Optimising the Business Value of IT

Businesses can increase embedded value through recognition of cyclical behaviours in IT and making optimisation decisions to drive long term benefit
Introduction

Customer behaviours and expectations are driving fundamental shifts in our business models; business complexity is continuing to grow and the rate at which change has to be delivered is accelerating. All this means that technology is becoming increasingly vital in all of our enterprises.

It is more important than ever for CIOs to continuously assess and optimise the true business value that IT delivers. However, basing a definition of IT value solely on the change portfolio is too narrow a view. Value can be more easily destroyed than created as a result of getting the fundamentals of IT wrong. It is therefore imperative that CIOs and other business leaders take a holistic, IT-wide view of value, balancing the creation of new value with the protection of what is inherent in the existing operation – and avoid the silo based mentality that can prevent this balance being achieved.

The first step towards identifying and planning ways to optimise value is gaining the ability to measure it. CIOs must then assess the maturity of the IT function and determine whether it is geared up to optimising value. This paper proposes new frameworks that support both of these objectives.

IBM's IT Value Framework utilises factors such as existing technical complexity, the quantity of change that needs to be delivered and operational costs. The IBM IT Value Maturity Model can be used to assess how far along the path of value optimisation an IT function has travelled and where it should focus its future improvement efforts. The exact method for measuring IT value will differ from enterprise to enterprise, but the importance of being able to do so does not.
The way an organisation views its IT function is also critical to its ability to optimise value. The IT Value Wheel (figure 1) shows typical business behaviour in relation to IT. At any one moment, business leaders tend to favour a single IT optimisation theme from the four possibilities on the outer wheel. Over time the focus cycles around the wheel, though not necessarily in the order shown. Many additional factors, both internal and external to the enterprise, can affect business behaviour too, and it is the norm for several of these factors to be in play simultaneously. As all four themes are key aspects in the management of IT value, optimisation can only occur if this cyclical behaviour is recognised and a continuous review process established to handle the dynamics of the business.

CIOs need to be able to measure value and assess the maturity of the IT function’s ability to optimise value in order to identify and plan improvement activities.
Quantifying IT value

Measuring the contribution of a function within an organisation enables informed investment decisions to be made. Measuring the contribution of the sales force is easy to do as there is a direct correlation between the objectives of a for-profit enterprise and its sales force.

IT value is far more difficult to quantify. Current management information on IT functions tends to focus on maximising the delivery of new value through portfolio creation and management, with financial return on investment being the only quantified measure of success. Whilst important, this is too narrow to maximise effectively the value that IT can deliver to the enterprise. It tends to ignore the impact of change projects on other change projects, as well as the future consequences of that change on the operation of the total IT estate.

In order to address the need for definition and measurement, IBM has developed the IT Value Framework (figure 2).

It can be used to define and measure the value of an IT function within an enterprise, especially those where customers use IT systems directly to access the enterprise’s products. These measures quantify value based on three factors; agility, operational risk and cost. Each has associated key performance indicators that can be linked back to the IT Value Wheel and all have a relationship to complexity.

Management information on IT functions tends to focus on maximising the delivery of new value through portfolio creation... this is too narrow to maximise effectively the value that IT can deliver.

The Framework is based on the principle that value can be destroyed as well as created and therefore the role of the IT function, in value terms, is to optimise the balance between value protection and value creation.
The key performance indicators shown in figure 2 should be the main measures in any IT value balanced scorecard. In setting up this scorecard and creating value optimisation plans, three internal and external influences must be considered – specifically the existing legacy IT estate, speed to market of the industry competition and changes in customer behaviour.

...value can be destroyed as well as created and therefore the role of the IT function, in value terms, is to optimise the balance between value protection and value creation.

Firstly, the complexity of the legacy IT estate. This is the sum of all the technical complexity required to keep the enterprise operating. It is absolute at any given point in time as there are an identifiable number of systems, interfaces, data stores, integration points, function points of software, packages and other factors that can be measured. The importance of the legacy estate in value terms should not be underestimated; it impacts on all three elements of the IT Value Framework. It can decrease agility, making change slow and expensive to deliver; its complexity may pose operational risk, driving costly operational failures, while its size and complexity directly affects IT run costs. These impacts are compounded where the complexity of the heritage estate contributes to low quality change.

Secondly, the speed to market of the competition will greatly vary by industry and will in general be addressed by the corporate strategy i.e. where does the business want to position itself relative to its competitors? The answer to this will drive the need for future agility. The other elements in play here are the different demands placed on a business by the type of product offered; for instance a life assurance company also selling travel insurance may need a more substantial change capability to meet the shorter product lifecycle.

Finally customer behaviour patterns will change, be they as a result of demographic changes or disruptive technologies implemented elsewhere. Corporate IT needs to be able to predict, or at least adapt to the changes this brings and be ready with innovative technology solutions. A good example of this type of change is the rise of mobile banking and payments in the developed and developing world.

Getting the right balance

Once the base measure of IT value has been established and the scorecard set up with meaningful data, the value optimisation target and journey can be planned. Critical to this is maintaining the right balance between creating new value and protecting the existing value already being delivered by IT. This is made more difficult as the optimum balance point moves with the enterprise’s change in focus while it revolves around the IT Value Wheel.

Specific examples of where the balance point needs to change as a result of the enterprise’s focus are:

- Higher levels of operational risk may be acceptable in order to deliver an important high value solution quickly, such as the hurried launch of a new product to match a competitor’s offering;
- Conversely there can be key trading times in the calendar when reducing operational risk may be vital because the total cost of operational failure is so large. An example of this is the pre-Christmas change freeze in a retail business or peak trading hours on a foreign exchange platform;
- Investment in the architecture roadmap may deliver less financial benefit than a new change initiative but can improve agility, making it easier and cheaper to deliver future change initiatives;
- Where operating costs need to be reduced, the focus will have to shift to efficiency improvements both for the IT function and the enterprise as a whole, presenting another interesting challenge of how much to spend in order to save.

It is important to note that all of these factors are linked and have the potential to affect each other; operational risk is always present. Merely cutting costs in a short-term or tactical manner may actually reduce overall value by impacting the ability to conduct change or by increasing risk levels.
Optimising the IT budget for maximum value

Many enterprises seek to cut operational costs and invest more in change activities that may create new value. At a simplistic level this is a laudable aim. However, the value created may be diminished because the impact of the change on the run budget has not been accurately assessed, or in some cases even considered. There may be little overall value to be had from change that introduces disproportionately large run costs. Whilst it is convenient to separate change and run activities for management purposes, the fact is they are inextricably linked at a budgetary level.

The holistic view of the IT function and the estate it manages is essential, but this does not help with the development of an actionable improvement plan. A good place to start is by analysing the selection and productivity of change activities. Assessing the effectiveness of this in the light of the run environment usually yields significant opportunity for improvement.

Many IT functions today measure success, and indeed procure services, based on the lowest possible day rate and the number of ‘days’ of change that can be pushed through a release cycle. Both of these miss the point that whilst these are accountant-friendly inputs that are easily measured, they do nothing whatsoever to measure or optimise the outputs, ultimately the desired goal. These enterprises need to ask themselves: ‘Is 10,000 man days of delivered change a good result or not?’.

Whilst it is convenient to separate change and run activities for management purposes, the fact is they are inextricably linked at a budgetary level.

One objective method to assess continuous improvement proposals is by using a black box model, where the relationship between inputs and outputs is measured on an ongoing basis (figure 3). Most value generating activities are application development or package based and the existing IT estate can only be modified through change activity. Therefore, measurements of IT application development costs, the amount of change delivered and directly applicable service failures provide useful management information.

---

**Figure 3: Application development black box model**
Monitoring changes to technical complexity and service incident volumes provides data that can be used to increase process efficiencies. Many organisations authorise millions or tens of millions for change projects such as core package implementations only to fail because delivery is not effective enough.

A more subjective method of assessing opportunities to optimise value is to consider the relative impact of any proposed change on those key performance indicators in figure 2. Many organisations are considering the benefits of cloud technology, now entering the mainstream. In the context of the IT value equation, the decision criteria become clear: there is a direct agility benefit as well as an operational risk and run cost benefit. At the point where this benefit is larger than the investment required in moving to a cloud environment, the project should be initiated – as long as there are no other impeding factors. Flexibility of the investment requirement should also be taken into account, so it can be appropriately phased into the run cost.

Optimising the level of technical complexity within a legacy IT estate is one of the best examples of a performance improvement objective. Whatever the industry – technical complexity drives opportunity but it also drives cost (figure 4). Finding the point of greatest return and maintaining that position should be a high priority.

What part of the organisation should be looking at the practicalities of calculating and managing IT value and technical complexity on a BAU basis? Today much of the scope of what has been described in this paper sits within an Enterprise Architecture function. IT value can be used directly to propose areas of continuous improvement to business leaders, based on approved change budgets. At the same time the organisation can be assessed on its ability to maximise IT value by managing the technical complexity of the IT estate sensibly.

**Figure 4: Selecting the right point for value optimisation**
Planning the optimisation journey

Value optimisation maturity can be assessed using IBM’s IT Value Maturity Model (figure 5), a framework that describes an IT function’s ability to maximise its value to the rest of the organisation.

**Failure to consider the maturity of the IT function will lead to arbitrary targets for value delivery without any assurance that the IT function can deliver them.**

The model can be used to analyse the gaps between the current and desired maturity levels; how well is IT meeting the needs of the enterprise through its behaviour, processes and use of management information? The use of this framework directs the maturity journey that the IT function needs to take to ensure that it is capable of fully optimising the value delivered to the enterprise. Failure to consider the maturity of the IT function will lead to arbitrary targets for value delivery without any assurance that the IT function can deliver them.

Transforming for value

Change means doing something differently. Moreover, transformational change presents the challenge of ‘rewiring the house with the lights on’ as past clients have put it. However, as IBM has demonstrated several times throughout its existence, when done well it can deliver a step change in performance. Our Smarter Planet™ initiatives¹ all share the common theme of seeing change as an opportunity; acting on possibilities and not just reacting to problems.

The Essential CIO, an IBM Institute of Business Value study published in May 2011, presented our findings that the objectives of CIO’s and CEO’s are increasingly aligned. It defined four CIO ‘mandates’ closely matched to the value principles and value based scorecard approach outlined in this paper.

To help our clients conduct transformational change IBM has points of view on a wide range of relevant subjects including:

- Lessening the risk of transformational change through agile transformation
- Improving the delivery of change through business platform centricity
- Redesigning sourcing models to reduce complexity
- Optimising value by exploiting the benefits of cloud computing
- Creating value by introducing disruptive platforms
- People and capability strategies for business aligned deliveries
- IT organisation strategies that focus on business value.
<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Change portfolio governance</strong></td>
<td>No cost or benefit considerations</td>
<td>Simple financial benefit-based decisions</td>
<td>Simple cost to deliver and benefit-based decisions</td>
<td>Complex cost of ownership, benefit and simple agility or risk considerations</td>
</tr>
<tr>
<td><strong>2. Change delivery</strong></td>
<td>IT receives disconnected orders for specific solutions from the business</td>
<td>IT receives initial briefings only on high level requirements from the business</td>
<td>Collaborative project working</td>
<td>IT input shapes how projects are delivered</td>
</tr>
<tr>
<td><strong>3. Technical complexity governance</strong></td>
<td>Complexity is not a consideration</td>
<td>Business and IT recognise the benefit of adding new solutions but feel the pain where there is too much complexity</td>
<td>Complexity governance actions driven by subjective assessments</td>
<td>Complexity governance actions driven by objective assessments</td>
</tr>
<tr>
<td><strong>4. Service delivery management</strong></td>
<td>Service failures are a fact of life, with no permanent fixes for business critical systems</td>
<td>Service failures are fixed in an unprioritised manner</td>
<td>Service failures are prioritised based on service criticality; not all failures are fixed quickly</td>
<td>Business criticality driven fixes for failures and business prioritised, proactive service improvement</td>
</tr>
<tr>
<td><strong>5. Managing IT impact on business operational risk</strong></td>
<td>No consideration of business risk</td>
<td>Untested business continuity plans in place</td>
<td>Tested business continuity plans in place for IT as part of a business wide continuity approach</td>
<td>All IT service business continuity risks known and mitigated</td>
</tr>
<tr>
<td><strong>6. Managing IT as a business</strong></td>
<td>IT operates in isolation with little business input</td>
<td>IT is managed informally with some alignment to the business</td>
<td>IT is managed more formally and based on good practice</td>
<td>IT operates like a business</td>
</tr>
<tr>
<td><strong>7. Measuring the right things</strong></td>
<td>People and performance are not formally measured</td>
<td>Internal to IT non-value based measures only</td>
<td>Internal to IT and some non-value based internal customer centric measures</td>
<td>Internal to IT and some non-value based internal customer centric scorecard measures</td>
</tr>
<tr>
<td><strong>8. Quality and value culture</strong></td>
<td>No culture or mindset of what drives quality or value</td>
<td>Superficial quality standards with no compliance or embedded continuous improvement culture</td>
<td>Quality checks in place and supported by collaborative behaviours</td>
<td>Pride is taken in producing high quality outputs with strong continuous improvement behaviours</td>
</tr>
</tbody>
</table>

**Figure 5: IT Value Maturity Model**
**Conclusions**

An IT function is a complex organisation that can only be optimised by taking a holistic ‘ecosystem’ view to ensure that all elements are seen in balance with each other and that the impact of actions taken in one place are understood throughout the ‘ecosystem’. A transparent scorecard sets only the goal not the means and can provide the necessary freedom to improve continually – ultimately doing more for less.

To succeed in striking this balance, the CIO must have keen foresight and a good understanding of the journey that the organisation is on, plotting the development of the IT function to support this and ensuring that the correct capabilities are developed in good time.

Business leaders are too often caught in the unenviable position of knowing that something is a good idea while being unable to justify a business case to their shareholders. By clearly demonstrating the net value increase using quantifiable measures, the first step in any improvement process requiring investment has now become less of a problem.

By clearly demonstrating the net value increase using quantifiable measures, the first step in any improvement process requiring investment has now become less of a problem.

**An IT function is a complex organisation that can only be optimised by taking a holistic ‘ecosystem’ view.**

IT functions will increasingly be a key marketplace differentiator to customers. Enterprises that focus on cost alone will diminish their IT capability and agility, and therefore IT value delivered to the enterprise. Over the long term they could lose market share and potentially fail. IT functions must focus on answering the questions ‘How can we minimise technical complexity and still be able to do what the business needs?’ and ‘Where should we be investing or transforming to see the biggest increase in IT value?’. Perhaps most importantly they must have the evidence to hand to back up their answers.
About the authors

Julian Ashley is a technology strategy and transformation senior managing consultant within IBM’s Global Business Services®. He is a subject matter expert in Business and IT engagement and associated processes, and has extensive experience in IT team leadership as well as cross sector consulting on IT performance management and IT strategy. He can be contacted on +44 (0)7860 366149 or by email at ashleyj@uk.ibm.com.

Sas Saadat is a technology strategy consultant within IBM’s Global Business Services. He primarily advises retail banking and insurance clients on a range of strategic IT topics that include performance improvement and transformational roadmap planning. He can be contacted on +44 (0)7738 310251 or by email at sas.saadat@uk.ibm.com.

Acknowledgements

The authors would like to thank the following for their input, review support and challenges to our work:

• Jon Brock and Rash Gandhi of the Technology Strategy and Transformation Practice
• Luke Robertson, UK and Ireland Technology Strategy and Transformation Practice Leader, Julian Herring UK and Ireland Financial Services Sector Leader and Ian McMillan, UK and Ireland Strategy and Transformation Leader for Financial Services
• Suzanne Duncan and Srini Giridhar of the IBM Institute of Business Value
• Our clients with whom we discussed the principles, with special thanks to Melvyn White, Enterprise Architect at Deutsche Bank.