

## Efficiently Assessing the IT Business Value of Diverse Investments

Intel IT's new Business Value Assessment methodology provides a balanced assessment to support budgetary decision making without requiring absolute dollar-value calculations.

### Executive Overview

**As part of an evolution in how we assess IT business value for investments, Intel IT and Intel Finance have developed a framework that is faster and more scalable than our previous processes. Intel IT's new Business Value Assessment (BVA) methodology provides a balanced assessment to support budgetary decision making without requiring absolute dollar-value calculations. BVA uses a survey-based method to determine both financial and nonfinancial performance metrics and then compares those metrics against acceptable risk levels and available resources.**

The methodology prioritizes IT projects to get the greatest IT business value from the investments within—and across—various businesses or service areas, such as sales, marketing, product development, factory automation, and business intelligence. Using the Business Value Assessment, Intel IT performed a pilot program to analyze the business value of the entire Sales and Marketing IT portfolio of proposed projects in two weeks—something that could not have been accomplished with previous approaches.

Our BVA method builds on past Intel methods, including new ways to measure “soft value,” such as collaboration and strategic value, as well as the traditional “hard value” cash benefit measurements.

The BVA survey approach achieves the following:

- A more balanced view of business value compared to prior methods
- Targeted conversations for faster, more effective decision making
- The ability to prioritize IT projects within and across the business

While we continue to refine our methods for assessing IT business value, we have learned that the benefits of this uncomplicated process serve our purpose better than the increased precision that is required from more elaborate and time-consuming processes that are not scalable for prioritizing IT spending.

Sheldon Bernard  
IT Finance, Intel IT

Mark Kachmarek  
Strategic Planner, Intel IT

## Contents

Executive Overview .....	1
Business Challenge .....	2
Solution .....	3
BVA and Its Benefits .....	3
Developing the BVA Survey .....	4
Comparing the Scores .....	6
Implementing the Solution.....	7
Lessons Learned .....	8
Next Steps .....	8
Conclusion.....	9
For More Information.....	9
Acronyms.....	9

## IT@INTEL

The IT@Intel program connects IT professionals around the world with their peers inside our organization – sharing lessons learned, methods and strategies. Our goal is simple: Share Intel IT best practices that create business value and make IT a competitive advantage. Visit us today at [www.intel.com/IT](http://www.intel.com/IT) or contact your local Intel representative if you'd like to learn more.

## BUSINESS CHALLENGE

**Deploying the right IT solutions to maximize a company's performance, satisfy customers, and enable new business models has never been more critical. Both the business units and IT face scarce resources, constrained budgets, intense margin pressure, and an increasingly competitive business environment. These factors drive the need for IT budgeting decisions that not only deliver business agility and efficiency but also grow or transform the business.**

To help achieve corporate objectives, Intel IT engages in an annual strategic planning cycle that aligns our activities to those of Intel's business groups. This planning cycle provides our decision makers with comprehensive direction, including strategies and tactics, for the next three years. Each planning cycle includes an in-depth assessment of business goals and challenges, technology trends, and current IT capabilities. We then translate these considerations into resource-feasible roadmaps and investment decisions.

The diversity of competing investment choices and complexity of our organization makes it challenging to determine which IT investments will offer Intel the greatest business value. In addition to diversity of investment in business areas, choices include projects that are necessary but not strategic to the business. Examples include those that are required by law and others that are hard to put a dollar value on, such as projects that improve collaboration.

Our previous approaches to evaluating business value focused largely on quantifying each investment's value in terms of dollars, including traditional finance methods such as net present value (NPV). For example, Intel's IT Business Value (ITBV) program<sup>1</sup> includes a business value index (BVI) that reflects a

composite of factors affecting the value of an IT investment, such as impact to business, impact on IT efficiency, and financial attractiveness.

Because these approaches result in absolute measures of value, they serve a purpose when dollar values are needed and when the additional time required to compute those values is available. However, they are not scalable or flexible enough to enable us to compare all IT investments. They do not allow for consistency of comparison and prioritization between projects that have varying types of value. In addition, these approaches require a level of analysis and time commitment (four to five weeks) that is not necessary for simply comparing the potential value of IT investments.

The large scale and scope of Intel IT projects and services prompted the need for a scalable, flexible approach. Also, we needed to have in-depth discussions about the relative value of each IT investment to enable a fair comparison. We considered a number of new approaches, from developing stronger analytics around NPV and using statistical studies on common IT investment variables, to refreshing the previous ITBV methodology.

Our solution, the new Business Value Assessment (BVA) method, enables us to estimate the relative magnitude of value an investment creates compared to its competing investment options. The result—a balanced scorecard—lets us make trade-off comparisons without needing absolute precision in dollar valuations. This solution has proven particularly helpful in assessing non-cash projects or services, and when we need to make only relative, rather than absolute, comparisons between competing investments. Analogously, objects of varying lengths can be lined up in a row by size for comparison without being measured to within an inch or millimeter.

<sup>1</sup> See "Using an IT Business Value Program to Measure Benefits to the Enterprise," June 2009.

## SOLUTION

To more effectively evaluate and prioritize our IT investment opportunities, Intel IT has partnered with Intel Finance to develop a customer-focused process for comparing and selecting IT projects based on the relative business value they deliver to Intel. Using a survey-based approach, our new BVA method combines five categories of business-value questions (value vectors) with assessments of risk and resources required. This approach helps Intel IT evaluate more project proposals in a shorter time frame. This new process applies to both legacy programs and new proposals, and can establish a net business value (NBV) for projects that are necessary or have “soft value,” as well as those that produce “hard value.”

### BVA and Its Benefits

The BVA survey method focuses on conversations between IT product owners, IT service owners, and Intel Finance to produce a list of proposed projects ranked by

resources, business value, and risk. The term *business value* indicates the benefits that Intel business groups get from IT solutions or services. Essentially, business value can be thought of as the contribution IT makes toward the business achieving its objectives.

The BVA method ties to five key business value vectors that support Intel IT’s mission to grow Intel’s business through information technology:

- Facilitate business growth
- Increase employee productivity
- Drive business efficiency
- Deliver IT efficiency, agility, and continuity
- Keep Intel within legal bounds and protect core assets

The insight into value comes from the actual conversations facilitated by the survey. The 15-question survey typically takes an hour per project to complete with the help of IT service owners. The IT service owners and IT product owners bring valuable detail and deep-level knowledge that senior-level executives might not have.

The survey results in a BVA score based on the business value, risks, and resources required per investment, which can be interpreted by managers and executives to make long-term decisions (see Figure 1). The score includes collaboration and strategic (“soft”) value, as well as cash (“hard”) value, and gives senior management a balanced view of business value.

The overall NBV score, which factors risk into the equation, helps ensure that we account for the amount of investment needed for each project or service. As a result of its simplicity, the BVA method is easier to use and more scalable than traditional precise dollar-based methods.

Generally, the highest NBV scores (shown in black in Figure 1) with the lowest net business risk scores (blue) would make a proposed funding list (for example, Project 1). While senior management may invest differently for other reasons, BVA aids in the decision making. The primary benefit of BVA is that it provides an objective and transparent lens to rank investments.

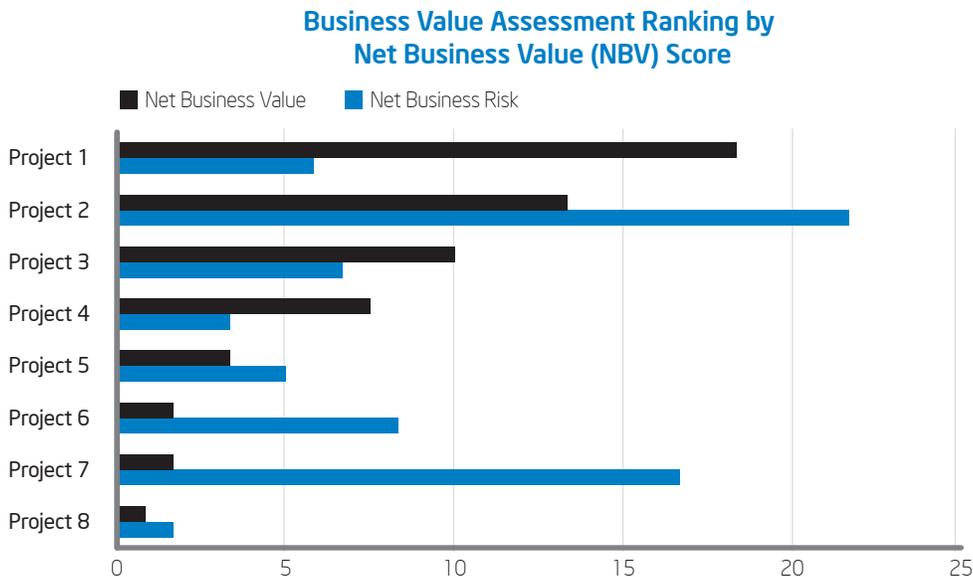


Figure 1. The Business Value Assessment (BVA) survey results in a net business value (NBV) score that enables us to rank proposed investments by both risk and overall business value.

Within their IT investment portfolios, IT service owners can use BVA to make budgeting decisions using the relative scoring approach. For example, on the left side of Figure 2, the black stack refers to the Sales and Marketing budget for IT investments.<sup>2</sup>

BVA provides a common terminology and measure of value to guide our investment decisions across business groups. The column on the far right labeled All IT Investments in Figure 2 represents various projects that didn't make the other business areas' funding cutoff and may receive IT reserve funding instead.

These relative comparisons, while in some ways possess less-precise dollar-based comparisons, often yield sufficient insights for effective decision making when relative comparisons are acceptable.

A key goal in our IT planning is to look for efficiencies and, when possible, shift budget from projects that are required for running the

current business ("Run" projects) to new areas that will grow and transform Intel's business. Because BVA can be used to rank any type of project—Run, Grow, or Transform—we can compare all these types of projects. This increased visibility into Run projects allows us to see which legacy projects have lower business value so that we can consider shifting money away from them to higher-value Grow or Transform investments.

### Developing the BVA Survey

We developed the BVA survey by looking at past examples of business value and investment strategy work done at Intel. We talked with internal experts to investigate the reasons why some critical projects or services did not have a verified NPV. These experts came from areas such as process improvement, collaboration engineering, IT risk and security, and the Intel IT Project Management Office. This exercise allowed us to assess areas of value, such as soft value, that were more difficult and time-consuming to calculate with Intel Finance NPV standards.

We estimate that no more than 30 percent of IT investment proposals can be analyzed within the NPV process in any given year.

We also explored what made a project inefficient or unsuccessful and how we could measure effectiveness. We concluded that business value is affected by four primary components:

- **Hard value.** A measure of the future cash benefit of the investment to Intel (both easily calculated and estimated) that flows directly to Intel's bottom line.
- **Soft value.** A measure of non-cash benefits in investments of strategic importance or necessity, such as solutions that are required for keeping the business running or complying with legal or regulatory requirements.
- **Resources.** The cost of the project (people, operating costs, duration, and capital expenses).
- **Business risk.** A measure of the factors that could reduce the probability that Intel will realize business value from a project.

<sup>2</sup> In Figure 2, the term project also includes services or other investment types.

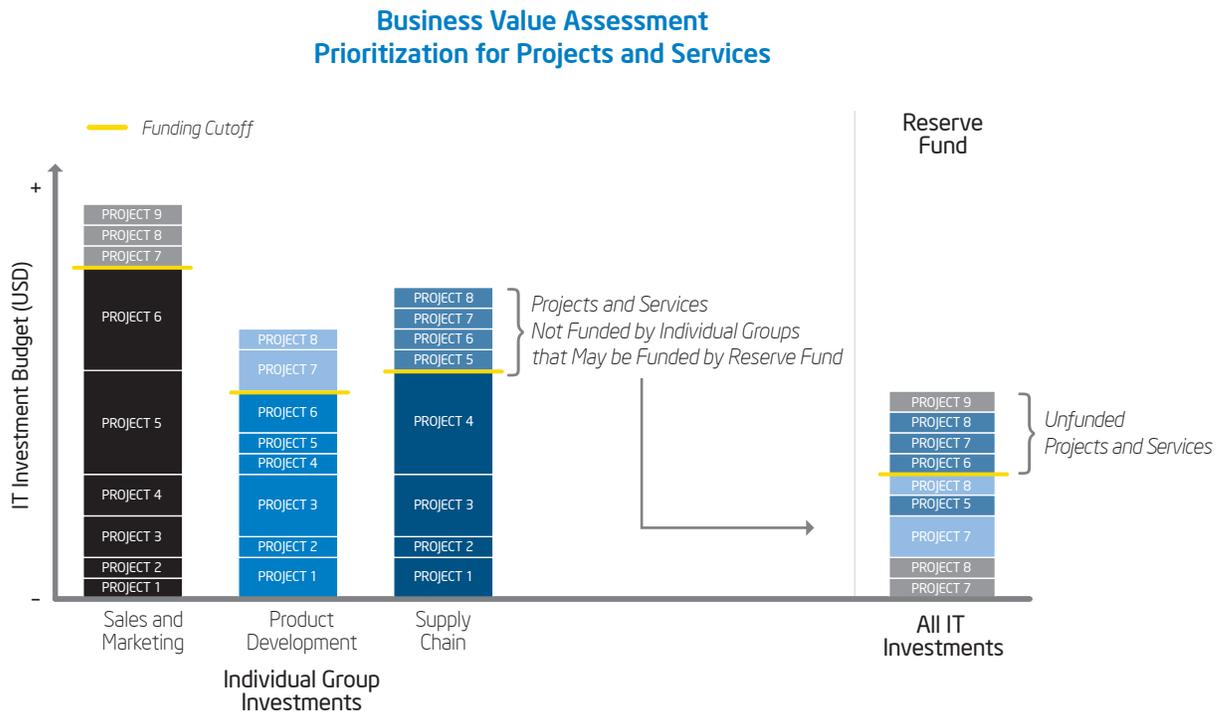


Figure 2. The Business Value Assessment (BVA) relative scoring approach enables us to prioritize investment for projects within individual business areas (Sales and Marketing, Product Development, and Supply Chain) and across various business areas (All IT Investments).

We developed a BVA survey and rubric that enables calculation of a single score, the NBV, which we use to compare and rank opportunities. This score includes both hard and soft business value divided by the cost of the project (resources):

$$\text{Net Business Value} = \frac{\text{Hard Value} + \text{Soft Value}}{\text{Resources}}$$

Our rubric also enables us to calculate a net business risk score:

$$\text{Net Business Risk} = \frac{\text{Business Risk}}{\text{Resources}}$$

## EVALUATING BUSINESS VALUE VECTORS

In arriving at the details of the BVA survey, we translated the five key vectors of IT business value into questions (see Table 1),

and created scores based on a 10-point scale for the range of five possible answers per question. BVA does not assume that one value vector is more important than another, which would affect the overall scoring value. Also, we expect that no single investment will span all five vectors.

To achieve accuracy in the responses to this section of the survey, we advise participants on possible areas of confusion, such as how to account for productivity. For example, if a project allows Intel to manufacture products faster or with fewer errors or defects, we classify this as business efficiency (either as throughput time or time-to-market). If the same project would make employees' jobs faster, better, or leaner but the specific

impact is unknown, we classify this as employee productivity.

If the investment would reduce headcount or increase output, we convert these time savings to hard values and include them in the cash benefits section of the survey under the "Facilitate Business Growth" value vector.

In addition, survey criteria may require qualitative judgments made by product managers. Different managers may score the same project in a slightly different way. Having supporting information for each score may become important to substantiate the scores. Overall, Intel Finance corroborates the scores to help ensure they are comparable across the projects.

Table 1. The Business Value Assessment Survey Details on the Five Value Vectors

Value Vector	Survey Question	Description
Facilitate Business Growth	What is the cash impact of this investment?	We assess the level of cash impact the project has in millions of US dollars (derived from the net present value (NPV) calculation). This relates not only to cash savings but also to any measurable and Finance-approved revenue increases generated by it. Wherever applicable, an NPV must be done.
	How will this grow customer connection and collaboration?	We ask to what extent this investment allows us to work with our customers (both internal and external) in new ways. Because this is difficult to measure, we consider the type and size of customer, the importance of what is being collaborated on, and how many people would collaborate.
	Does this investment directly tie to a strategic initiative?	We assess whether this investment is needed to succeed in a new market or other key strategy. A high score means that IT would invest and directly support a key strategic initiative for Intel.
	What level of impact to strategic initiatives does this investment have?	We assess the level to which the investment supports that strategic initiative. A high score in this category implies that the strategic objective would fail without this IT project being funded.
Increase Employee Productivity	What are the productivity savings?	We identify whether the IT solution would eliminate non-value-add tasks or reduce the time it takes to complete a value-add task. For example, if a project reduces the number of incidents from an IT solution or service perspective, then it has a productivity benefit.  We also assess how much non-value-add time the investment reduces; we include the time that gets repurposed here.
Drive Business Efficiency	Does this investment allow Intel to produce products and services faster or more efficiently?	We ask if the investment will help Intel bring products and services to market more quickly. We measure this as either business cycle time (throughput time) or time-to-market.
Deliver IT Efficiency, Agility, and Continuity	Does this investment allow IT to produce faster or more efficiently?	We identify to what extent the project allows IT to bring value to market more quickly. High assessments mean that this project would allow an area of IT to produce new solutions in less than half the time as before.
Keep Intel within Legal Bounds and Protect Core Assets	If we don't do this, are we exposing Intel to legal and compliance issues?	If the answer is yes, scoring is an issue of <b>when</b> we need to make the investment, not if. If there are competing alternatives that satisfy the same legal obligation, these need to be prioritized.
	Is this investment going to protect core assets?	We score this section based on assets that range from confidential to the highest levels of security. Higher levels of security score higher points.

Table 2. The Business Value Assessment (BVA) Survey Details on Risks and Resources

Risk or Resource	Survey Question	Description
Process and Tools Risk	Is this technology so new or so old that IT is going to have difficulty implementing the solution?	<b>Process and technology readiness.</b> Both new and old technologies can involve risk. A process or technology is low risk if it is ready to implement and high risk if development involves multiple new or outdated technologies.
	Are we designing a solution for a business process that isn't well defined or changes frequently?	<b>Customer process effectiveness.</b> This question captures to what extent the end customer has a process in place to effectively use the IT solution being developed. Even though the process risk is out of IT's control, it is critical to project success.
People Risk	Does IT have the right people with the right skills to deliver the solution in a world-class fashion?	<b>IT skill-set risk.</b> We evaluate if our IT team has the appropriate skill sets for the project. For example, a high-risk score for this category would involve adding to an existing team or adding a new team, or providing training in either situation.
	Will it be difficult for IT to deliver a solution because key people are located in different geographies, making some kinds of collaboration difficult?	<b>Team logistical risk.</b> We assess the logistical risk of having geographically dispersed teams, whether from the IT side or the customer side. Everyone located in the same place or time zone would result in a low-risk score for this question.
Determining Resources Required	How much effort, in person years, is needed to support this project?	<b>Headcount.</b> Knowing that the demands for human resources ebb and flow throughout any project, we ask survey participants to provide the peak headcount required over the investment horizon.
	How much operating cost and big ticket expenses will be required to support this project?	<b>Operating expenses and large one-time expenditures.</b> These expenses exclude depreciation and are counted over the time period considered. For annual budgeting, this is over one year; for long-range planning it is over three years.
	What level of capital must be purchased in order to support this project?	<b>Capital expenditures.</b> We consider capital expenditures separate from large one-time expenditures because capital expenditures are depreciated.

## EVALUATING RISKS AND RESOURCES

Our analysis of the BVA scores include both the business risk and the resources required for the project investment. We determined the definitions of risk areas and what to assess, and then added ways to measure the resources needed (see Table 2). The Risk and Resource section of the survey assesses the probability that an investment will produce benefits for Intel.

Participants answer questions by choosing from a range of five options instead of providing specific dollars, percentages, or open-ended answers. Each answer is scored on a 10-point scale.

## Comparing the Scores

We can examine the scores we get from the BVA survey in different ways, as shown in Figure 3. The graph on the top left side plots the intersection of NBV and net business risk for four proposed projects. In this example, Project 1 has the highest NBV score and the highest risk score. Project 4 is low risk and has higher business value than Projects 2 and 3.

The graph on the top right side compares the project business value scores by value vector. Note that projects having the fifth value vector—keeping Intel within legal bounds and protecting core assets (not included in this graph)—are typically mandatory items that need to be funded and thus are not ranked against the others.

To maintain objectivity, Intel IT product owners work with Finance teams within individual business units for additional analysis of the final numbers, requiring business units and IT product owners to agree on the value delivered. Intel Finance validates the metrics and measures that are used and any related calculations that result in dollar claims.

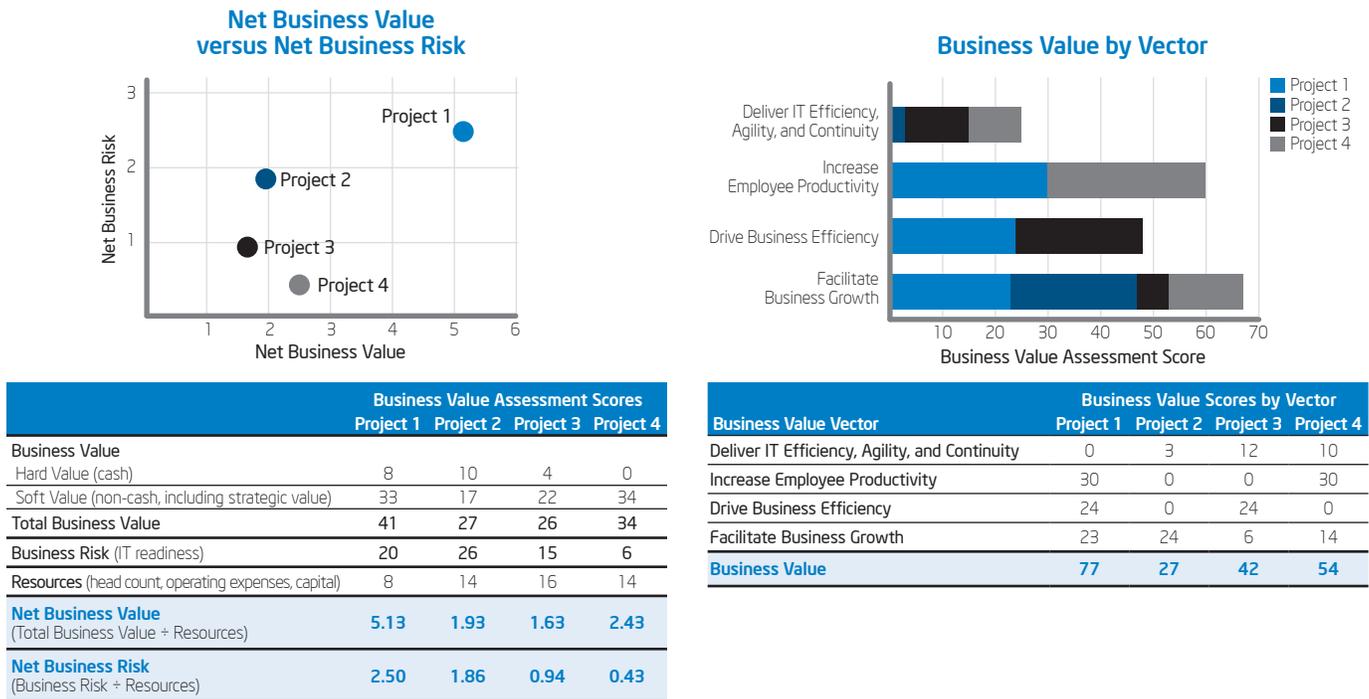


Figure 3. The Business Value Assessment (BVA) enables Intel IT to view project data and scores in various ways. For example, we can plot the data and scores on more than one scale (left) or organize it by value vector (right).

## IMPLEMENTING THE SOLUTION

Using both a proof of concept (PoC) with Finance and a pilot with the Sales and Marketing IT portfolio, Intel IT refined the BVA language and survey to arrive at a scalable process with both financial and nonfinancial measures that are balanced to support budgetary decision making. Applying the BVA approach to Run projects provided the transparency into IT project business value to free up resources, where appropriate, for new investments.

We spent three months developing the BVA approach before introducing it to individuals in the Finance group during a three-week PoC training session. We engaged with strategic analysts from seven Intel IT groups and asked each to provide two investments that were difficult to measure financially. We

applied the BVA analysis to those projects as a conceptual test, adjusted the process, and revised the survey. The quick consensus was that the BVA method would help with comparisons of dissimilar investments within investment portfolios.

In the next step we conducted a two-week BVA pilot to analyze all the services and components<sup>3</sup> within the Sales and Marketing Intel IT portfolio (see Figure 4). This pilot included two teams of two people—with one Finance and one Operations person per team—and involved analysis of 13 services that spanned 146 applications with numerous components. This pilot included Run, Grow, and Transform projects, proving that the BVA process applied to all types of investments and was scalable to various types of investments.

<sup>3</sup> At Intel, we use the term *component* to mean modular capabilities that can be reused across services. They, in turn, include applications within them.

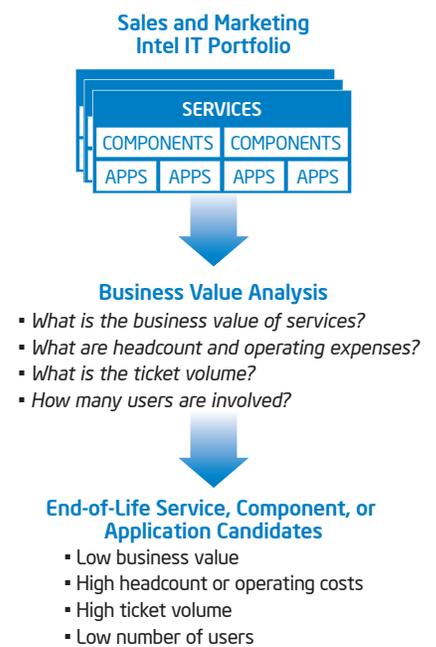


Figure 4. During our pilot, Intel IT used the Business Value Assessment (BVA) process to evaluate the Sales and Marketing Portfolio and identify new end-of-life candidates.

We found beneficial results from applying BVA to Run projects as well as the proposed Grow and Transform ones. During our pilot, we prioritized legacy applications by triangulating the data based on ticket volume, user count, and—for the first time using BVA—the value that the application brought to our customers after factoring in the resources cost.

Traditionally, our end-of-life (EOL) roadmap tracked legacy applications that were discontinued as new ones replaced them, or replaced ones that were used less over time. As a result of the transparency into business value of legacy programs, a task force developed an EOL roadmap that led to the recommendation to redistribute resources from 46 lower-value Run resources to higher-value Grow and Transform projects.

We continue to use BVA during our annual product planning sessions, in the annual Intel IT planning phases, and for excess capital investments. In 2013, we prioritized USD 120 million of new (or incremental) requests during the annual planning and USD 2 million of excess capital allocation.

---

## LESSONS LEARNED

**The biggest factor in our success to date has been the simplicity of the BVA method. Using a standardized language that stakeholders have agreed upon, we focus not on the tool but on the conversation.**

Measuring the relative impact of an investment by grouping the requirements for quantitative accuracy into acceptable ranges frees up considerable time to analyze more projects. For example, we can more easily determine that a project may increase business efficiency from 5 to 20 percent, instead of attempting to specify 5, 10, 15, or 20 percent. This is

sufficient for ranking both similar and different investment proposals against each other. BVA has particularly excelled in comparing dissimilar projects, which traditionally were the hardest to compare.

We learned that de-emphasizing the focus on the measurement tool and instead concentrating on training the participants results in better, clearer, more useful conversations. Agreeing on the values and scale increases adoption of the approach, as well as trust in the results. The BVA's true insight into business value comes from the active dialogue between participants.

---

## NEXT STEPS

**Intel IT plans to further develop the language and definitions, train the teams, and track the value of the BVA method. We expect this to result in wider adoption and increased usefulness in evaluating our portfolios and roadmaps.**

As BVA matures, we need to ensure that determinations of value are agreed on between various stakeholders in Operations and Finance. Finance insight can help by keeping the estimation process conservative and repeatable to yield meaningful comparisons between projects with both hard and soft values. Accountability for revenue-growth assumptions is key. Finance works with the business units who drive such estimates and who are ultimately responsible for revenue.

We plan to revisit the BVA scoring and ranking to determine how well we are delivering value. We continue to evaluate proper weighting of our scoring criteria as well. We also will refine the survey questions to remove ambiguity and allow for the various business units to fully consider their own customers' unique priorities.

To further increase trust, we plan to confirm that our BVA results prove appropriate over time. These assessments will be included in our "report card" during the next annual sessions. Over time, we believe that BVA will allow us to track the value trend of investments year-over-year to derive the greatest business value from every Intel IT dollar invested.

Given that BVA will evolve, the optimal outcome should encompass more groups across Finance and Operations who will be trained in the common BVA language, survey design, and interview approach. We can reduce variation in BVA measurement system with a standard approach to the training of the business value forecasting team.

Although any prioritization relies on subjectivity, we need to continue to increase objectivity in BVA process. Currently, we request that participants provide validation for subjective statements during the interviews and ask for the calculations behind their estimates. It is important that BVA's risk assessment is transparent and easily scrutinized, because stakeholders may already be biased about certain projects because of their familiarity with specific areas of Intel IT.

We anticipate that additional process efficiency will come from centralizing and automating the data collation and interpretation. As the volume of projects analyzed increases, so will the task of manual compilation.

As Intel IT is a technical organization, there will be times when we will continue to push to develop increasingly accurate measures of value. However, BVA must remain a ranking exercise at heart, simplified and scalable. More quantitative approaches are not guaranteed to remove subjectivity and variation, and the extra effort required to achieve that accuracy does not necessarily support better decisions.

## CONCLUSION

Intel IT's BVA has evolved from estimating an investment's value in absolute measures to now include the process of estimating an investment's relative value among peer investment proposals. This approach, which includes an assessment of risk and resources required, enables us to simplify the process of prioritizing projects. The result is an increase in information that we use for strategic planning and budget trade-off discussions.

BVA, although not a measure of the specific or absolute dollar impact of an investment, provides us with the ability to balance investment decision making at an individual business-unit portfolio level and across Intel IT. BVA helps to solve one of the most difficult challenges in the IT industry today—managing our portfolios to create the maximum benefit for our customers and the shareholders.

For more information on Intel IT best practices, visit [www.intel.com/IT](http://www.intel.com/IT).

## FOR MORE INFORMATION

Visit [www.intel.com/IT](http://www.intel.com/IT) to find white papers on related topics:

- "Using an IT Business Value Program to Measure Benefits to the Enterprise"
- "Optimizing the Value of Technology Investments with IT Strategic Planning"

## ACRONYMS

BVA	Business Value Assessment
BVI	business value index
EOL	end of life
ITBV	IT Business Value
NBV	net business value
NPV	net present value
PoC	proof of concept

INFORMATION IN THIS DOCUMENT IS PROVIDED IN CONNECTION WITH INTEL PRODUCTS. NO LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE, TO ANY INTELLECTUAL PROPERTY RIGHTS IS GRANTED BY THIS DOCUMENT. EXCEPT AS PROVIDED IN INTEL'S TERMS AND CONDITIONS OF SALE FOR SUCH PRODUCTS, INTEL ASSUMES NO LIABILITY WHATSOEVER AND INTEL DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY, RELATING TO SALE AND/OR USE OF INTEL PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.

Intel and the Intel logo are trademarks of Intel Corporation in the U.S. and other countries.

\*Other names and brands may be claimed as the property of others.

