

Project Business Management 3:

Crisis in Your Customer Project? Try Benefit Engineering

By Oliver F. Lehmann

"Do what you do so well that they will want to see it again and bring their friends."
Walt Disney

Summary

A traditional approach to resolve monetary problems in customer projects is "Cost engineering". This article describes an alternative solution named "Benefit engineering", which can be more effective and leaves a customer with increased happiness, while the contractor's problems are resolved.

The Boon and Bane of Cost Engineering

As a trainer and writer, the author of this article has a focus on project business management (PBM), the knowledge area in project management that is dealing with networks of customers, contractors and lots of other players. These organizations and individuals are forming project supply networks (PSNs) that can become very large, complex, intransparent, and very dynamic in the organizations that constitute them and the interfaces between them.

In these discussions, the author is often confronted with questions from project managers working for contractor organizations on profitability of customer projects. It seems to people that profitability and a happy customer are mutually exclusive. A project manager in a customer project has to invest into the contract project to deliver to the customer what is desired and needed, thus impacting the satisfaction and possibly the delight of the customer. This would reduce the profit from the project. Increasing the profit in turn would improve profitability but comes with the price of a frustrated customer and possible conflicts that may finally need to be sorted out at court.

A second question, which follows the first question is commonly the issue of liquidity. As a contractor for a customer, a company often has to outlay money, work and deliverables for the customer. This will be later paid back by the customer, but depending on the billing cycles of the contractor and the payment terms and discipline of the customer, may take some weeks. During that time, the contractor's business with the customer runs into a temporary loss situation, which can strain the company's credit line, particularly if the company has several customer projects that require that the contractor is financing the customers' projects in advance. Project outlays in addition come with the risk that the customer may go bankrupt and the contractor will not get them reimbursed, because the deliverables paid with them may become part of the insolvency estate or lose value when the customer project has been terminated.

Profitability and liquidity seem to oppose customer happiness. A focus on the monetary side of the project negatively influences the customer's perception of the performance of the contractor. It gives the customer the impression that the contractor is greedy, and that this greed is diminishing the success that the customer will have from the project.

Investing in the project to accelerate work, meet deadlines independent of customer payments, and to increase the value of the deliverables for the customer reduces the margin from the project, at least when the additional costs are born by the contractor.

Figure 1 shows how a company that gets its income from customer projects calculates its profitability from

- the revenues from the individual projects
- the costs that are incurred by these projects
- and by the general and administration (G&A) costs that cannot be assigned to individual projects but are incurred as overheads by the entire organization to be able to perform this project portfolio¹.

| | Revenues | Costs | Margins |
|------------------|-----------------------------|--------------------------------|-----------------------------|
| | (Payments from customers) | (Contractor's expenses) | (Net returns from projects) |
| Project 1 | 12,500,000 | -8,150,000 | 4,350,000 |
| Project 2 | 153,000,000 | -119,000,000 | 34,000,000 |
| Project 3 | 9,800,000 | -8,200,000 | 1,600,000 |
| Project 4 | 231,000,000 | -165,000,000 | 66,000,000 |
| Project 5 | 16,000,000 | -10,900,000 | 5,100,000 |
| Project 6 | 93,000,000 | -54,000,000 | 39,000,000 |
| Total | 515,300,000 | -365,250,000 | 150,050,000 |
| | | General & administration costs | -98,000,000 |
| | Profit from projects | | 52,050,000 10.1% |

Figure 1: Marginal costing model for a project contractor with a portfolio of 6 projects²

¹ (Lehmann, 2017a)

² (Lehmann, 2017b)

For project contractors, the risk is high that the profit from the projects may be impacted by reduced revenues, increasing costs for the projects or increasing costs for G&A. Project business management deals with high risk business, and the causes of such disappointments in the company's main ledger are numerous. Problems with project costs may come from poor cost estimating, unexpected rework, poor subcontracting or other incidents that drive the costs of a customer project. Revenue reductions may stem from incomplete deliverables, at least in the customer's perception, from delayed payments that move the income into the next business year, from withheld payments by dissatisfied customers, or from projects that are terminated before the full scope has been delivered and invoiced.

A very common cost driver for G&A costs is business development including the creation of a bid, a pitch, a proposal or another kind of offer. Poor hit rates make it either necessary to invest more into the development of both the offer and the relationship with the buyer, or alternatively to respond to more sales leads, whose generation is also an expensive exercise. Other costly activities that cannot be assigned to the specific projects in the portfolio are recruiting, bookkeeping and all tasks of general governance of the project portfolio.

This leads back to the introductory question: What would a company then normally do, when the margin from an individual project or the profit from the overall portfolio is not sufficient to consider the work profitable? The most common answer is to cut costs, ideally for items and work, where the customer cannot see this immediately. This is often referred to as "cost engineering", and some contractor organizations, particularly large ones, have dedicated personnel assigned to identify areas of cost-saving, where the customer would not respond negatively, at least not before the project and potential warranty periods have been ended. These cost engineers are often powerful enough to veto decisions of a project manager and replace them with own decisions in order to save money.

Cost engineering can be a formidable approach to make a project or a project portfolio cost efficient by simplifying items and activities, replacing gold-plated deliverables with those that are actually needed, and by focusing a project on its core deliverables, removing unnecessary workload and costs from the contractor's team. Often, the effect is a rather detrimental and cost engineering can turn the good relationship with the customer into a conflict that damages the project from the customer's perspective as much as from that of the contractor. Each contractual specification for a customer project includes some leeway for decisions by the contractor, leeway that the customer would not expect the contractor to exploit in a form that is detrimental to the project and to the relationship between the two parties. Cost engineering, once identified by the customer and rated as disadvantageous for the project and its mission can poison the relationship between the two parties, and the author knows from own experience in arbitration assignments, how difficult it then can be to bring the parties back to the "Mission Success First" accord, that was present when the project collaboration was started, and that is necessary to complete it successfully³.

³ There is almost no literature so far on project business management. An exception is Robin Hornby's book "Commercial Project Management: A Guide for Selling and Delivering Professional Services". He describes the same approach as "Collaborative Contracting". (Hornby, 2017)

Another detrimental effect of cost engineering can relate to time. Figure 2 shows, that from 402 respondents to a survey that the author did in September 2015, over 75% said that their projects need to meet one or more deadlines, and the majority of those projects had more than one of these dates that can become very pressing for the project manager and the team. Cost engineering often causes delays in projects. An exclusive and expensive resource with high performance may be replaced with a low-cost resource that is much slower and that needs to be shared with other requesters. The contractor may save money in logistics and other services by avoiding express solutions and using slow standard offerings. Expensive change requests that would increase the value of the project for the customer may then also be rejected, as the contractor may fear that not all additional costs will be covered by the customer.

There is an even more cost-relevant factor in project management that is often overlooked: operational disruptions. It is very common in projects that they collide with the requirements of operations, similar to road construction that leads to narrowing of the lanes on the street. From a project perspective, it may be very expensive to reduce these disruptions to a minimum that is generally unavoidable. The project may be able to save such costs to the disadvantage of operations, and as the project costs are commonly assumed by the contractor, while operation costs are shouldered by the customer⁴, cost engineering can lead to cost reductions that lead in turn to additional costs on customer side. This may have an additional effect that the project endangers the acceptance by managers and employees in charge for the success of the operational processes.

Regarding time pressure, which statement is true for your current project?

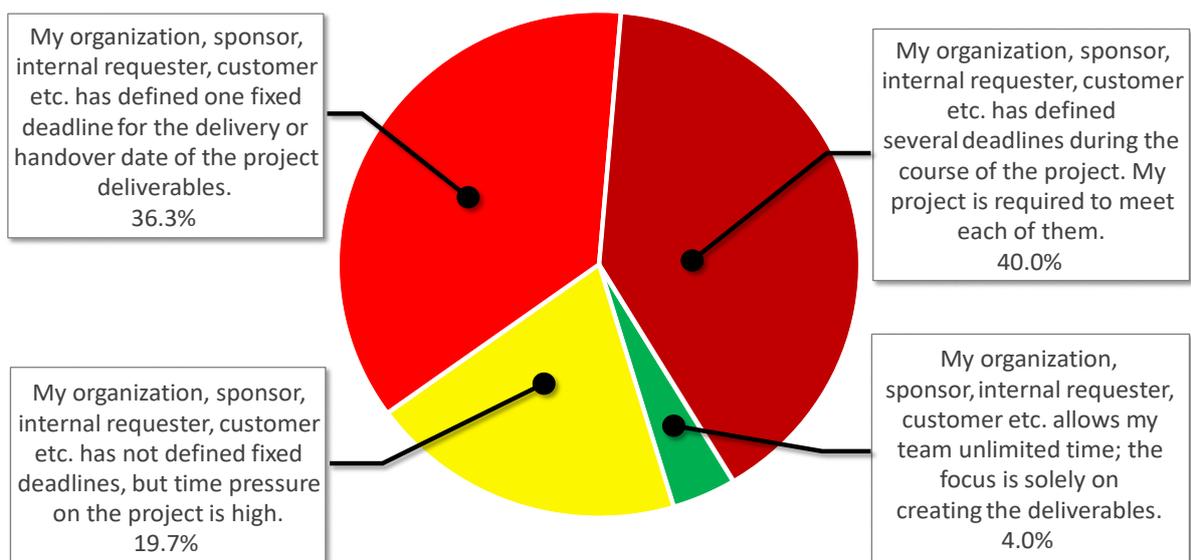


Figure 2: Projects can be performed without deadlines. They can however instead have a single deadline or a multitude of them (survey from 2015 by the author).

⁴ Depending on the contract.

Profitability and Customer Happiness

The discussed divergence between the happy customer and the profitability of the projects and the organization's portfolio dissolves, when a long-term perspective is chosen.

In a short-term perspective one can say, that profitability is necessary to protect the presence of the seller organization, including its ability to pay wages, invoices, taxes, pay back credits, and so on. The happy customer is important in the long-term view, where the organization and its representatives may provide a reference to win new business. The contractor may become incumbent, which makes it easier to do further business with the customer. One should also not underestimate the costs and the blocking of the most important resource in project management, management attention, when an unhappy customer takes the project to court, or when withheld payments end in a court litigation initiated by the contractor. The happy customer saves these costs and while talking about the success with friends, increases a soft asset of the contractor: Reputation.

In such a long-term view, profitability becomes also important: Profitability gives the contractor the resources to ensure the happy customer. It allows to finish the necessary work of the project and give the customer some additional goodies, that conjure a smile on its representatives' lips. This profitability also gives the contractor the monetary reserves needed to deal with the unexpected and to do it in a way that prevents the customer from disadvantages. It allows the contractor to hire and pay the capable personnel and subcontractors as the customer expects it, and it gives the company an incentive to perform a truly outstanding project. Customer project management is a matter of give and take, and the exchange should be mutually beneficial for both sides.

The long-term view allows inclusion of the motto that the author puts as a headline over project business management: "Mission Success First"⁵. In a "Faster – Better – Cheaper" approach, there will always be three priorities, and the discussion, which is most important in a given situation has alienated many business partners, who started together with high hopes. Particularly, when the "cheaper" for one party meant to make the project slower and generally worse for the other. "Mission Success First" instead means, that all party subordinate under one priority, but that they consider their business interests as partners, implementing "Good faith" behaviors and ensuring "Completing over Competing".

In such an environment, it may be appropriate to replace the term "contract party" with "contract partner", and to mutually ensure economic well-being. A member of a supply network on the way to insolvency is indeed an annoyance; the company's management will make some strange decisions, that it can perfectly explain, but the needs of the customer and of other contract partners in the project do no more appear in these explanations, and the mission success will be a thing of subordinate interest.

⁵ The change from the "Faster – Better – Cheaper" approach at NASA to the "Mission Success First" motto helped NASA overcome a period of mission failures caused by lack of communications internally and inside their supply networks (NASA, 2000).

A Multitude of Potential Problems

This article has so far focused on monetary problems, but there are more that can bring a contractor into troubles and jeopardize the project, among them:

- Deadlines, that cannot be met with the given project scope and the resources at hand.
- Functions and features that the customer requires, but the contractor is unable to deliver
- Collaboration with another contractor or a subcontractor, who was selected by the customer, but with whom working is impossible.
- Conflicts between contractor personnel and customer staff, when either of them does not adhere with agreements or simply when the chemistry is not working.

Whenever the contractor wishes to change basic decisions and core data, it is good to be able to link these requests with benefits to the customer.

In the experience of the author, deadline problems are most commonly the biggest problem. Deadlines are used by customers (and sometimes also by contractors) to coordinate the work of the contract partners, and if they are missed, this coordination gets debilitated. Asking for changes in deadlines can be difficult, especially when they are contractually linked with incentives, damages or penalties.

Cost engineering does normally not address these areas of problems, it is applicable for monetary problems only. Benefit engineering can in contrast address them effectively.

One should also note that cost engineering has a multitude of limitations:

- The contract with the customer
- The preparation of the customer to later act as a reference
- Often: Law and regulations
- Learning processes and other strategic expectations of the contractor's management on the project.

The effectiveness of applying cost engineering can be restrained by these limitations to a degree that it is no more a path to resolve problems in customer projects. Well-considered Benefit engineering can overcome these limitations.

Benefit Engineering: The Process

To understand the process applied in benefit engineering by the contractor, one has to look at the timing of realization of benefits, which is different for the customer and the contractor. Internal projects have the benefit generation mostly as a future projection with or without some time of overlapping with the project, depending on the type of delivery, single or staged, as shown in Figure 3.

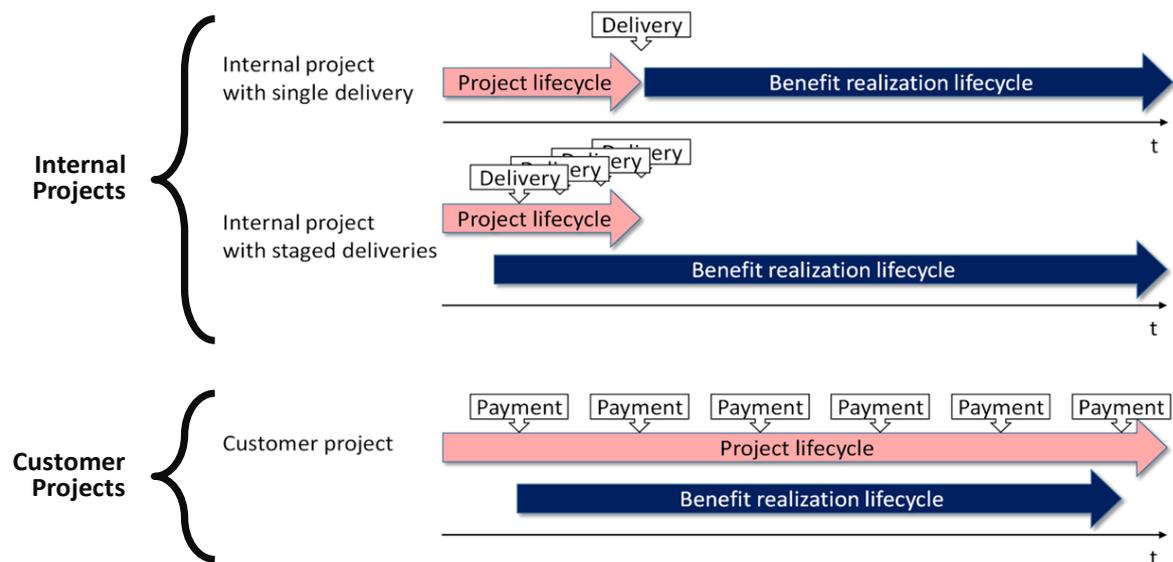


Figure 3: Internal projects and customer projects differ significantly in the relation between project lifecycle and benefit realization lifecycle.

In a customer project, the benefit realization begins with the first payment from the customer and ends with the last. It is generally concurrent with the project lifecycle. The project may have more than one contractor; there may indeed be a complex pattern of prime contractors, subcontractors, sub--subcontractors, freelancers and many more players, who all act together as a project supply network (PSN) to achieve the project objectives and deliverables together, which any single one of them would not be able to achieve alone. For all of them, located at various tiers of the supply network, the third benefit realization lifecycle applies, in which benefit realization is driven by customer payments.

An exception to this rule are freebee projects, in which the project is not paid by the customer, but instead the financing of the project by the contractor is done over the business with the services or deliverables that the project creates for the customer. Examples are logistics companies, who do IT projects for free for major customers, optimizing just-in-time (JIT) transportations for the customer and synchronizing them with the customers' production needs. These projects often performed for free, but the logistics company will make the money later with the customer and then finance the project from hindsight. Another example are component suppliers in automotive and other industries, in which component development is also done free of charge for the customer and the profit is made when the components are being delivered and invoiced. Freebie projects have a business case, which is similar to that of an internal project. However, they are also open for benefit engineering with some adaptations to the differences in the business case. The author will focus here on "normal" customer projects, but it is important to mention that there are several types of business cases and benefit realization lifecycles. Project business management is a highly complex topic, and given its business value and risks, it is surprising how poorly it has been covered so far by researchers and educators.

Figure 4 shows, how cost engineering and benefit engineering address different time phases in a typical project business lifecycle, which begins with the make-or-buy decision on buyer

side, moves over business development and offer phase, contract closure, at which point the buyer becomes the customer and the winning seller the contractor, then moves further over the phase in which their contractual work is being done, to the handover of the deliverables and final closeout of the customer project. At this point, the buyer and the seller may finish their business relationship; it may also be that a period of operational business will follow, which may include management of warranties as well as ongoing services and deliveries.

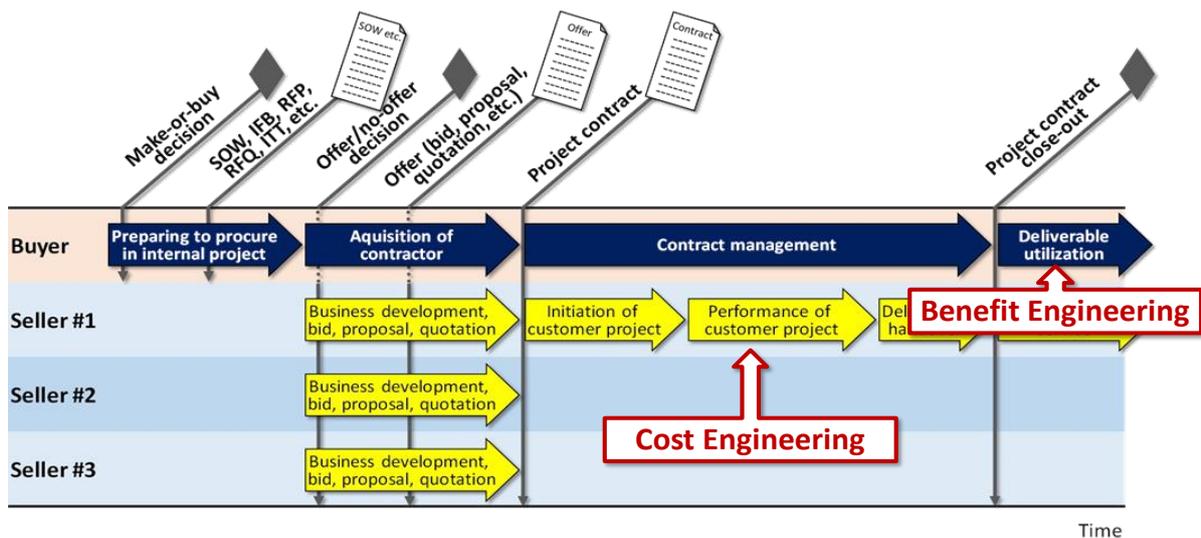


Figure 4: Cost engineering addresses project costs, mostly on the side of the contractor. Benefit engineering addresses and increases the benefit

Traditional cost engineering addresses the performance phase in this typical business lifecycle. There, it focuses on the costs of the seller, who is now a contractor, to reduce costs and free additional profits. It may also be linked with delaying the moment, when certain costs occur, in order to protect the contractor’s credit line. In contract types like time and material (T&M) and cost reimbursable (cost plus) contracts, it may be the customer, who does cost engineering, because this is the side, where cost risks are located and that has to bear most cost overruns. For this discussion here, that topic of interest will be contractor-side cost engineering.

The limitations and risks of cost engineering have been discussed above, and they can restrain the options for cost engineering decisions to a degree that it is no more effective. Its benefit is that it is much simpler than benefit engineering, the topic of the following discussion, which necessitates a very good understanding of the needs, wishes, and constraints on the customer side and also of the own organization. Benefit engineering includes an intellectual challenge to propose the right changes, that meet the needs of both customer and contractor, that bring benefit to the project and to which the customer will respond positively. Without deep investigation into both businesses, benefit engineering can backfire and instead of resolving the problems create new conflicts or increase existing ones.

The basic question of benefit engineering is quite simple:

“How can we propose a change to the project that is beneficial for the customer and allows the adjustment of price, fees, deadlines, and other terms of the contract that make it impossible for the contractor to perform a successful project.”

Benefit engineering includes a number of activities that must be performed to identify a beneficial solution, assess its feasibility and favorability, sell it to the customer and once it has been agreed upon, implement it. Figure 5 describes the process steps that should be taken when benefit engineering is done for a customer project.

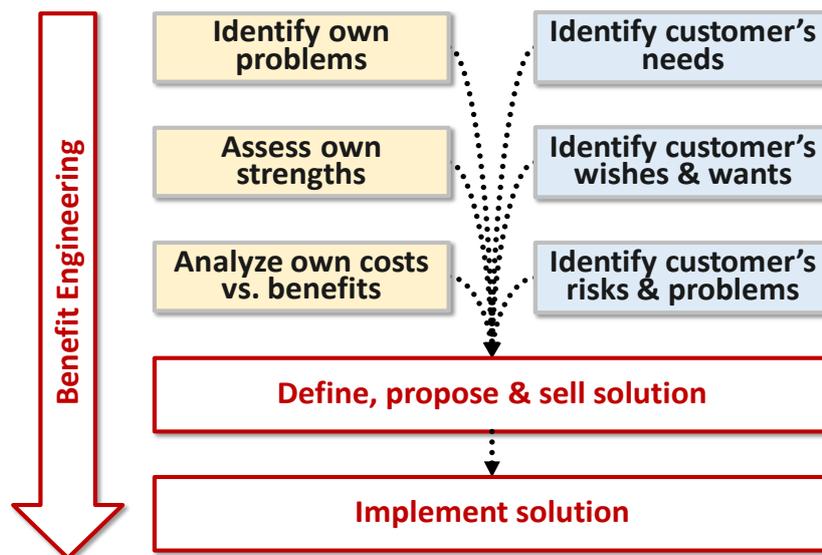


Figure 5: Benefit engineering builds on a deep understanding of the customer as well as the own organization.

Identify own problems

It sounds obvious that benefit engineering begins with a clear understanding on the side of the contractor, what the own problems are. This first step may already be a very difficult one, because one of the hardest tasks of a project manager in any project is to know, where the project actually stands and where its weak spots are. This knowledge requires trust between the contributing stakeholders in the project, and when should only trust those people and organizations that are trustworthy. As team members and subcontractors may be new to the project manager and is not much time is available to know, to what degree these people are trustworthy, knowing whom to trust and whom not can be hard. The same is true in the other direction, team members and subcontractors need to develop trust in the project manager, and the time they have to develop this trust is also very short. Many companies therefore replace a network of mutual trust with a complex system of contractual agreements, internal processes, and formal reporting systems. While there is of course merit in good documentation, one should not overlook that contracts and similar documentation become valuable, when problems between the parties have occurred and when these parties come into conflict. They do not prevent the problems and conflicts.

The own problems may also come as a surprise. The author remembers a case, when half of the project team left the contract organization to work with a competitor, and the remaining team would not be able to meet contractual requirements. The leaving team members did not give notice at all, so that the project manager could not respond by bringing new employees into the team timely enough to fill the sudden capacity gap.

While it may be difficult for the project manager to understand timely, what the own problems actually are, it is important for the person to develop a clear understanding, before any proposals are developed and presented to the customer. Otherwise, the benefit engineering will not help the contractor to resolve the problems as they are, but will lead to a WOMBAT investment, a Waste Of Money, Brain And Time, while the actual problem remains unaddressed and is likely to grow even further.

Identify the customer's needs

As a project manager and customer project, one is really in a good position to identify the areas of concern that benefit engineering can address. Managers in a modern enterprise have a far more complex task than those in former decades and centuries. Management attention is the scarcest resource in most organizations, not only for projects they are performing, but also for the multitude of other tasks that these organizations must accomplish. The ability of humans to direct attention to multiple tasks at the same time is limited, and when these tasks are becoming more tedious and challenging, the number of tasks a person can manage concurrently goes down further. Figure 6 gives an impression, how the requirements on managers have changed over time. It is also observable, that many scandals have happened, in which organizations are involved, whose management was simply overwhelmed with the number and complexity of issues they should take care of. These scandals also show that there is not much understanding to be expected, when managers are normal able to cope with this complexity and fail.

A modern organization is not a fine-tuned organism, in which all functions work together in a collaborated fashion creating effectiveness and efficiency and meeting all requirements explicitly or implicitly imposed by stakeholders. Instead, it is a hodgepodge of compromises, workarounds, makeshifts, and temporary solutions that were created to meet immediate needs long time ago and should have meanwhile been replaced with solid solutions, but as they were working sufficiently well, their due replacement became a sacrifice to other tasks that seemed more urgent.

As the urgent has always been the greatest enemy of the important, important tasks too often remain disregarded. When should add, that these insufficiencies may not be based on facts, but on perceptions. An example: Due communications with shareholders of public companies on issues that will impact the value of shares has always been an important task for these companies. In the wake of treacherous activities by a small number of companies at the end of the 20th century, the USA enacted legislation to protect shareholders called the Sarbanes-Oxley Act (SOX). Corporations invested Billions to become SOX compliant, and time pressure was high, because the law included a deadline for this compliance,

threatening top managers (CEOs, CFOs) with jail if their companies would meet these dates. The dimension of these investments in SOX compliance shows, how the important task of shareholder protection and information has been repressed by other management tasks that were perceived as more urgent.

Typical Focus of Management Attention



In the past

- Poorly informed customers
- Employees doing mostly well-defined manual work
- Small number of long-term suppliers
- Few sources of raw materials
- Simple, static markets
- Controllable competition
- Small number of laws
- Integrity considered a secondary topic
- Safety and security issues mostly ignored
- Static processes
- Well-predictable future
- Decisions driven by perceived importance



Today

- Heterogeneous, global customers with easy access to information
- Talent gap for talented employees that do mostly intellectual work and are able to adapt quickly to changing requirements
- Complex and dynamic supply networks, often developed ad-hoc
- Thorny competition for many raw materials
- Fast-changing global markets with disruptive innovations, often surprising incumbent players
- Dynamic competition
- Unmanageable “jungle” of national and international laws and regulations
- Professional integrity scrutinized by various stakeholders
- Safety and security issues have become mission critical
- Ever-changing processes with a high degree of adaptiveness & agility
- Future driven by disturbances & uncertainty
- Decisions driven by perceived urgency

Figure 6: Requirements commonly placed on managers today, compared with those in the past.

Benefit engineering has become a more promising task with the management environment changed and with the dominance of the urgent over the important in the perception of managers. Many important things all left unaddressed in organizations, that add up to inefficiencies, lack of effectiveness, risks to the organization and its environment, and that finally make it hard for management to understand what is going on inside the own organization. Someone in the firm, or the agency, association etc. may benefit personally from these neglected issues, and they will do their best to ensure that management attention is not dedicated to them. It is a kind of creeping sabotage against the vested interests of the organization.

Identify the customer's wishes and wants

In the next step, the project manager, who performs benefit engineering needs to develop an understanding of the driving forces of the customer's decision making: The needs and wants that have the potential to give the customers managers sleepless nights and lengthy discussions during the day.

Management of an organization that burns more money than what is available for it will listen to proposals that can help reduce costs or gain additional income. A corporation that makes a lot of money may not be open for such proposals and maybe more interested in suggestions with long-term strategic impact. Managers may respond much quicker and more decisive to proposals that protect them from errors, that are punishable and for which they will be held accountable in person, then to risks with low impact to the detriment of someone else.

Managers have strategic goals that they consider worthy to follow up, and if the proposal supports meeting them, it may be attractive to these managers, if it makes it difficult instead to achieve these goals, the proposal may be rejected. Managers are often measured along abstract metrics, so-called KPIs⁶, and proposals that make it difficult or impossible to meet KPI goals are also likely to be rejected. This will be even stronger, when KPIs are linked with monetary incentives and promotion.

Benefit engineering is susceptible to corporate politics, and in order to do it successfully, the project manager needs to understand these politics and to navigate the project inside them.

Project managers on a very good position to do that. They touch things that have not been touched for long time. They open cabinets, look into books, analyze processes and deliverables and do many more such activities that no one has done for quite a while. They develop a good understanding of the deltas between the necessities and intentions of their customers' managers on one side and the organizational reality on the other. They are not only in a good position to do that, it is an essential part of their profession to identify technical, organizational, legal, and interpersonal issues in the custom organization and to actively transform them. This is the skill for which their employer has hired them, and for which the customer has awarded the contract to this employer.

⁶ KPIs: Key performance indicators

Identify the customer's risks and problems

Not all proposals that a project manager would make and that are desirable for the customer are feasible or favorable. A project manager for example may try to redefine a deadline with the customer for the project. Some deadlines are easy to move. For others, this may be impossible. The project manager should therefore be aware of the constraints, that make it impossible for the customer to accept the proposal, and also of the risks and problems that implementing the proposal would bring to the customer.

An important aspect of benefit engineering inside a "Mission Success First" culture is that the project manager and contractor side desires to bring a benefit to the customer and that this is clearly communicated. This behavior is grounded in the deep knowledge of the customer that the project manager gains during the project, and the same is true for the desistence from proposals whose implementation would be detrimental for the customer. Benefit engineering is not the quick and easy task requires a lot of consideration and a deep understanding of the consequences, both intended and unintended. This is true for any technique that is used in project management, and the ability to develop this understanding and act accordingly together with stakeholders is one of the distinctive factors of good project managers anyway.

Assess own strengths

The best benefit engineering proposal will lead to failure, if the contractor organization lacks the skills needed to successfully implement it. While this may sound self-evident on the first glance, it can become a major problem in a customer project. The contractor may have the resources in house to carry out the proposal, but they may be booked by another project and be unavailable at the specific moment, when they are needed. The same is true when subcontractors are needed to implement the benefit engineering proposal. The resources to carry out the proposal must have the necessary skills, they must be prepared to do the job, and they must be available at the right time and also at the right location. They may need special infrastructure to do the job, which must also be available, and someone may need some time to introduce them to the project, the customer, the team members, who are already working on the project, subcontractors, and so on. If new personnel have to be brought into the project to perform the additional work, some time may be necessary to allow team building with the already assigned team members.

It is quite possible, that these new team members, their tools and their access to infrastructure must be taken away from other activities, like operations or other projects. The managers responsible for these other activities may perceive that as disruption of their work, and the new team members may prefer to go on with their existing work instead of being assigned to a project and troubles, possibly in crisis.

Benefit engineering builds on understanding and engaging stakeholders not only on customer side, but also inside the contractor organization.

Analyze own costs and benefits

The costs of benefit engineering may be significant. Developing the proposal, presenting it to the customer in a convincing and persuasive manner, implementing it as a change (assuming that the contractor has standing procedures for managing changes and protecting the project), and communicating such change to stakeholders involved is a costly set of activities. The proposal will probably include additional work, which adds further costs to that.

The benefits from this change for the contractor must of course exceed these costs. They may just be monetary benefits. Nonmonetary benefits can include aspects like

- Avoiding breach of contract situations
- Redefining deadlines
- New agreements on operational disruptions and customer side
- Replacing uncomfortable and unknown technologies with familiar ones
- Replacing subcontractors named by the customer with trusted ones

In essence, analyzing the costs and benefits for the contractor are similar to the considerations made at the very beginning of the business with a customer, whether to send an offer or not. A major difference is that during benefit engineering no competitor drives down the price to the customer. In most situations, the incumbent contractor is the only organization who knows how to create additional benefits for the customer. While it is not advisable to “rip off” the customer in such a situation, pricing will be more comfortable and profitable for the contractor. The only competitor to the proposal is the option for the customer to say “No”.

Define, propose and sell the solution

This process step in benefit engineering may have to be done twice: Inside the own organization and with the customer. Sometimes, convincing management at home may be the more difficult part of this job, but the focus of the process step should generally be with the customer.

Not many project contractors have a well-developed process of business development and writing of offers, which can be bids, proposals, pitches, or quotations. The various steps of business development including compelling and convincing presentations can be a critical success factor for a contracting organization, but as many of them are driven by engineering cultures, this is regarded as unfamiliar and out of focus. On the other hand, the better this process has been developed, which is then returning higher hit-rates⁷ and more lucrative customer business, the easier it will be to implement benefit engineering.

Many project managers do not consider themselves sales people, and while some of them see this rather is a personal weakness, others insist with pride that they do not sell, they

⁷ Hit-rate: Percentage of offers that lead to business

perform. It is often overlooked, that to perform successful customer projects, some sales attitude is a necessary skill of a project manager. If a project manager does not have the skills of a salesperson or dislikes developing such an attitude, a solution may be to ask the company's sales staff for support.

Benefit engineering should then be done using the same tools, processes and behaviors that have helped when the project originally. The only difference to the original sales activity is the existing proximity to the customer that excludes competition to step into this business.

Negative Benefit Engineering

Sometimes, the best benefit engineering proposal may be to exclude scope from the project that was originally contractually agreed upon. This de-scoping may save time for the project, it may save costs for the customer and may help the contractor avoid unfamiliar or uncomfortable project work. It may also free critical resources for another project inside the contractor's portfolio that is in trouble or crisis. In such understanding, benefit engineering is not only a tool for project management, but also for portfolio management.

From Cost Engineering to Benefit Engineering: A Deep Cultural Change

On the first glance, considering benefit engineering as an alternative to cost engineering to bring a troubled customer project back on track seems like a marginal technicality. As soon as one tries to implement it, when will notice how deep the cultural change is, that is a prerequisite for its success, but also a consequence of its implementation. Project managers need to look beyond the limitations of the technical and functional aspects of the project and dig deep into the own organization and even deeper into that of the customer. There, they will discover new opportunities and threats as well as new leeway for decision-making and so far unknown constraints. They will in addition identify human aspects in these projects, including desires, fears, sympathy, rant, and many more. They will have to navigate in the complex dynamics of power and politics, and they will improve the understanding of organizations working together under contract, the interfaces between these organizations and how they are able or unable to build working systems together.

Project management is a learning process as long as we are part of it. Each project has new lessons for us, some of them valuable for the specific project only, others will become part of the person's personal assets for the rest of the life. Benefit engineering is a driving force for this learning process. In contrast to cost engineering, which tries to cut costs where it hurts least, benefit engineering requires to discover new opportunities, determine limitations and risks that come with them, uncover people who are involved in the project and would otherwise remain hidden, and develop solutions to the benefit of both customer and contractor.

Should a project manager be transparent with the customer when the proposal is made to apply changes to the project? When should probably be very careful. If the rapport between

contractor staff and management of the customer is poor, this can backfire: The customer may consider the proposal a rip-off, and the poor relation can further deteriorate. If the relation is strong and a robust “Mission Success First” culture has been developed, in which completing trumps competing, it may be a good idea to play with open cards. In such a relation, proposing a solution for mutual benefit can increase trust and strengthen the bond of business partnership, which is the most important prerequisite for successful project business management.

Conclusion

Benefit engineering is an alternative approach to cost engineering, when it is necessary to move a customer project out of troubles or even crisis. It is more powerful than cost engineering, because there are fewer factors that limit its implementation, but the challenges on project managers to apply it are also higher, particularly when the relationship with the customer is difficult. Benefit engineering can be used to improve individual projects, but also for entire portfolios to meet two goals: Make the project business profitable and customers happy.

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