

Return on Investment: *Understanding the Challenge & Deriving Value*

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Agenda

Introduction

Objective & Context

Summary Thesis

Understanding the Concepts

Building the Foundation

Executing on the Plan

Using the Data

Recap

Q & A

Objective & Context

Objective

- Provide the audience with a deeper understanding of the concepts, processes and tools associated with Return on Investment, to enable better business decisions and corresponding investment planning.
- Focus on establishing and measuring the Value Tree

Context

- Presented from a layperson's perspective
 - IT project and program management
 - Strategy & Operations oversight
- Not from a “Finance Office” perspective
- Based on Real Experience from application in multiple industries

Target Audience

- Project Managers, IT Directors, Business Management

Summary Thesis

Measuring Return on Investment can be a fuzzy science, and is often overlooked, or given a token nod on technology projects.

Measuring the straight Capital and Operating investment dollars against projected payback is a starting point, but only as accurate as the underlying analysis and data.

Taking the time to perform the **pre and post analysis** with real metrics, and measuring value against these numbers provides more accurate measures of value.

- These can be used to prioritize further investment and return real business value. This **builds the foundation for strategic platform investment** with **demonstrated value** to the organization.
- A proven record of return on investments enhances **business partnerships** and increases the likelihood of continued future support.

Foundational Assumptions

Pre-Analysis captures theory.

- Past experience increases accuracy of projections, but is still only theoretical until proven with measured results.

Theory does not change a bottom line.

Clearly defined metrics, consistently measured pre and post implementation give a good foundation for quantifying the Return side of the equation.

There is No True Return unless the Return is re-invested in some fashion.

- Increased throughput (only valuable if capacity is needed)
- Headcount reduction
- Lowered costs

Process

Project Goals

- Clearly articulated and approved by stake holders and sponsors

Value of project goals quantified

- It is not enough to identify the intentions of the project.
- Whenever possible, Objective Measurements must be made and declared that quantify the intended outcome and value
- E.G. We will implement the new Widget System to make Widgets 10% faster, allowing us to meet customer demand and increase profits by 20% in year 1 of the implementation and providing incremental increases of 5-10% over the following 2 years with a final goal of 35% over baseline in year 4

Investment estimated and measured over the life of the project

Final metrics obtained & projected return validated, closing communication loop

Return On Investment

The amount, expressed as a percentage, that is earned on a company's total capital calculated by dividing the total capital into earnings before interest, taxes, or dividends are paid

$$(\text{Benefit} - \text{Cost}) / \text{Cost} = \text{ROI \%}$$

$$(10\$ \text{ benefit} - 6\$ \text{ investment}) / 6\$ \text{ investment} = 67\% \text{ ROI}$$

Benefit must be projected and then measured

Cost must reflect full load

Relationship of ROI to TCO

To understand your potential ROI for a project, you must understand the projected Total Cost of Ownership (TCO) for your investment over the life of the project.

The components of TCO should include the full scope of the initiative, including project inception and in house resources.

Example Components of TCO

(not a complete list)

In house resources (measured at a loaded rate based on % allocation to effort)

- Development Staff
- Project Management
- Executive support

Contracted Resources

Project Related Meetings (Template)

Application licensing

Hardware

Depreciation

Maintenance costs

If replacing an existing application / solution, target application retirement costs

- This can increase complexity as you may want to include this application efficiency against the new application efficiency for your math

Upfront Work

There is no “Quick Fix” to accurate ROI measurements on a project.

Partner with the business early and consistently.

- Understand the space / technology and business
- Translate the business needs to the appropriate technology (strategy)

Clearly define and get agreement on business drivers and needs, to match anticipated benefit to return.

Typical Traps

Used as a projection / pre-work exercise only

- Often manipulated to justify project work
- Difficult to quantify true investment or benefit prior to project completion, resulting in inaccurate assumptions regarding derived value.

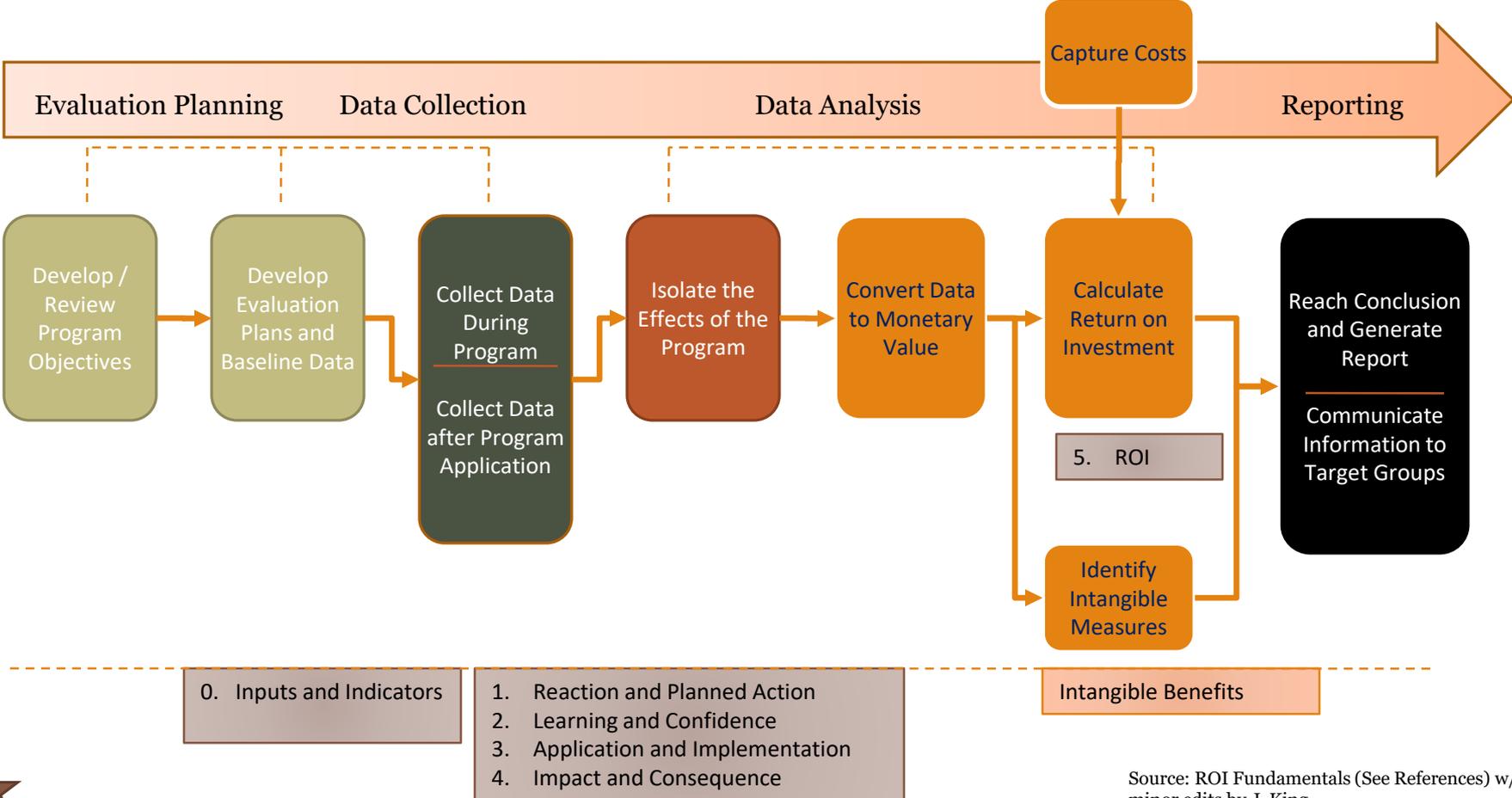
Only hard capital investment is calculated in the equation resulting in an inaccurate picture

Lack of clear benefits definition makes true business value difficult to quantify

Lack of action on “returned value”

- What is done with the extra capacity, increased throughput
- Is headcount reduced in accordance with increase in efficiencies?
 - If Headcount is not reduced, how will the re-assignment value be captured

The ROI Process Model



Source: ROI Fundamentals (See References) w/ minor edits by J. King



Measurement & Isolation of Results

The isolation of the results and corresponding metrics determines the level of action that can be taken

Higher fidelity yields greater control, but is not always a value add.

Aggregate Measures

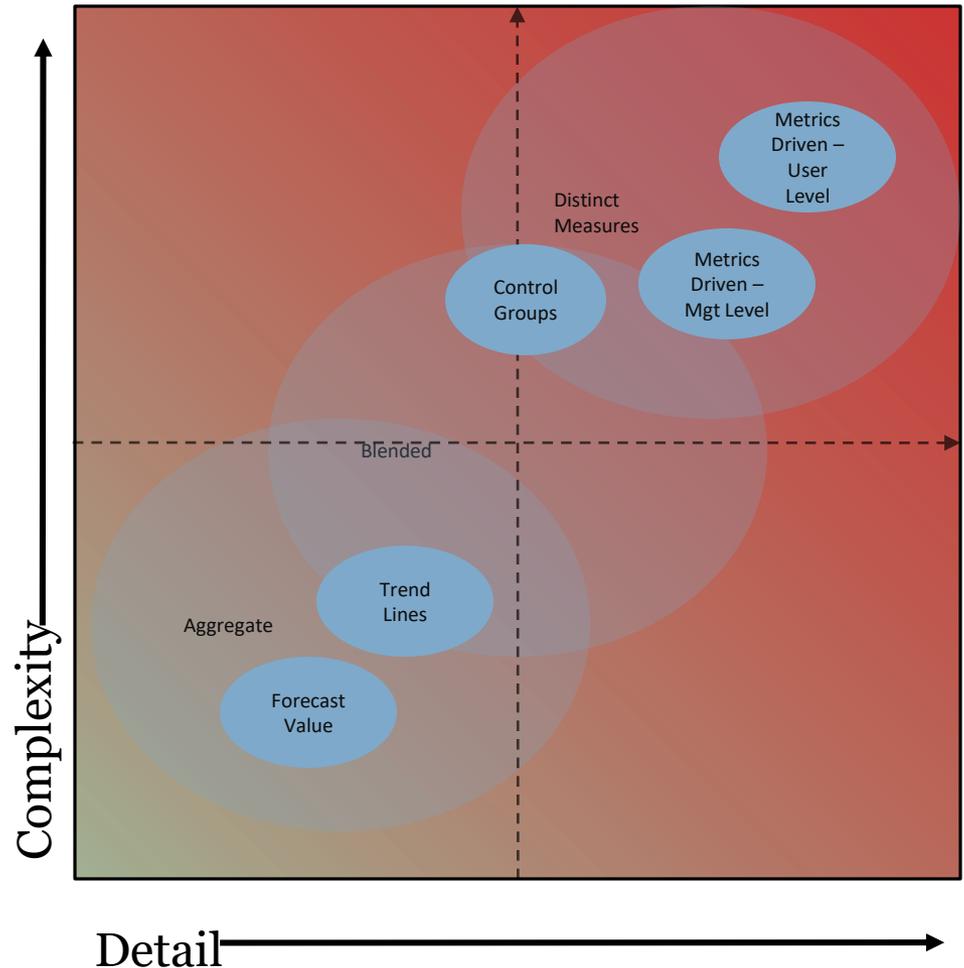
- Trend lines
- Forecast Value (estimation)

Distinct Measures

- Direct measurement of results against established metrics
 - User
 - Supervisor / Management

Blended

- Control Groups
- Direct Measures at higher process level



Collecting Metrics

Make the business a part of the process all the way through.

- Verify metrics collection plan and involve the business in the process.
- Explain the plan and what the intention is when complete.

Understand Business Process

- Identify bottlenecks and areas of opportunity targeted by new project

Break workflow into logical activity / deliverable chunks.

- Target areas that will be consistent in the before and after stages.
- Keep groupings to the level of activity required to capture the process & deliverables as a unit.

Measure before, during and after.

- Measure early enough to capture the before in its entirety
- Measure during / immediately after to see the uptake & identify potential areas to work on.
- Measure post rollout and take up to verify assumptions
 - Post measurement should give adequate time to achieve maximum efficiency, but get past the upswing of optimism and into the stable operating model.



Soft Metrics / Benefits

Compliance

- What is the anticipated deviation we are preventing?
- What is the likelihood of this deviation occurring (historical precedence / industry precedence)?
- What is the cost of that deviation per incident
- How likely that the deviation will be eliminated?

What makes a good metric

Is it objective?

Is it a high cost resource?

Is it on the critical path?

Does it represent significant business value

- Impacting a metric that is not on the critical path will not be a compelling ROI if your business is time sensitive, correspondingly, reducing FTE need will not be an impactful argument if your costs are not centered in your FTE LOAD
- What has changed and how will that make you more money? / Advance your bottom line?



Questions to ask

What are the critical items for success in my business?

- Time / Speed
 - To market
 - Manufacturing
 - To decision
- FTE load
 - High cost labor makes reductions attractive unless you can redeploy resources to target critical path activities
- Quality
 - Improvements in quality may provide a competitive edge

Efficiency based ROI

Determine clear metrics, pre-implementation

- Measure
- Implement
- Measure

Before initiating the project, gain consensus on the dollar value of the efficiency gains. This may be reflected in replacement work streams, increased throughput or other means of recapturing the efficiencies.

- Do Not use straight un-captured / redirected efficiencies as justification for ROI as you will have no direct cost offset

Monetizing Soft Requirements

What about when an investment is justified on regulatory compliance

- Value of measuring compliance findings results
- Cost Avoidance Model - % of probability as a factor

Risk Avoidance

IP Protection

Security

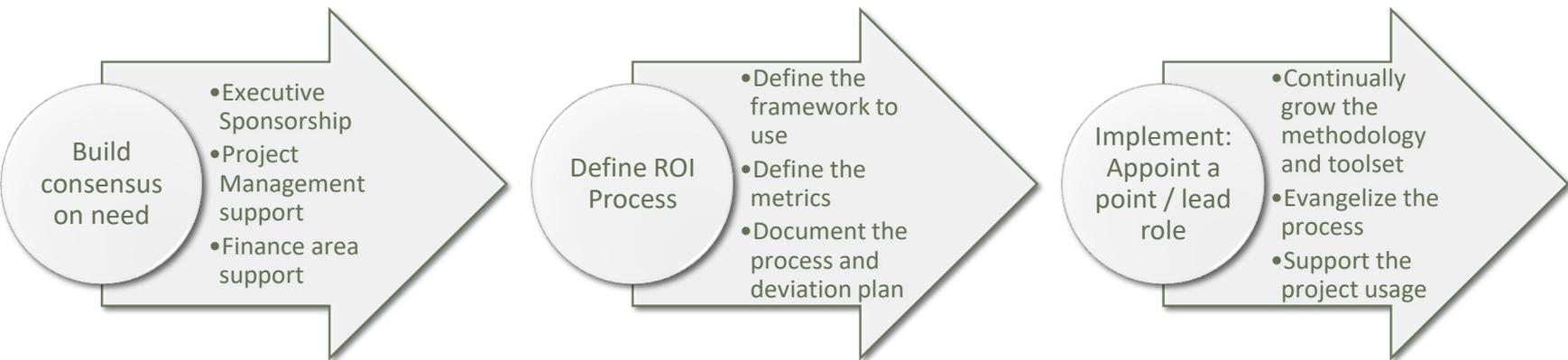
Demonstrating Return

To use ROI as an effective investment guide, the return must be demonstrated

Technology / Application / Equipment investments that are not fully leveraged by the business are not going to return the projected value.

- New collaboration software without adequate training or cultural acceptance
- New Equipment with a steep learning curve and inadequate training

Implementing an ROI Framework



Summary Thesis - Review

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Final Take Away Points

Business Partnership is a critical element for success in project delivery and use of an ROI process.

To successfully implement an ROI process, a culture of accountability must exist or be built.

Efforts to track ROI are useless if the results are not tracked, validated and applied to future efforts.

Metrics are KING and must be planned, established, tracked and reported against.

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Appendices

Jim King is responsible for Strategy and Operations in the **Business Systems and Processes organization** supporting **Wyeth's Research Division** in the Discovery, Preclinical Development and Vaccines areas. His current role also includes that of Senior account manager for the Drug Safety and Metabolism area.

Jim spent time developing the Project Management Office during the organizations transition to a matrix based management and delivery style, and prior to that worked in a relationship management role as a Senior Consultant to the Drug Safety and Metabolism group delivery a number of key initiatives and helping to manage the business strategy as well as a GLP compliance center of excellence.

Prior to working with Wyeth, Jim was responsible for **developing and leading a technology R&D group at Merck** charged with identifying emerging technology and business trends, and implementing near, mid and long term strategies around them. While in this role, Jim continued work with partner organizations including Merck Venture Capital Group, Microsoft and other strategic vendors.

Originally coming to Merck as a consultant, Jim was responsible for developing an Electronic Data Collection system for late phase clinical trials. During the execution of that project, Jim joined Merck as a full time employee and built and led a technology operations group of over 30 people in 4 groups to execute the EDC vision and bring the operation to steady state.

Prior to joining the pharmaceutical industry, Jim was a successful **consultant in the greater Philadelphia area** for a number of years, with a focus on the growing internet technologies.

Jim's background includes a tour of duty with the US Marine Corps, Industrial Manufacturing, Commercial Electrical Engineering and Robotics programming as well as business leadership and extensive consulting and speaking experience.

His current focus is on emerging data and information management science with a special interest in GxP and Lab Data Management issues.



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Specialties:

Strategic Planning, Shared IT and business vision development and execution, Information Management and Data to Knowledge Conversion, Electronic Laboratory Notebooks, Compliance and Data Management in the Pharmaceutical R&D space.