That was a huge savings right away."

Modeling and assumptions. To model the value of this benefit, Forrester assumes:

- Before the organization implements ValueOps, there are a number of decentralized analytics teams working with various IT teams.
- These teams comprise 250 full-time analysts.
- After having ValueOps in place for 12 to 18 months, the organization restructures to create a central analytics function. This results in the redeployment of 65 FTEs to other analytics positions in the organization by Year 3.
- These analysts, on average, earn a fully burdened annual salary of $135,000.

> **"People may 'belong' to a manager on an org chart, but when you do value stream management and product transformation as part of DevOps, the philosophy is to move the best people to the highest-value work."**
>
> *Product portfolio leader, manufacturing*

Risks. The risk that an organization may realize a different value for this benefit is driven by:

- The number of analysts (or other decentralized specialists) embedded in the teams before the deployment of ValueOps.
- The speed at which structural changes take place in the organization.
- The rate of pay for embedded specialists in the organization.

Results. To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year, risk-adjusted total PV of $10.3 million.

Aligned Organizational Structure					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
C1	Analytics FTEs before ValueOps	Interview	250	250	250
C2	FTEs redeployed in restructuring	Estimate	0	50	65
C3	Blended fully burdened annual salary	TEI standard	$135,000	$135,000	$135,000
Ct	Aligned organizational structure	C2*C3	$0	$6,750,000	$8,775,000
	Risk adjustment	↓15%			
Ctr	Aligned organizational structure (risk-adjusted)		$0	$5,737,500	$7,458,750
	Three-year total: $13,196,250			**Three-year present value: $10,345,605**	

STREAMLINED FINANCIAL PROCESSES

Evidence and data. The organization's product manager described how ValueOps allowed the team to spend significantly less time working on its annual financial plan. When the planning was more top-down before ValueOps, the IT organization spent significant time and effort responding to finance team information requests and then working back and forth to get to a set of numbers both groups could support. Using ValueOps data, IT could easily provide the inputs based on the decisions that had been made about the most valuable projects to fund. Finance then rolled that information up and used it to populate annual and long-range planning documents.

The interviewee explained, "It's amazing visibility to see at the product level, because our finance tool didn't go down that low. Then [we can] roll it up to the family and division and see what's actually being loaded for the planning for next year. That's the kind of visibility we have now."

ValueOps not only helped make the process of developing the plan easier for the IT organization, it also provided IT with a new level of clarity around how their work contributed to the company's success.

Finally, because everyone in the organization is working with the same data and the same tool, there was significantly lower demand for the finance team to provide updates and deeper dives into a project or product's current financial status. The finance team used to get a regular stream of requests from project managers and business managers to provide custom reports to help them understand the situation using the lens they wanted. With ValueOps, people in a variety of different functions can look at the same data in whatever way makes most sense to them without having others interpret it for them. This reduced the finance team's workload.

"We used to start long-range planning in June to finish by the end of October. Last year we did it for the first time with ValueOps and we were able to start in September."

Product portfolio leader, manufacturing

Modeling and assumptions. To model the value of this benefit, Forrester assumes:

- Before the organization implements ValueOps, employees from the IT team spend five months engaged with other functions in the annual financial planning process.
- Each of 500 participants devotes an average of 20% of their time to these activities during the planning period.
- After ValueOps, budgets are planned from the bottom up for projects preidentified as contributing to the organization's highest value priorities, so the planning period is reduced to four months in the first year of deployment.
- The time is further reduced to three months in the second year and two months in the third year.
- The employees who participate in the financial planning process are paid an average fully burdened hourly wage of $71.
- The organization recaptures 50% of the value of these productivity gains.
- Throughout the year, the 300 project managers on the team request an average of three custom financial reports for their projects per month.
- These reports took an average of one hour for employees on the finance team to prepare in the prior environment.
- Using ValueOps, both project managers and the others in the organization with whom they collaborate have direct access to the data they require to collaborate on projects, so the need for these custom reports and data pulls is eliminated.
- The finance team members doing this work earn an average fully burdened hourly wage of $62.
- The organization recaptures 50% of the value of the finance team's productivity gains.
- ValueOps is adopted by 40% of the organization in Year 1, 80% in Year 2, and 100% in Year 3.

Risks. The risk that an organization may realize a different value for this benefit is driven by:

- The amount of time nonfinance employees devote to financial planning activities, driven both by the intensity of their involvement and the overall length of the planning process.
- The number and complexity of customized reports that project managers and other managers on the team require before the deployment of ValueOps.
- The rate of pay for both IT and financial team members in the organization.
- The extent to which the organization can recapture the productivity savings.
- The speed with which the organization rolls out ValueOps.

Results. To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year, risk-adjusted total PV of $4.3 million.

Streamlined Financial Processes					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
D1	Months to complete financial planning process before ValueOps	Interview	5	5	5
D2	Months to complete after ValueOps	Interview	4	3	2
D3	ValueOps users involved in planning	Estimate	1,000	1,000	1,000
D4	Average hours spent on planning per month before ValueOps	160*20%	32	32	32
D5	IT hours spent per planning month	D3*D4	32,000	32,000	32,000
D6	Average fully burdened IT hourly wage	TEI standard	$71	$71	$71
D7	Productivity recapture rate	TEI standard	50%	50%	50%
D8	Subtotal: Streamlined annual planning process	(D1-D2) * D5*D6*D7	$1,136,000	$2,272,000	$3,408,000
D9	Project managers within IT team	Estimate	300	300	300
D10	Custom report requests per year	Estimate	36	36	36
D11	Average hours to pull report	Estimate	1	1	1
D12	Finance team hours spent on manual queries for IT projects	D10*D11	10,800	10,800	10,800
D13	Average fully burdened financial analyst hourly wage	TEI standard	$62	$62	$62
D14	Eliminated financial team costs	D12*D13	$669,600	$669,600	$669,600
D15	Productivity recapture rate	TEI standard	50%	50%	50%
D16	Subtotal: Increased financial team productivity	D14*D15	$334,800	$334,800	$334,800
D17	Adoption factor	Assumption	40%	80%	100%
Dt	Streamlined financial processes	(D8+D16)*D17	$588,320	$2,085,440	$3,742,800
	Risk adjustment	↓15%			
Dtr	Streamlined financial processes (risk-adjusted)		$500,072	$1,772,624	$3,181,380
	Three-year total: $5,454,076			**Three-year present value: $4,309,807**	

UNQUANTIFIED BENEFITS

The interviewee mentioned the following additional benefits that their organization experienced but was not able to quantify:

- **Improved resource dedication to highest-value projects**. While this is a primary objective of the value stream management approach itself, using the ValueOps solution makes it much easier and more likely for teams to deliver on the promise of it. As the interviewee explained, "There are a lot of resource management capabilities that you can utilize to know people's roles and move them to where the valuable work is. It's kind of taken away those towers in IT where there used to be infrastructures and

security and product systems, and nobody moved between them."

- **Increased alignment on goals and progress**. With a single source of truth available for all functions to access, it is easier to get everyone on the same page and to make progress on the most valuable projects. It is much more difficult for anyone to argue about whether or not a project is valuable to the organization or where it stands in terms of progress or other KPIs.

  For example, the product manager told Forrester: "Our [internal] customers have total visibility into everything we do. That's part of the philosophy. Looking at the same data, everyone has the same understanding of what we need to get done. And we're all working together, not in separate groups."

- **Exposure to new concepts and skills.** The value stream management approach that ValueOps supports enables IT team members to be more aware of the larger organization's priorities and to see how their work contributes to its success. Because the ValueOps data is transparent, they have a chance to view their projects from another perspective and to learn more about managing the business.

  As a result, the interviewee told Forrester: "I think there's a lot of ways that people are more excited. They have more responsibility as a product team. They deal with financials, which they never really did before, and they deal with [internal] customers. A lot of things that managers used to do [are now done by] the people who are working on it and have the knowledge."

- **Institutionalizing a more effective way of managing the company's investments.** While the interviewee described a number of ways the solution helped the organization reduce costs and work more efficiently, they were clear that the primary reason for investing in it was to ensure that resources are deployed to the projects that will deliver the most value to the company. By providing employees with the tools, data, and processes to implement the value stream management approach in their daily work, ValueOps ensured that the team would be able to deliver on this core objective.

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

FLEXIBILITY

The value of flexibility is unique to each customer. There are multiple scenarios in which a customer might implement ValueOps and later realize additional uses and business opportunities, including:

Analysis Of Costs

Quantified cost data

Total Costs							
Ref.	**Cost**	**Initial**	**Year 1**	**Year 2**	**Year 3**	**Total**	**Present Value**
Etr	Fees for ValueOps	$0	$1,443,750	$2,887,500	$2,887,500	$7,218,750	$5,868,285
Ftr	Implementation Costs	$4,906,763	$3,809,663	$1,527,919	$0	$10,244,345	$9,632,835
Gtr	Ongoing maintenance costs	$139,725	$419,175	$838,350	$838,350	$2,235,600	$1,843,509
	Total costs (risk-adjusted)	$5,046,488	$5,672,588	$5,253,769	$3,725,850	$19,698,695	$17,344,629

FEES FOR VALUEOPS

Evidence and data. The interviewee told Forrester that the organization paid an annual fee for the ValueOps software. This included all the functionality it needed to achieve the improvements described in the benefits section.

Modeling and assumptions. To model the value of this cost to the organization, Forrester assumes:

- The organization pays $2.75 million per year to Broadcom for ValueOps.
- In the first year of rollout, which covers 40% of the organization, the composite purchases only half of the licenses it will eventually use. As the majority of the organization takes up ValueOps in Year 2, the company purchases the remainder of the licenses it will need.
- The modeled fees should not be viewed on a per-person or per-license basis. They are all-inclusive fees for an enterprise of this type.
- Pricing will vary according to organizational needs. Contact Broadcom for additional details.

Risks. The risk that an organization may experience a different value for this cost is related to:

- The size of the organization or team using the product.
- The organization's unique business and project management needs.
- The potential for future price increases.

Results. To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $5.9 million.

Fees For ValueOps						
Ref.	**Metric**	**Source**	**Initial**	**Year 1**	**Year 2**	**Year 3**
E1	Fees paid to Broadcom for ValueOps	Broadcom		$1,375,000	$2,750,000	$2,750,000
Et	Fees for ValueOps	E1	$0	$1,375,000	$2,750,000	$2,750,000
	Risk adjustment	↑5%				
Etr	Fees for ValueOps (risk-adjusted)		$0	$1,443,750	$2,887,500	$2,887,500
	Three-year total: $7,218,750			**Three-year present value: $5,868,285**		

IMPLEMENTATION COSTS

Evidence and data. While the deployment of ValueOps in the organization involves a period of learning and adoption at every level, the interviewee told Forrester that a relatively small team of five to six senior engineers and executives (including the CIO) was charged with planning for and implementing the solution. They began their work well before the solution was purchased and brought in-house, and they continued leading the project (although it took less of their time) for the next six to twelve months.

Modeling and assumptions. To model the value of this cost to the organization, Forrester assumes:

- It takes 18 months to fully implement ValueOps throughout the affected teams.
- The initial implementation team includes six senior level executives and engineers who spend 90% of their time over the six months before the launch of the product.
- During the first full year of deployment, five senior employees spend 70% of their time on the project.
- By Year 2, quite a bit of the upfront planning and change management work associated with the project has been completed. Therefore, only three senior employees spend 70% of their time over the first six months of the year.
- These deployment team members earn an average fully burdened hourly wage of $97.
- Implementation also involves training all 10,000 employees who will be using the solution in their day-to-day jobs. Each employee receives an average of 12 hours of training, including both formal and on-the-job training.
- These solution users earn an average fully burdened hourly wage of $62.

Risks. The risk that an organization may experience a different value for this cost is related to:

- The length of time it takes to roll out ValueOps to the entire organization.
- The number of internal experts required to plan for and implement the deployment, as well as the portion of their working time they need to devote to the project.
- The number of users requiring training and the hours it takes to get them familiar with the tools.
- The rate of pay for all these employees working on the deployment.

Results. To account for these risks, Forrester adjusted this cost upward by 15%, yielding a three-year, risk-adjusted total PV of $9.6 million.

Implementation Costs						
Ref.	**Metric**	**Source**	**Initial**	**Year 1**	**Year 2**	**Year 3**
F1	Senior level personnel participating	Interview	6	5	3	0
F2	Average hours each dedicated to ValueOps implementation	Interview	936	1,456	728	0
F3	Average fully burdened hourly pay	TEI standard	$97	$97	$97	
F4	Employees trained on ValueOps	Composite	5,000	3,500	1,500	0
F5	Average hours of training	Estimate	12	12	12	
F6	Average fully burdened hourly salary	TEI standard	$62	$62	$62	
Ft	Implementation Costs	(F1*F2*F3)+ (F4*F5*F6)	$4,266,750	$3,312,750	$1,328,625	$0
	Risk adjustment	↑15%				
Ftr	Implementation Costs (risk-adjusted)		$4,906,763	$3,809,663	$1,527,919	$0
	Three-year total: $10,244,344			**Three-year present value: $9,632,835**		

ONGOING MAINTENANCE COSTS

Evidence and data. The interviewee reported that their organization began staffing a configuration and maintenance team for ValueOps once it was deployed. Once ValueOps was established in the organization, the product manager explained that they required a team of two onshore and four offshore employees to manage it.

The interviewee said: "The software is highly configurable. Everybody can see different fields. You can change the dropdowns. That's mostly what the people on that team do—they configure the tool. They also handle maintenance, like loading all the employees in weekly, updating financial data and those types of maintenance activities."

Modeling and assumptions To model the value of this cost to the organization, Forrester assumes:

- A single onshore configuration and maintenance person joins the team for predeployment planning. They then continue to work on ValueOps after deployment.
- Additional team members are added in Year 1 and Year 2 until the team numbers six FTEs.
- The blended annual salary of these individuals is $121,500.

Risks. The risk that an organization may experience a different value for this cost is related to:

- The rate at which the solution is deployed across the organization.
- The mix of onshore and offshore employees or other factors affecting the average salary.

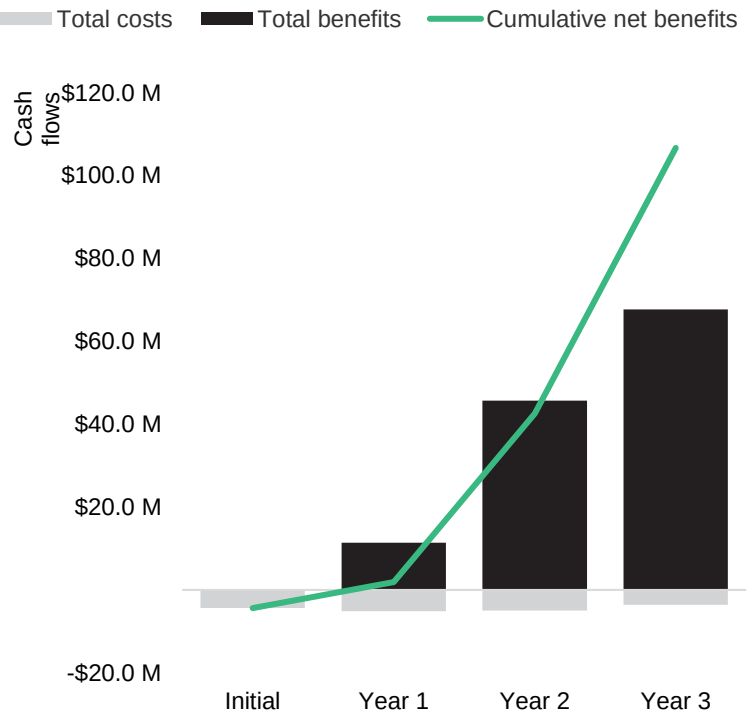
Results. To account for these risks, Forrester adjusted this cost upward by 15%, yielding a three-year, risk-adjusted total PV of $1.8 million.

Ongoing Maintenance Costs						
Ref.	**Metric**	**Source**	**Initial**	**Year 1**	**Year 2**	**Year 3**
G1	Configuration and maintenance FTEs	Interview	1	3	6	6
G2	Average annual configuration specialist fully burdened salary	TEI standard	$121,500	$121,500	$121,500	$121,500
Gt	Ongoing maintenance costs	G1*G2	$121,500	$364,500	$729,000	$729,000
	Risk adjustment	↑15%				
Gtr	Ongoing maintenance costs (risk-adjusted)		$139,725	$419,175	$838,350	$838,350
	Three-year total: $2,235,600			**Three-year present value: $1,843,509**		

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 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	($5,046,488)	($5,672,588)	($5,253,769)	($3,725,850)	($19,698,695)	($17,344,629)
Total benefits	$0	$11,426,890	$45,665,636	$67,677,023	$124,769,549	$98,975,025
Net benefits	($4,388,250)	$6,305,890	$40,720,511	$64,060,523	$105,070,854	$81,630,396
ROI						471%
Payback period (months)						9.0

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.

Appendix B: Supplemental Material

Related Forrester Research

"The State of Value Stream Management," Forrester Research, Inc., August 25, 2022.

April 4, 20203, "Understanding the Value Stream Management Market," Webinar.

Appendix C: Endnotes

[1] ValueOps by Broadcom is a solution comprising Clarity™, Rally ®, ConnectALL and Insights.
[2] 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.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