

IT Governance

Individual Project Description

Topic:

A survey of the state-of-the-art methodology, practices, and trends of financial measures apply to IT projects.

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Executive summary

In the current corporate IT environment the challenge is to bring down the wall that exists in some or most organizations between the IT department and the rest of the organization. The idea of getting rid of the wall is that the successful organization in the 21st century has to align IT closer the business needs of the organization.

In a recent article the wall street journal explained that the wall has five primary reasons for its existence, Mid-set differences, language differences, social influences, flaws in IT governance and the difficulty in managing a rapidly changing environment.

In this paper, I am attempting to assist in the first two parts (different mind-set and different language) by exploring the different financial measurements for projects and possibly providing a tool that can serve as a guide for project managers, IT managers and executives who may not be familiar with the language or mid-set of IT and rest of the organization.

The main findings are that even as some organizations in the general business and the government have been implementing the financial measures we talk about in this paper, the main issue is that we still need to get in to habit of using these metrics, from start to finish, so that IT aligns better with the strategies of the organization.

The need for strategic alignment of IT (keeping the eye on the ball)

The WSJ article mentioned above argues that hundreds of billions of dollars are blown away every year on IT projects that fail to achieve the desired results and also points out that success in the digital economy demands a strategic role for IT.

This is the case for many organizations, but not for all. Since the invention of the computer, the Y2K phenomenon and the constant changing business landscape, the investments in the IT area have been increasing and they are expected to continue to increase in the coming years.

The need for IT governance is clear and has been in the business news and in the academia for some time. As describe by EY, IT Alignment, includes several steps, from a documented IT process and a formal IT strategy to Leadership support. One important aspect is to have a process for structuring, organizing, and prioritizing projects within the IT department.

EY also explained that in general most IT departments have to face a balancing act mostly due, as explained at the beginning of this paper, to increasing expectations for IT organizations to contribute to the overall organization. EY describes three pillars, Risk, Cost and Value. In other words comply with the business requirements and at the same time provide costs savings while also providing customer services (according to our presenter from SPSS, this is an area where most CIO's missed, SPSS also mentioned that having these financial measures in place also reflects the Tone at the top and the accountability of an organization), so in general companies are realizing that IT spending may need more oversight and justification for each project as the case of Motorola, where

there was no real process for a long time. So, this is another reason to have particular financial measures to as criteria to filter projects within an organization. As such, this should be an integral part of IT governance, since many companies are now creating a CIO position, it should be expected to have an increased use of these financial measures at all stages of a project prioritization process.

Cobit is the most recognized tool so far that most organizations and consultancy firms are utilizing to provide guidance in this trouble area. Based from the presentations that we saw the entire semester and also mentioned in the article from Sloan Management Review, *Avoiding the Alignment Trap in IT*, many organizations have not implemented proper IT governance procedures. Organizations are attempting to repair the damage by implementing the changes necessary to align IT to the business strategy and goals to the overall business. However, for most big enterprises complexity does not magically disappear just because an IT organization applies the latest framework, on the contrary, things will probably get worse before they get better. (7) As we saw with many companies that came to visit us, it is a learning process, depending on the organization and utilizing the maturity tool from the Cobit framework, if an organization has the lowest level of IT governance, then we can expect a long and changing process as was the case with State Farm, which candidly share that their process has been changing every year. When using the maturity Attribute Table of figure 12 in the Cobit literature, most of the companies that came seem to be in steps 3 and 4.

The need for measurement, financial or just results oriented is mentioned in all the literature and is an essential part of the Cobit framework. In general the main theme of Cobit is business orientation and accountability and it aims to provide a sense of transparency of the IT area to the other parts of the organization. The article from the WSJ mentioned at the start of the paper also lists seven steps to bring down the wall and most of the steps again are similar to the suggestions from Cobit. The areas that seem to be constant among all experts are: IT literacy within the organization- understanding IT role's on organization, IT leadership- from the business and technical perspectives, Rationalize projects and spending- create accountability from start to finish. This is also clearly mentioned in the Cobit overall framework, exhibit 16 of Cobit's literature, the areas where I can see the financial measures are most applicable are plan and organize and monitor and evaluate.

However, after spending one semester on IT governance it becomes clear that at the end of the day, an organization does need to have a way to get the best out of its investments, IT and others as well as a way to have its employees accountable for the different projects that may be implemented within the organization.

The article from Sloan Management Review mentioned that there is a need for a process that brings accountability from start to finish connected to business results. The Cobit framework and as we have seen, from the presentations of all the companies that came to see us, organizations are trying their best to implement in order to have positive changes. The Balance score card report from Harvard mentions that "It is not enough to have a plan; you've got to execute it!" (4) So here it also becomes clear that organizations may not have the habit of implementing these controls and measures.

e) Which measures to use in the different types of projects?

Most information signals to two types of projects, maintenance and strategic investments. The balanced scorecard reports and most of the presenters we had mentioned that Operation and Maintenance takes up to 80 to 90 percent of a typical IT budget (4). In general for projects in this area the suggested focus is on the savings projects will bring to the organization. On the other hand, strategic or discretionary investment projects make the remaining of the IT projects and for those projects the focus is mainly on the opportunities. In the presentation from Motorola they mentioned that the ideal target should be about 50-50

However, given the current wave of legal requirements such Sarbanes-Oxley and probably future waves of require IT investments, I would suggest to have a three type of project approach, where we have the required projects, for which even if the financial measures say that we would not have a good return in the investment, we still have to do them, the maintenance projects that will bring savings in addition to keeping the lights on, and the strategic projects which will bring improvements and can put us ahead of our competitors, The last two types of projects can certainly have financial measures and as such when an IT portfolio is apply to them, they can be easily rank and acted upon.

In general I am suggesting that even the required IT investment such as Sarbanes–Oxley requirements must have a business case based also on financial metrics. Even if the company has no choice about implementing, the reasons are not only to control costs, but is actually two fold, if you re implementing a framework and you have policies about how projects work in your organization, you do not want to have exceptions to the rule, because them everyone will want to be the exception. Also, by getting into the habit of measuring the IT investment even in projects that are require, you continue to implement the financial tools within the organization. Also the financial measurement information will be useful for future projects as you will be able to compare how the project did against any future projects. See exhibit 1.

c) How is financial return of IT projects different from industry to industry, from company to company and from the types of project?

Startups vs. established companies

In early stages high tech companies and/or projects was found that he majority do not use financial measure as a screening criterion, preferring to evaluate new products by gut feel.

(2) However, this same article finds that later in the product stage or later in the company's life cycle the financial measures become an important screening tool.

According to this article as well, the majority (2%) of innovations come internally, as such it is important to understand the impact of having or not having a financial measurement screen when choosing products.

The same article found that educational background was an important factor when using the financial screening hurdles, indicating that decisions makers with the business experience have some familiarity with these measures and thus will use these measures more frequently. This finding I believe justifies the creation of the proposed

tool/matrix/guide of financial measures to use for non-financial project managers, or decisions makers.

Lastly, as I mentioned above with the venture capitalists, even a project from a startup company has financial measures, even if they are a bit ad-hoc like the venture capitalist approach or a gut feel. Again the idea is to provide some guidance so that at the end of the project one can look back and learn from that experience

Government vs. Industry

In the article already mentioned, the author found that simple to use metrics are the ones being use most of the time. The one metric that was mentioned most of the time was Cost Benefit Analysis and in the case of the government this metric is actually require for some of the projects they have. NPV measures are less use in the government and according to the author is probably due to the lack of profit expectation from government institutions. An additional finding here that is consistent with the industry is that an initiative that has a champion or management support has a better change at being approve even if it lacks metrics. So for projects that have no metrics is even more essential to have a project champion. Another finding here is that the subjective criteria, such as gut feel is a catch all criteria that is frequently consider but it is negative related to project time performance.

Lastly, the overall financial measures can be important for better control over project costs.

a) Find which financial measures most companies are using today for all their IT projects

As I have started to describe above, there are several financial metrics that can be use, but the general preference is to have less complex tool. That is natural and well understood, I believe that most important finding so far is that organization are in need of getting into the habit of looking at the financial metrics even for projects that are require, such as the case of the government, even if they are not for profit, at the end of the day they are using the tax payers money and they have to be accountable for the money spend.

Some of the lack of usage also comes from the need to have required projects and the use assumption that the financial metrics do not cover all the benefits of a particular technology. Additionally, value also depends on the strategy of the organization, argues the author in balanced score card, so that if a customer service system may have more value than a quality system in an organization, as such in government, the strategy is to complied with Sarbanes Oxley, thus the value of implanting systems and changes related to this are high, so that financial rewards are over look.

However, the tendency now from all sides, business, government and IT is that a strategic IT plan must have programs in the IT portfolio with solid business cases,

I will not attempt to describe how to use each metric in detail. We have finance books for that, I will provide a summary of the findings in all the research, pros and cons of each

metric and you can find a summary in exhibit 2. Again my aim is to provide a tool for a non finance manager or executive so that he or she can have a guide for decision making.

Pay back period is the most easy to use, but it does not consider the cash flow and the time value of money

ROIC, IRR, NPV, Sensitivity Analysis and Profitability index all have use a discount factor and can give you the same idea, what return to expect from your investment. Each one of these can give you several numbers and the suggestions or best practice is to run them all for the project. Some of the problems with this metric are the lack of calculation for soft cost savings, now or at some time in the future. Assumption about the risk and premium varied and can affect the results greatly.

CBA – cost benefits Analysis. The state article explained that this is very time consuming but it may be required for some of the government projects.

Value Realization – Presented and used by Motorola. It is very similar to CBA and the main points are to realized that this is a journey, there is a need to track the costs and benefits, there is a need to prioritize and for accountability.

Gut feel and Venture Capital approach have similar ideas because there are no financial information or what is there is not reliable, so the investment decision has to be based on experience or expectations. Venture Capitals use a high expected return, 40-50 percent, mostly because they have to assume more risk with out the financial information. It will not be listed in the exhibit because of the lack of actual metrics.

The Balance Scorecard is more of a tracking tool for the post project implementation. Again, if we get into the habit of having a scorecard and reviewing at the end of each project, the process of aligning IT with the business strategies will become easier.

b) How are these financial measures being used? What problems arise from using them on IT projects?

One of the main problems that arise when using financial measures is that these measures may not capture the intangible benefits associated with IT investment, thus the true value of the project may not be realized if is atop for a simple financial measure, this is the argument listed by an article in the Project management journal (3).

As I described earlier the easier measures are being implemented and very understandable that that is the case, you do not need a PHD in finance to make a financially sound decision, however, some of the tools that are use un capital budgeting do require some basic understanding of the capital budgeting tools, particularly around risks, discount factors, time value of money etc.

One additional issue that arises form the use of financial measures is that in most of the financial community the metrics are useful because they are compare to prior years information, or similar projects, at the end, the financial community also uses a gut feel

approach sometimes and the idea is that the more information you have, the more experienced you have, the more comfortable you will be making a gut feel decision. Having said this, the key is to have as much information as possible, so I am suggesting that in order to get into the habit of creating the financial information required to have the gut feel decision, projects should have a financial post review, did the project accomplished what was promised? So, in exhibit 3, I am just attempting to add a step in a typical project timeline.

d) Determine which financial measures seems useful for hard or soft savings projects

This is one of the main problems for the metrics using a discount factor particularly, but essentially is a problem for all the projects when you can not justify the possible savings that a new technology is suppose to have.

Hard Savings, this is the easy part, by using the normal metrics and making sure that you have review all the possible costs savings such as rework avoidance, or reduced time-to-market, improved customer satisfaction the project shall be fine using the typical capital budgeting techniques

Soft savings and gut feel decisions.

The idea is now a little repetitive because I used it above, if there are soft savings, which could mean that the data provided is not reliable or non existent, then the approaches can be to have a cost benefit approach or study, which is time consuming, but it is effective. In other words, we know that that the project, new technology will provide benefits, can we take the time to find out exactly what the costs and benefits are before investing?

If the project is required, still have some financial metrics to justify the costs at the end of the project and lastly, the article from IT selection in state government suggests the use of gut feel by several managers and also argues that in many cases financial measures may not capture all the benefits of a IT.

I imagine that this argument will never go away given the nature of business and the uncertainty that most technology and business faced in the business area. These projects and the require projects mentioned have a resemblance to the venture capitalists situations faced by funds and investment funds. Their situation is unique because they may have an investment in a startup company with a new technology and thus in most cases there are not revenues yet, so they have to rely on forecasts provided by the founders, which are optimistic and full of uncertainty. Here, even NPV approaches are use but additionally a venture capitalist assumes higher return based on the riskier expectation, all these approaches can lead you to more informed or experienced decision. At the end, in order to have gut feel decision, you must have a good idea or some experience or some information to make that decision.

Conclusion

As we have seen the business and government landscape, financial measurements usage is all over the place, from metrics being used some of the time to being use all the time.

In general, the number one finding is that simple to understand metrics are implemented more often and as such part of my recommendation is to have these metrics be a constant of a pre-selection process such a portfolio management approach or a balanced scorecard report. The second finding is that the gut feel and other approaches such as venture capitalist can added as a part of the total criteria, These approaches are use by all, including finance and they will nit go away, so the more information one can have about the project will facilitate the gut fell decision.

Lastly, the most important finding is that organizations have to get into the habit of performing these financial measures from start to finish for all of the IT projects even those projects are require by law or for which there may not be “good” financial information and requires a gut feel approach. The idea is to capture the data now and be able to have a basis to compare for future projects.

This habit of financial measure speaks to executives and helps projects managers with their business case, but most importantly, it helps an organization to start looking internally and start aligning their IT investments

Exhibit 1 – Types of Projects and focus and suggested

Type of Project	Focused	Suggested Metrics
Required	Compliance with laws and regulations	May not be required, but we can start collecting info
Maintenance	Costs Savings or Costs Avoidance	Capital budgeting and other listed, gut feel if needed
Strategic or discretionary	Opportunities	Capital budgeting and other listed

Exhibit 2 – Metrics ideas, pros and cons

Financial Measure	Difficulties	Difficulties	+ + + +	++++
Pay back period	No recognition of cash flows			Simple and easy to explain
PV or NPV, DCF, ROIC,	Discount Factor (Reflects risk)	Soft Cost Savings	Uses Time, Opportunity costs	universally accepted for capital budgeting
Profitability Index, Cost benefit ratio	Discount Factor	“	Ranking for an investment portfolio, recommended as second measure after NPV	appealing to managers who must decide between many competing process improvements with positive NPVs
IRR – discount rate that causes NPV to equal zero, Modified IRR	Discount Factor, Misleading	“	Easy to compare	Executives seems to think in terms of IRR
Comparables (Benchmarking* of similar projects)			Easy to compare	Lack of prior data, finding comparable projects
Sensitivity Analysis	Still NPV		Particularly useful for different costs savings projects	Best Scenario, worst Scenario
CBA, VRA	Time consuming	It’s a journey	Cost/benefit tracking	Prioritization, Transparency
Balanced Scorecard	Need to implement one more tool		Easy to use Reporting	Can be use for Post Project review

Exhibit 3 – Getting into the habit, including **post project financial review**

Pre-selection



It is not
enough to
have a plan;
you've got to
execute it!

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