IT VALUE

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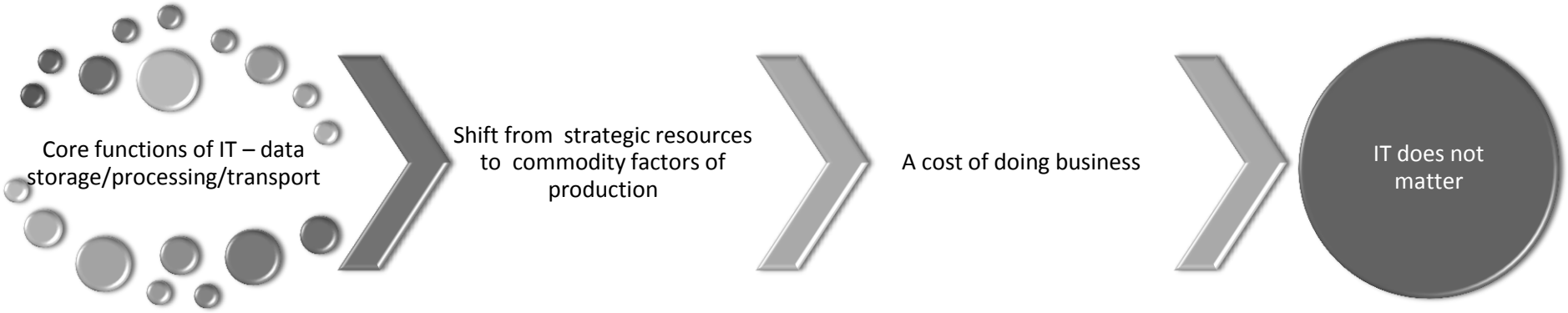
IT Doesn't Matter: Nicholas Carr



"…[IT] makes little direct contribution to the overall performance of a company or the economy until it's combined with complementary investments in work practices, human capital, and organizational restructuring."

—Erik Brynjolfsson The IT Productivity Gap

DIMENSIONS OF VALUE

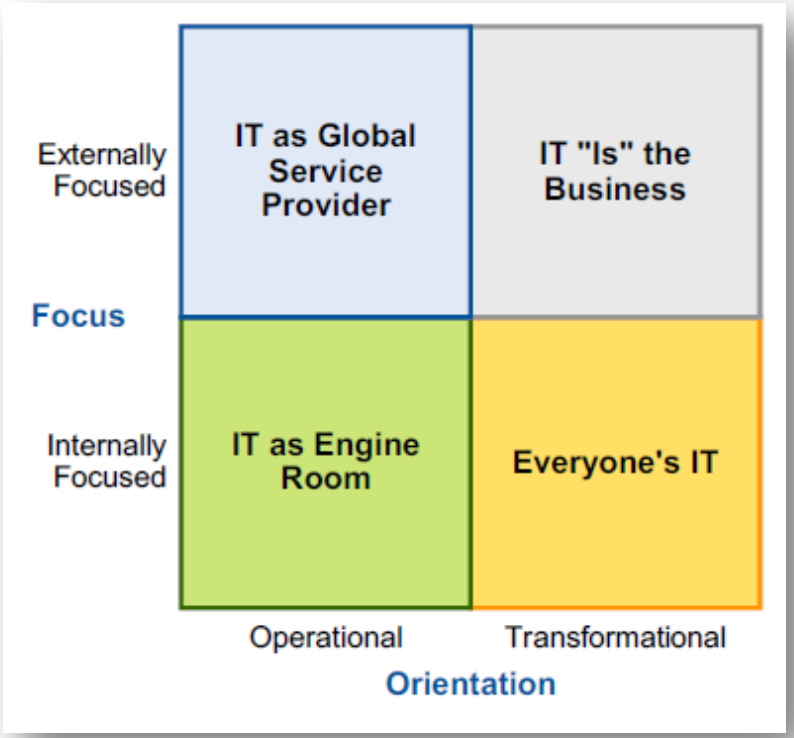
IT VALUE LANDSCAPE

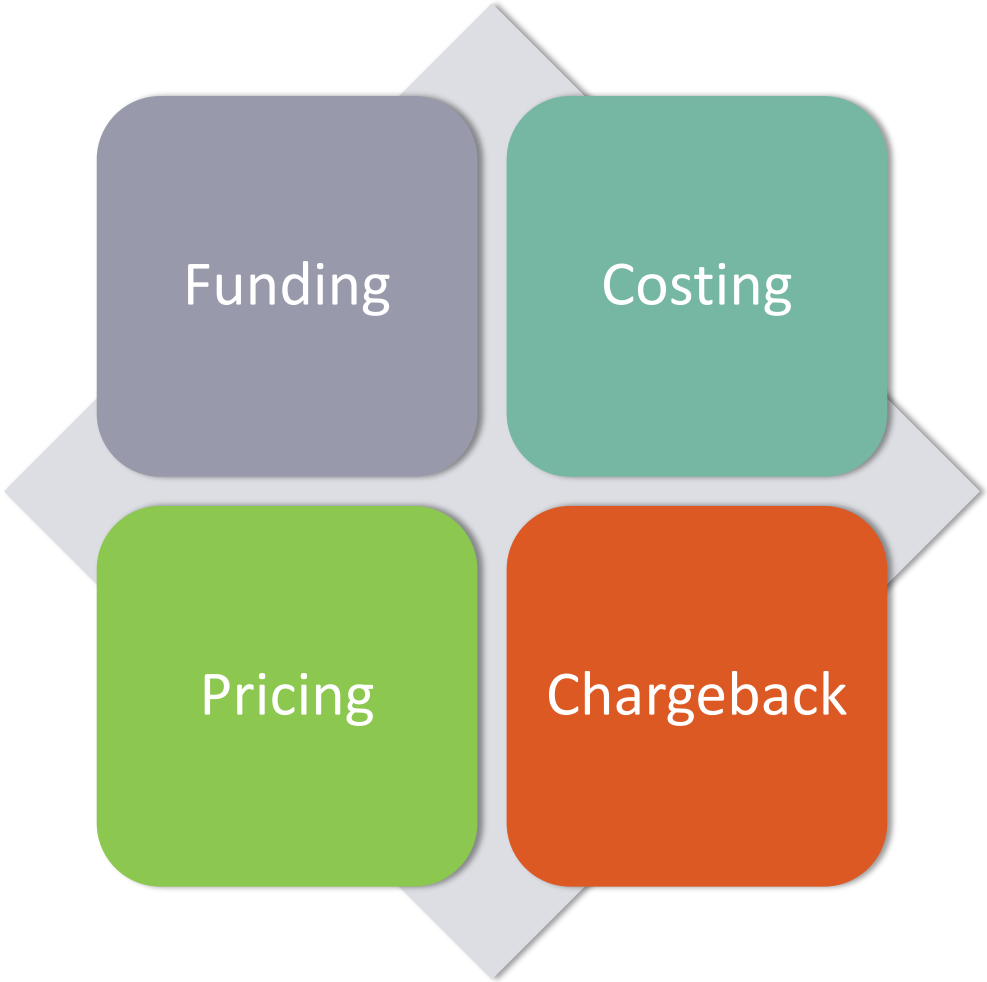
- IT Specific Measures
  - IT Spend as % of revenue
  - % uptime
  - Response time
  - % within Service Level Agreement (SLA)
- Business Measures
  - Revenue
  - Profit
  - Earnings Before Interest, Depreciation And Amortization (EBIDA)
  - Increased sales
  - Inventory turns
  - Days outstanding receivables
  - % increase in productivity

COMMON IT METRICS

Total Cost of Ownership (TCO)	• Estimate direct and indirect costs.
Return on Investment (ROI)	• Evaluate the efficiency of an investment by considering profits in relation to capital invested
Economic Value Added	• ROI-like, except use the value of not investing the money somewhere else.
Real Options Valuation	• This metric calculates an IT project's value by weighing its ongoing and future fiscal impact. It is particularly helpful in evaluating the choices involved in start-up projects.
Return on Assets (ROA)	• This is the net income an IT project generates divided by the total cost of the assets it used to earn that income.
Return on Infrastructure Employed	• This works like ROA, but it bases its ratio on the cost of IT services instead of the cost of IT assets.

IT FUNCTIONS – VALUE MODELS





Source: Gartner (2012)

PROJECT: CALCULATING VALUE

Cost / benefit analysis

- Intangible versus tangible

Techniques

- Net present value
- Expected value

NET PRESENT VALUE

Project X

- Year 0: $20,000 cost
- Year 1: $10,000 benefit (estimated)
- Year 2: $10,000 benefit (estimated)

$$NPV \sum_{1}^{n} \frac{EV}{(1+i)n}$$

$$NPV = \frac{-20000}{1.05^0} + \frac{10000}{1.05^1} + \frac{10000}{1.05^2} = -1405.90$$

Assume 5% rate of return

EXPECTED VALUE

E(X) = ΣxP(x)

where *x* is the outcome and
P(x) is the probability of that outcome

Project Y

- Security system costs $10,000
- Prevents all downtime
- 5% chance 10 days of downtime
- 10% chance 5 days of downtime
- 30% chance 1 day of downtime
- Each day of downtime costs $10,000

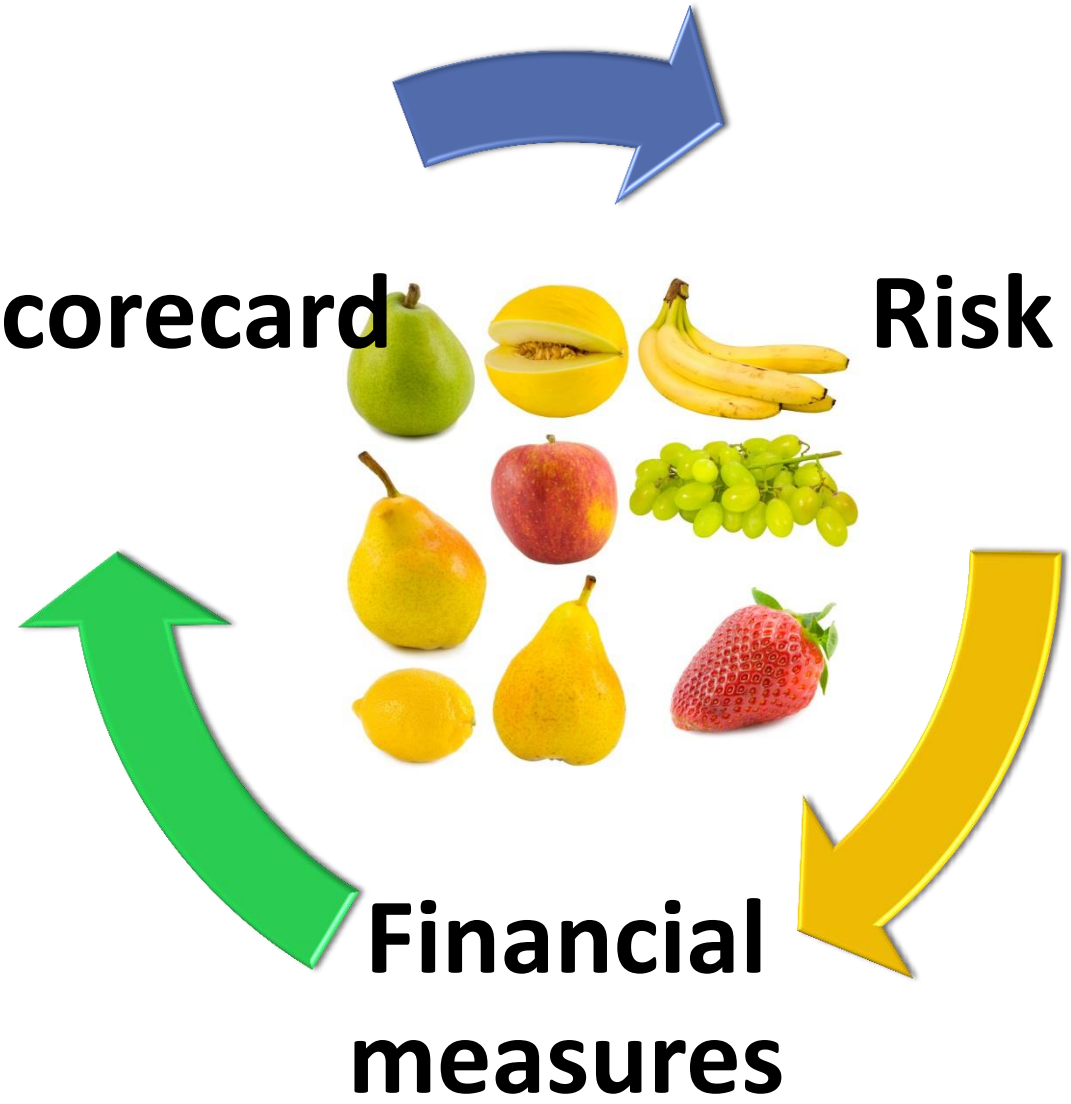
$E(X)=$
-$10,000*1
+ $10,000*10*5%
+ $10,000*5*10%
+ $10,000*1*30%
= **$3,000**

What does the expected value mean?

- Cost of system is $10,000
- E(x) = $3,000

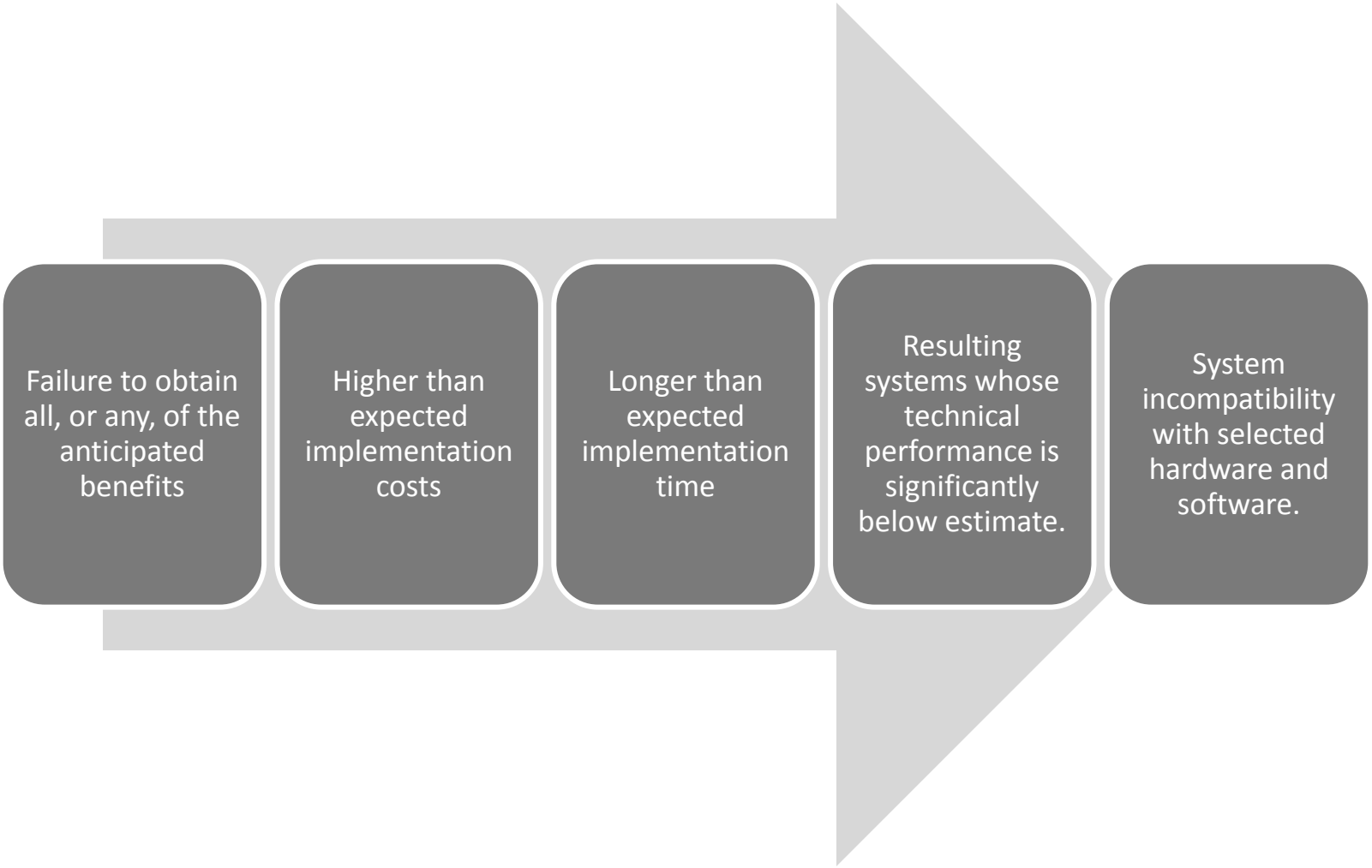
Can you combine?

- $NPV = (E(X_{year1}))(1.05)^{-0} + (E(X_{year2}))(1.05)^{-1} + (E(X_{year3}))(1.05)^{-2} + \ldots =$


Scorecard
Risk
Financial measures

RISK

PROJECT RISK



DIMENSIONS OF RISK

Project size

- Size of staff
- Duration
- $
- Number of departments impacted
- Other …

Experience with the Technology

- Hardware
- Operating system
- Software
- Database
- Other…

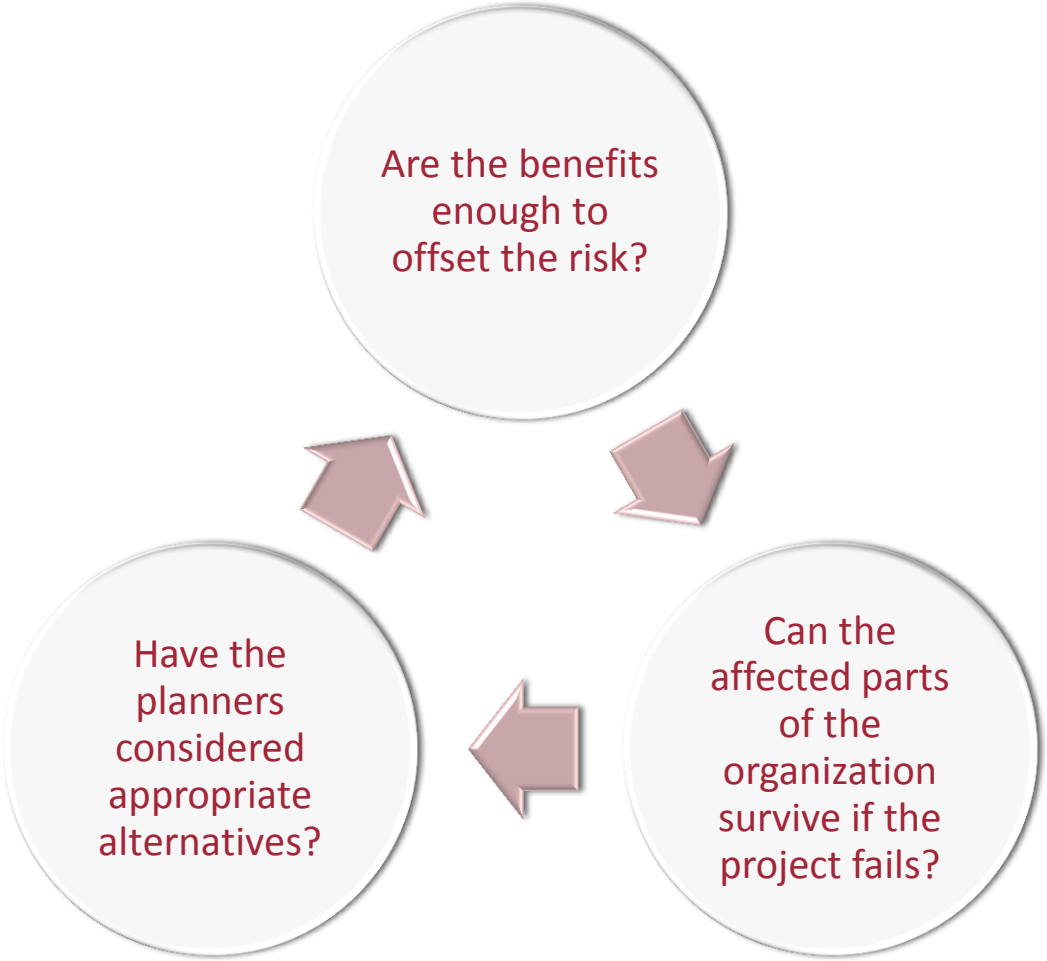
Project structure

- Task clarity
- Output clarity
- Stable requirements
- Need to change the organization
- Other …

PROJECT CATEGORIES AND DEGREES OF RISK

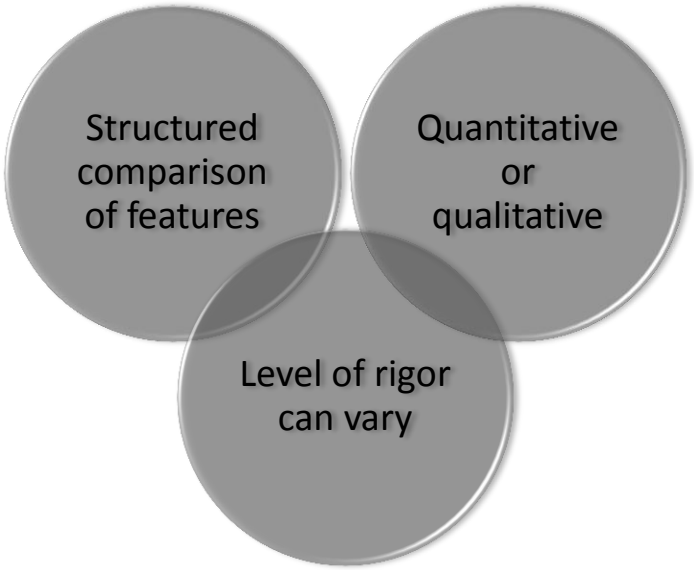
		Low Structure	High Structure
High experience with technology	Large Project	Low risk (very susceptible to mismanagement)	Low risk
	Small Project	Very low risk (very susceptible to mismanagement)	Very low risk
Low experience with technology	Large Project	Very high risk	Medium risk
	Small Project	High risk	Medium-low risk

KEY QUESTIONS



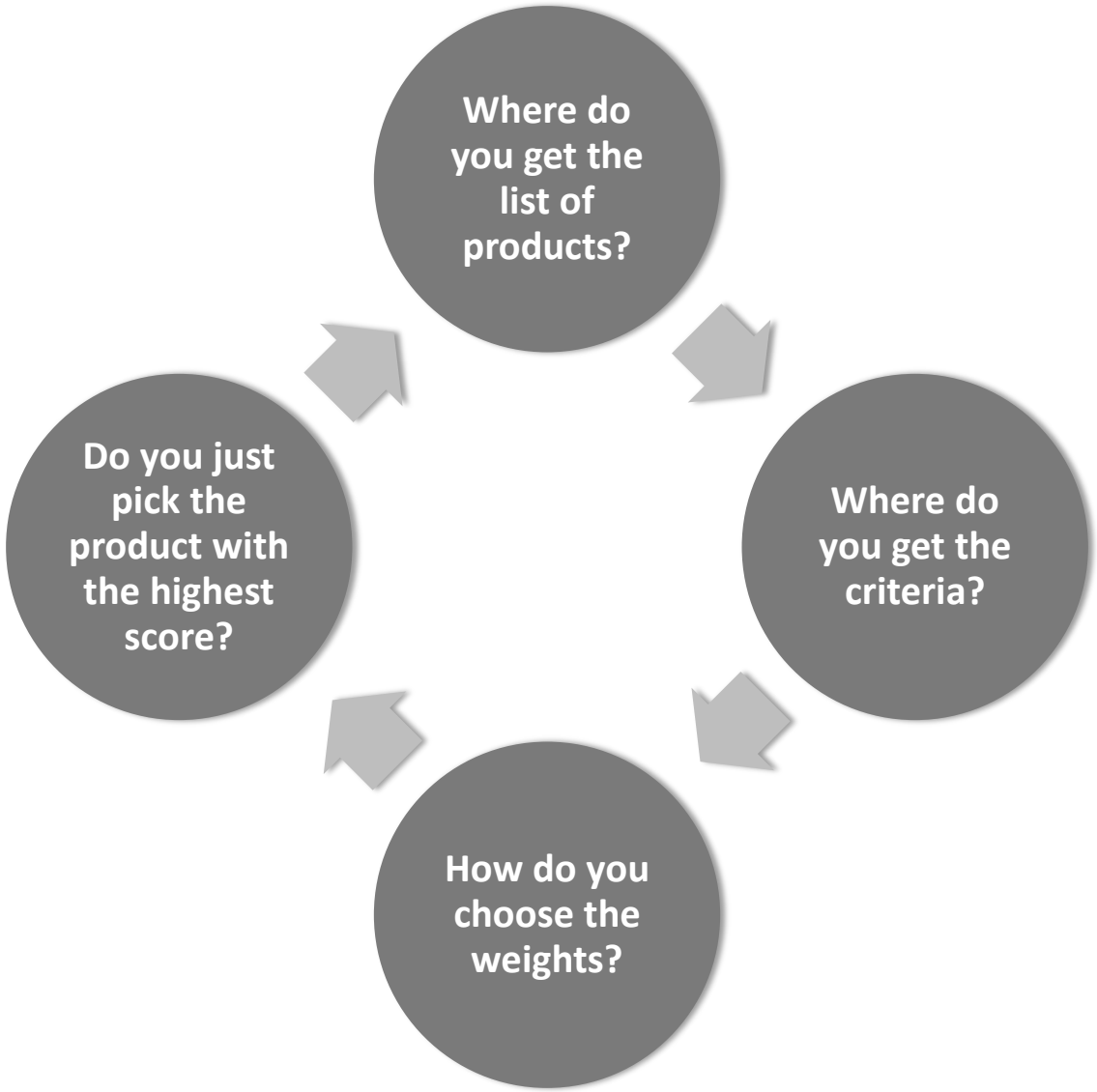
SCORECARDS

SCORECARD APPROACH



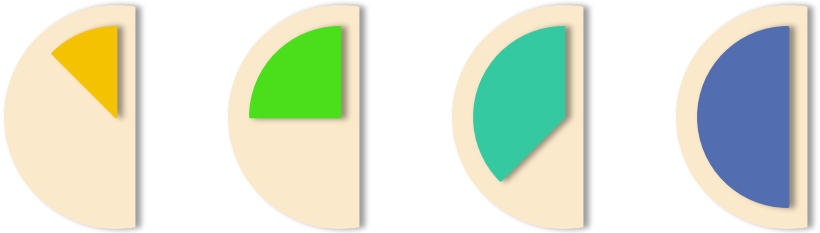
	Product 1	Product 2	Product 3	Product 4
Criteria A	n	n	n	n
Criteria B	n	n	n	n
Criteria C	n	n	n	n
Criteria D	n	n	n	n
(Weighted) Total	N	N	N	N

SCORECARD APPROACH



EXAMPLE

Community authored textbooks published in a web-based content management system



Create a report that scores each product

Team choses top three

Evaluate in a test environment

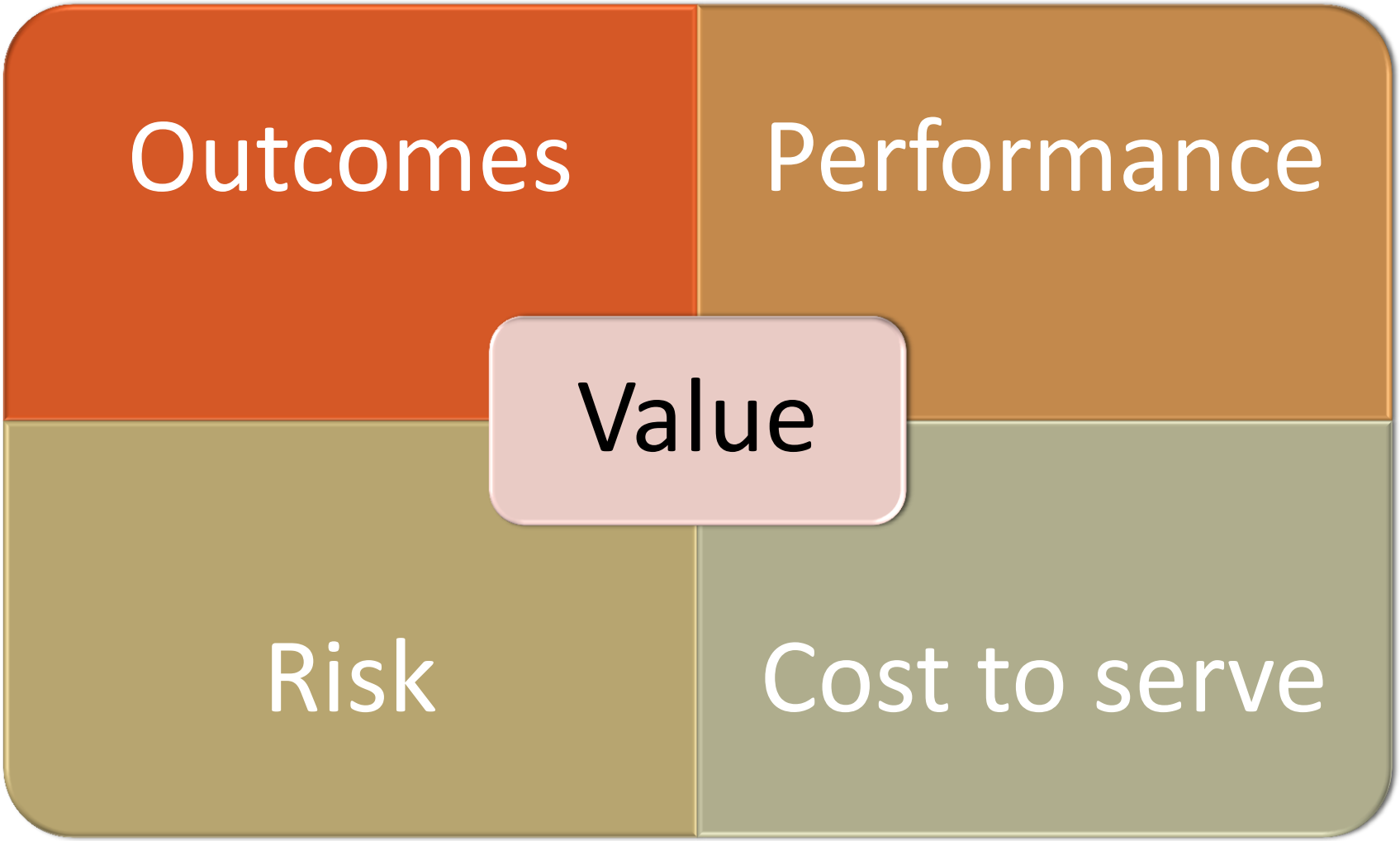
The final choice will come from those three

What are the pros and cons of this approach?

PARTIAL SCORECARD

	Word-Press	Joomla	Media-Wiki	Drupal	Share-point
Access controls to give people different levels of authoring (add, edit, delete) by entry					
Organize a series of entries into a chapter, and a series of chapters into a "publication"					
Create custom "publication" from any chapter available through the system (a "playlist" that other students can access)					
Ability to rate and share popular "playlists" of chapters					
Version control at the page level and at the "publication" level (Ability to "freeze" an entry and archive it)					
Ability to incorporate multimedia into an entry					
Support discussion-board style feedback from readers through different, access-controlled forums (student forum versus instructor forum)					
Support login-based access control and account management					
Convert an entry or a "publication" into a PDF for offline viewing and printing					
Scalability – ability to support a large number of users					
Delivery to browser in standard HTML (web-based delivery)					

ACCORDING TO CAMPBELL SOUP…



Source: Joe Spagnoletti

VALUE FOCUSES ON MATERIAL CHANGE

Outcomes

From → Material Δ → To

Sales ($)

COGS ($)

Quality

Performance (speed to outcome)

From → Material Δ → To

Behaviors

Processes

Tasks

Risks

From → Material Δ → To

Outcomes

Performance

Cost

Cost-to-Serve

From → Material Δ → To

Tools

People

Services