

# Investments into IT Decisions

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## **Abstract:**

Wrong IT decisions are costly. How to make “good” decisions better? What means “good”? This article analyzes pro’s and con’s of investing into IT decisions. What type of investments should be made? What can we expect out of them? What can be expected as return-of-investment?

While this article considers IT decisions more general, there are two follow-up papers analyzing product release decisions and staffing decisions in more details. In both cases, good decision-making is considered the results of a systematic and transparent process which is combining the intuition of the human decision-maker with the capabilities of a process-centric support tool.

## **Decisions, Decisions, Decisions**

Decisions are the focal points of business processes. IT decisions have to be made everywhere and at any time. They range from tactical to operational up to strategic decisions. A few example decisions are:

- Which IT services should be offered to which customers?
- How to react on shortages of resources in IT projects?
- Which IT system architecture is best to ensure security, performance and reliability constraints?
- Which existing (requirements, design, code, testing) components can be reused?
- How long to continue maintaining legacy applications before replacing them with new ones?
- How to allocate resources within a project?
- Which features to finally select for the next release and why? And: Which features are not attractive enough and are better left out (or postponed)?
- Which developers should be assigned to which task and when the task should be performed?

## What are the characteristics of “good” decisions?

A variety of reports exist with numbers on wasted project efforts and projects exceeding budgets and timelines. Paul Nutt has analyzed 356 decisions made by senior managers in medium to large organizations across the United States and Canada. The surprising result was that “Half the decisions in organizations fail” [Nutt ’99].

Considerable research has been conducted on how to make good decisions. What is a “good” decision, after all? No ultimate answer can be expected, no “one size fits all” model and process does exist. There are, however, certain principles which are likely to facilitate achieving the stated objectives. This is what good decisions are supposed to be: Facilitators on the pathway to achieve stated objectives.

For “good” decisions, one or more of the following aspects should apply:

- They help to achieve stated (business) goals with the resources available
- They can be explained and justified
- They are understandable and transparent for all involved stakeholders
- Their impact is pre-evaluated
- They are made at the right time (not too early, and not too late)
- They are made with reasonable effort
- They are balanced between the most important criteria (such as value versus risk)

## How to achieve “good” decisions?

It would be naïve to expect good decisions without some form of investment. Notwithstanding the few but existing hero’s, being able to make their decision based on intuition, the majority of good decision is based on solid understanding and considerable effort. They are the result of:

- (i) acquiring, analyzing and synthesizing the appropriate (amount and content) of information
- (ii) following a structured process which allows the involvement of key stakeholders at the different stages
- (iii) synchronizing the decision-making with all the other processes in the organizational decision network
- (iv) carefully analyzing the objectives and constraints relevant for the decision to be made
- (v) applying a rigorous method or technique, supported by some form of decision support tool.

## Investments into “good” decisions

All the five stated prerequisites for making “good” decisions cannot be fulfilled without some form of investment. The only zero investment decision-making policy is relying on intuition and

gut feeling. Unfortunately, there is substantial risk in this approach, and the result is often hard to explain and to justify (with the exception that the decision was made by one of the few “guru’s”).

To have access to relevant and up-to-date information, systematic and goal-oriented measurement needs to be established and maintained in the organization. In a strict sense, this is not just done for making better decisions, but also for better understanding, monitoring, control and improvement of organizational processes.

### Cost-benefit analysis

As for any investment, the necessary efforts, directly or indirectly aimed at making “good” decisions, need to be balanced with the potential benefits. What are the benefits of qualified decisions? Again, this is hard to describe without the knowledge of the specific context. The benefit of more transparent, more understandable decisions, made with less effort and resulting in better achievement of stated objectives, might be dramatic. Proper decisions about projects, services or product features resulting in higher customer satisfaction contribute to improved competitiveness of the organization.

Harrison has analyzed managerial decision-making processes and provided the qualitative cost-benefit curve shown in Figure 1 [Harrison '87].

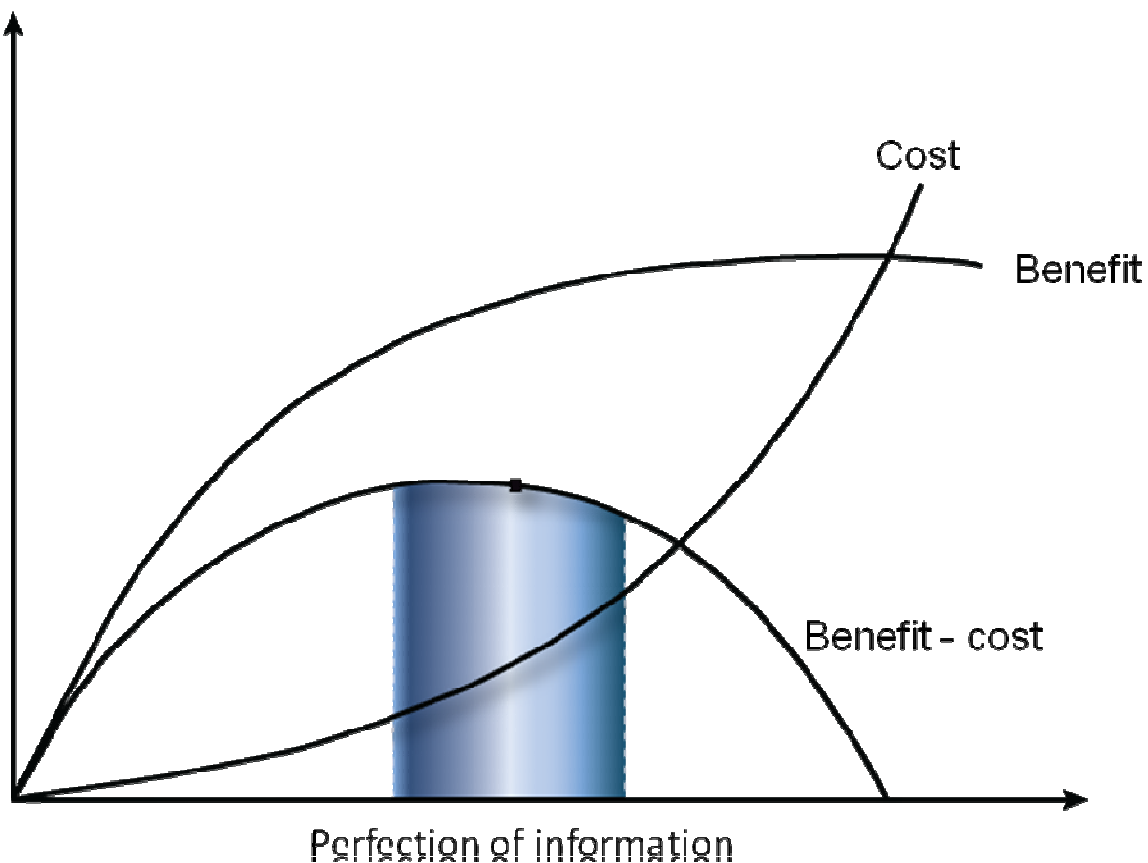


Figure 1. Qualitative cost-benefit analysis of investments into decision-making (adapted from [Harrison '87]).

What can be seen from the figure is that increasing the perfection of information does not always results in a higher benefit/cost ratio. Instead, there is a sweet spot for qualifying the information and achieving good and good enough results out of it. It can be expected that the relative effort for providing a certain quality level of information will be reduced with the number of its application. Consequently, the investment into “good” IT decisions pays off the more frequent the information can be utilized.

## Conclusions

Quality of decision-making is important for project and product success. Investing into more qualified decisions is worthwhile whenever the impact of wrong or bad decisions is known or can be estimated to be substantial. A variety of activities can be considered as investments, such as all effort aimed at the more qualified

- Definition of business objectives
- Definition of key resources and their capacities
- Definition of key stakeholders
- Definition of constraints (business, technological)
- Effort and resource estimation
- Post-mortem analysis (effort, decisions, technologies)
- Handling some computer support tool
- Communicating and negotiating decisions

Main benefits that can be expected from one or the other of these investments into decision-making are devoted to the possibility of pro-active evaluation of impact of decisions, support to find the most promising decision alternatives, more transparency and understandability of decisions made, in reducing the impact of human bias and reducing the risk of failure. What this means overall, is increasing the chance of success.

In order to get started with this agenda, a systematic evaluation of the benefits of better decisions needs to be done. These benefits need to be considered from a short, mid and long-term perspective. In all these cases, the benefits need to be compared with the necessary efforts to achieve them. The focus should be on the decisions having substantial impact on business success with improvements being possible on them with a reasonable investment. Battle for the right features and battle for the right developers are two prominent examples of these decisions.

## References

[Harrison '87]

Harrison, E.F., The Managerial Decision-Making Process, Houghton Mifflin Company, 1987

[Nutt '99]

Nutt, P., Surprising but true: Half the decisions in organizations fail, The Academy of Management Executive, vol. 13(1999), no. 4