

## Abstract

“What Risks are in your Business Case?”

By John C Goodpasture, PMP

Every project begins as a strategy step towards a larger goal. To that end, this paper makes the argument that the project is an investment. The business, acting the role of investors, charters projects to obtain returns and benefits towards meeting the goal. This paper addresses some of the risks that are present in most business cases that could upset the value proposition of the project. The author sets forth the “project equation” that shows how risk balances the expectations of the business with the capabilities of the project team. Specific examples illustrate the point that uncertainty is the only certain component of every project.

## Author

John C Goodpasture is professional in project management, and currently the Managing Principal at Square Peg Consulting. Author of books, magazine and web articles, and many papers in the proceedings of the Project Management Institute, John is also an accomplished practitioner with many years of program, project, and project office experience in technology projects. Google John C Goodpasture PMP, or see the website at [www.sqpegconsulting.com](http://www.sqpegconsulting.com), or email [info@sqpegconsulting.com](mailto:info@sqpegconsulting.com).

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## What Risks are in your Business Case?

By John C. Goodpasture, PMP  
[info@sqpegconsulting.com](mailto:info@sqpegconsulting.com)

### A little bit about business cases

What we call a business case in this discussion is first and foremost a business<sup>1</sup> proposal, typically written for and approved by the business leadership. You may encounter other names like the project charter or the project prospectus. The business case may also be a proposal to do business with a customer, as in a response to a RFP,<sup>2</sup> which may then evolve into the project charter upon contract award.

A really good and helpful business case recognizes that projects are investments. The business is the investor, and as an investor, the business rightfully has an expectation and demand that the project return benefits that will make the business more capable, attractive, effective, or efficient in certain particular ways. In short, the business case lays out the value proposition of the project.

Like all investments, results are not guaranteed. Execution and outcomes are planned and specified, but we're all aware that the certainty of uncertainties puts the value proposition at risk. It follows that a stable, predictable project, a project under control, requires a manageable relationship among investment, results, and risk.

### The project equation

Consider this concept as applied to a business case. Investment resources and benefits are assets, in effect 'owned' by the business or its creditors and equity holders; project execution is a liability, in effect owned by the project. The assets are made available to liquidate the liability. But what if the business case reveals an imbalance, meaning: what if the planning estimates exceed the available resources? A balancing effect must be found. That balancer is risk. Someone must step up and accept responsibility for risk to create the required balance. The concept is illustrated in the project equation<sup>3</sup>:

$$\text{Investment \& Benefits} = \text{Execution \& Risk}$$

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<sup>1</sup> "Business" is a stand-in for really any organizational type, whether private sector, governmental, or non-profit. It is assumed that projects and project management are not core competencies of the business, as would be the case in a project consulting firm, and therefore projects are not a mainstream business function.

<sup>2</sup> RFP: Request for Proposal, a vehicle often used to solicit a contractor's plan for doing a project

<sup>3</sup> For more information on the project equation, see the author's book: "Managing Projects for Value".

Also, in a competitive RFP situation, the 'investment' is the offered price or capability, and the risk is the gap between the offer and what the customer is willing to pay or accept.

Just to be clear, the investment, risks, and benefits need not be exclusively monetary. A well constructed business plan will draw upon all components of the balanced scorecard<sup>4</sup>, seeking advantages in as many ‘perspectives’ as possible. An example of the balanced scorecard is shown in Table 1.

Table 1 Balanced Scorecard Perspectives	
Investment Opportunity	Returns and Benefits
Financial	<ul style="list-style-type: none"> <li>• Cash Flow</li> <li>• Return on Investment and/or Equity</li> <li>• Net Present Value, NPV</li> <li>• Economic Value Add, EVA</li> </ul>
Customer	<ul style="list-style-type: none"> <li>• Customer Satisfaction</li> <li>• Customer Loyalty</li> <li>• Delivery and Quality Performance</li> </ul>
Internal growth and development	<ul style="list-style-type: none"> <li>• Maturity models</li> <li>• Professional certifications and achievement</li> <li>• Employee Satisfaction</li> <li>• Competitive alignment</li> </ul>
Business Processes	<ul style="list-style-type: none"> <li>• Throughput</li> <li>• Value Add/Non Value Add</li> <li>• Repetitive Quality [absence of errors]</li> </ul>

### Risk in the value proposition

It’s my observation that mathematicians are always rearranging equations in order to change emphasis and isolate dependencies. Borrowing from that playbook, let’s rearrange the project equation a bit, although admittedly, playing loose with mathematical rigor:

$$\begin{aligned} & \text{Investment} \rightarrow \text{Execution}^5 \\ & \text{Risk} \rightarrow \text{Benefits, Execution} \end{aligned}$$

This alignment is chosen to emphasize that whereas the investment is primarily aligned with the execution demands, risks affect both the execution and the benefit stream.

Table 2 summarizes the sources and mitigation of many common risks appearing the business cases.

Table 2 Execution and Benefit Risks
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<sup>4</sup> The balanced scorecard was first described in the Harvard Business Review, the HBR, by Kaplan and Norton in 1992, and subsequently expanded into book length in 1996

<sup>5</sup> The symbol “→” means ‘aligned with’, not ‘equal to’ as in a rigorous equation

Table 2 Execution and Benefit Risks		
Operation	Risk Source	Mitigation
Project Execution	<ul style="list-style-type: none"> <li>• Requirements missing or misstated</li> <li>• Technology immature or too expensive to apply</li> <li>• Inexperience or missing skills in the project staff</li> <li>• Teamwork synergies not materialized</li> </ul>	<ul style="list-style-type: none"> <li>• Add requirements iteration and prototyping</li> <li>• Add prototyping, budget buffers, and technology progress gates</li> <li>• Add training to budget and schedule; add consultation with outside experts</li> <li>• Add team building</li> </ul>
Benefits Realization	<ul style="list-style-type: none"> <li>• External opportunities and threats impact the baseline plan</li> <li>• Risk attitudes distort decision making</li> <li>• Business leaders and managers fail to embrace the project deliverables</li> <li>• Markets and customers attracted or distracted by the “next big thing”</li> </ul>	<ul style="list-style-type: none"> <li>• Develop a project response if the risk materializes</li> <li>• Add objective evaluators to risk decision making</li> <li>• Proactively manage deliverables adoption</li> <li>• Pump up competitive discriminators for project deliverables</li> </ul>

The usual way the benefit realization risks are evaluated is by means of a methodology called discounting. For returns in the financial perspective, financial officers employ discounted cash flow mechanisms that not only value far-future cash less than near-term cash, but the discount actually compounds over time. The practical effect is that returns earned beyond a few years after project go-live really contribute little to the present value of the cash flow.

Discounting takes into account not only the diminished buying power of future flows, but also the uncertainty of the flows themselves arising from market and customer uncertainties, unplanned warranty and product support offsets, changing business processes, regulatory risks, and others.

Discounting is an applicable concept to the other balanced scorecard perspectives, even if not in monetary terms. To apply the concept means to adjust expectations for the uncertainty of attainment that naturally comes with the passing of time.

## **A few things about risk to consider when building the case**

Almost every project starts out as a step in strategy to get to a larger goal. To that end, an objective assessment of strengths, weaknesses, opportunities, and threats is helpful. We call this a SWOT analysis.

Everyone understands analysis and decision-making benefit from objectivity, but the fact is that projects employ people, and most people are not objective about many things that affect projects. Attitudes about uncertainty, achievement, and reward affect risk

evaluations; interpersonal reactions affect the synergies and contributions expected of people on the project and in the stakeholder community.

Objectivity effects are quantified in a risk-attitude concept called “utility”. Human factors are often assumed to be mitigated by leadership, management, and team work.

## The SWOT

SWOT analysis has been around a long time, routinely practiced by many teams. From the perspective of risk, Table 3 summarizes the SWOT impacts on the business case.

Strengths	<ul style="list-style-type: none"><li>• Project attributes that mitigate risks from within the project</li><li>• Attributes that provide a discriminating upside to project performance</li><li>• Discriminating strengths that may come from the business at large</li></ul>
Weaknesses	<ul style="list-style-type: none"><li>• Project or business attributes that may cause problems within the project, but are within the sphere of influence of the project or business managers</li><li>• Behaviors and performance that drive risk-adjustments to estimates</li></ul>
Opportunities	<ul style="list-style-type: none"><li>• Events and circumstances with upside potential for the business</li><li>• Business potential not planned for in the project baseline</li><li>• Events and circumstances from outside the business: market, environment, regulators, competition provide opportunities</li></ul>
Threats	<ul style="list-style-type: none"><li>• Events and circumstances with downside potential for the business or the project</li><li>• Mitigations not planned for in the project baseline</li><li>• Events and circumstances from outside the business, and often sourced just like opportunities: market, environment, regulators, competition, but could also include ‘acts of God’, accidents and mischief, and unanticipated dependency on other business activity</li></ul>

## What about utility?

Utility accounts for the emotional response to risk that most people experience. In a nutshell, utility accounts for the difference, or spread, between a dollar of impact measured objectively and the apparent impact felt subjectively or emotionally. Studies have shown that people are much more distressed by losing something they think they had than they are euphoric about something they did not expect to receive.

An objective evaluator of the business proposition should be ‘indifferent’ when assessing two risks that have equal expected value. After all, expected value is the risk-adjusted-average outcome of an event. But in reality, ‘indifference’ often breaks down.

Consider this example: A threatened risk event over which the project has no control could have two outcomes, equally probable: \$0 or \$100. The expected value is \$50<sup>6</sup>. But the project might chose to go a different direction that leads to a new threat that might also have two outcomes, equally probable, of \$200 or -\$100, and also with expected value of \$50. At this level of impact, a risk manager might remain indifferent: either threat is tolerable, so the project could go either way. Said another way, the either downside is affordable.

But does indifference scale up? Let's test: multiply everything by one million. The expected values of both risks are still identical, now \$50M. But the downside of the second risk, -\$100M, compared to the downside of the first event, \$0M, is now large enough that the risk manager may no longer be indifferent between two risks of equal expected value. The attitude of the business leadership is now drawn into the evaluation. The -\$100M downside of the second risk may be unaffordable, or invoke other mandatory, regulatory, or contractual risk management protocols. The leadership's reaction may cause redesign, capitulation, or cancellation of the project.

Some business methodologies build utility formally into the business plan by means of utility rules. The utility rules try to capture the risk attitude of the business leadership. In practice, such rules become a function to convert 'objective' dollars to 'utility' dollars. The project is then evaluated in utility dollars rather than objective dollars. Table 4 is an example of utility weighted risks.

Table 4 Utility Weighted Threat			
Utility Rule: {if N < -100, then N*4, else N*1, where N is a unit of value}			
Attitude	Upside outcome	Downside outcome	Expected Value
Objective Value	+200 objective units Probability 0.6	-100 objective units Probability 0.4	120-40 = 80 objective units
Utility Weighted Value	+200*1 utility units Probability 0.6	-100*4 utility units Probability 0.4	= 120 - 160 = -40 utility units

## Leadership, management, and teams

Every business proposition has leadership and management<sup>7</sup> built in. Various project methodologies rely on leadership and management in different ways, and therefore the human factors risks to the project's success and return to investors are intertwined with the execution and benefits capture methodologies. For instance, agile methods, a popular

<sup>6</sup> Expected value for discrete risk events is calculated as  $\text{sum}(\text{probability} * \text{impact}) = 0.5*0 + 0.5*100$

<sup>7</sup> Leadership is motivating, inspirational, and persuasive, but not necessarily structured or pragmatic, and can vary from being quite directive to being very delegating. Management is controlling, directing, and monitoring, always seeking measures of progress toward specified objectives. Teamwork is an interdependent experience of challenge, achievement, and reward. The common expectation of teamwork is synergy

approach to building consumer software, depend heavily on self-directed teams that are very flat and require quite minimal management. The emergence of a leader is essential to keep the team moving along. On the other hand, highly structured programs, as found in the defense and aerospace industry, require quite sophisticated management to address the myriad tasks, dependencies, metrics, and reporting.

Teamwork can produce superior results; justifiably most project plans depend on teamwork. So should post-project benefit realization plans. Teamwork should not end at the project's completion.

For the reasons just discussed leadership, management, and teams are often cited as success factors in business cases, but the author's experience is that risks are often unstated. Table 5 presents both the upside and downside for each.

Table 5 Business Case Risk of Leadership, Management, and Teams			
	Upside	Downside	Mitigation
Leadership	<ul style="list-style-type: none"> <li>• Enables virtual, long distance, and flat teams</li> <li>• Drives effective benefit capture</li> </ul>	<ul style="list-style-type: none"> <li>• Requires management skills for executive follow-through</li> </ul>	<ul style="list-style-type: none"> <li>• Appoint Management deputy</li> </ul>
Management	<ul style="list-style-type: none"> <li>• Provides executive skills for structured methodologies</li> <li>• Enables reporting, communication, and benefit tracking</li> </ul>	<ul style="list-style-type: none"> <li>• Requires leadership skills to capture off-baseline opportunities</li> <li>• Unlikely to capture benefits without leadership vision</li> </ul>	<ul style="list-style-type: none"> <li>• Plan handoffs for opportunities and benefit capture</li> </ul>
Teams	<ul style="list-style-type: none"> <li>• Synergy can save time and money</li> <li>• Synergy often produces superior deliverables</li> </ul>	<ul style="list-style-type: none"> <li>• Handoff among teams loses some synergy</li> <li>• Project teams rarely follow-through into benefit capture</li> </ul>	<ul style="list-style-type: none"> <li>• Structure handoffs to maximize knowledge transfer</li> <li>• Follow-through project go-live with benefit capture plans</li> </ul>

## Summary and conclusions

Every business case is a business perspective on the project. To the business, a project is an investment, and the expectation is for a return on that investment that will fuel business prosperity and effectiveness.

Every investment, thus every project, has some uncertainty attached. Uncertainty balances the competing pressures of business resources and benefits expectation on the one hand with project operations and returns capture on the other hand.

Uncertainty is another word for risk. Risk may materialize as either an upside opportunity or a downside threat. Risk is rarely evaluated objectively. Emotion and subjectivity distort true risk impacts, but these same effects limit the risk.

To execute mitigation strategies, solid management skills are necessary. But some situations require the touch of leadership, or a measure of teamwork, in order to dodge uncertainty.