Approaching plans: the three perspectives  You may have noticed how each deliverable mentioned represents one of two perspectives on the project: business or engineering. On many projects, these two views compete with each other. This is a fundamental mistake. Planning should not be a binary or either/or experience. Instead, it should be a synthesis of what everyone can contribute.

To make this happen, a project manager must recognize that each perspective contributes something unique that cannot be replaced by more of something else (i.e., no amount of marketing strategy will improve engineering proficiency, and vice versa). For good results, everyone involved in project planning must have a basic understanding of each perspective.

WARNING  The following coverage of planning is industrial strength. If you see questions or situations that don’t apply because of the size of your team or scope of your project, feel free to skim it. I don’t expect everything here will apply to any single project. However, I’m providing value not only for your current project, but also for those that follow. There are many questions here that will prove useful in the long run, even if some don’t apply to what you’re working on today.

The business perspective  The business view focuses on things that impact the profit and loss (P&L) accounting of an organization. This includes sales, profit, expenses, competition, and costs. Everyone should understand their P&L: it’s what pays their salaries or their contracts. When engineering teams are unaware of how their business works, many decisions made by management will appear illogical or stupid. Thus, it’s in the interest of whoever is responsible for business planning to help others understand why the project exists from a business standpoint. In the tech sector, people with job titles like business analyst, marketing, business development, product planner, or senior manager represent the business perspective.

Some projects have multiple business perspectives. If you work for a firm contracted to build a database server, you have your firm’s business interests to consider, as well as the business interests of the client you are serving (hopefully they are in line with each other). The intersection of these perspectives can get complicated; I’m going to keep it simple here and assume projects are of the big-staff variety. However, it should be easy to extrapolate the following questions to more complex situations.

A good business perspective means that the team has answers for the following questions:

- Why is this project needed for our business?
- What unmet needs or desires do our customers have?
- What features or services might we provide that will meet those desires and needs?
- On what basis will customers purchase this product or service? What will motivate them to do so?
- What will it cost (people/resources)? Over what time period?
- What potential for revenue (or reduced organizational operating costs) does it have? Over what time period?
- What won’t we build so that we can build this?
- Will it contribute to our long-term business strategy or protect other revenue-generating assets? (Even nonprofits or IT organizations have a business strategy: there are always bills to pay, revenue to obtain, or revenue-generating groups to support.)
- How will this help us match, outflank, or beat competitors?
• What are the market time windows that we should target for this project?

Those responsible for the business perspective take bold views of the importance of these questions. They believe that the answers represent the bottom line for the organization and should strongly influence project decisions. However, the business view doesn’t mean that all projects must be slaves to revenue. Instead, it evaluates projects based on their contributions to the business strategy. For example, a strategic project might be essential to the organization but never generate any revenue.

Marketing is not a dirty word The most unfair criticism of business folks is that they are just “marketers,” which is somewhat of a negative label in the tech sector. I think marketing gets a bad rap. In MBA terms, there are four P’s that define marketing: product, price, placement, and promotion. Defining the product and price is a creative process. The goal is to develop a product idea—sold for a profit—that matches the needs of the targeted customer. Research, analysis, and creative work are necessary in order to succeed. Placement, the third P, regards how customers will obtain the product (through a web site? the supermarket? the trunk of Fred’s car?).

Finally, promotion—what marketing is often stereotyped to mean—is how to spread the positive word about the product to influential people and potential customers.

Surprisingly, promotion is a small part of a business analyst or product manager’s time (maybe 10–20%). So, marketing plans define much more than what the ads will look like or what promotional deals will be made. Also, note that the four P’s of marketing apply to almost anything. There is always a product (HR web site), a price (free), a placement (intranet), and a promotion (email) for it.

But when the business perspective is dealt with alone, it shows only one-third of what’s needed. The quality of a product influences sales, but quality does not come from marketing. Quality comes from successfully designing and engineering something that satisfies real customer needs. A proposed business plan that centers itself on technological possibilities (rather than conjectures) will make for good business.

A project manager, who uses only one perspective and fails, might never understand what really went wrong. His tendency will be to work harder within the same perspective instead of widening the view.

2 Andrew Stellman, a tech reviewer of this book, threatened me with physical violence if I didn’t offer references on software quality, so here are a couple: W. Edwards Deming’s Out of the Crisis (MIT Press, 2000) and Philip Crosby’s Quality Is Free (Signet Books, 1992).

The technology perspective While I was studying computer science at Carnegie Mellon University, it was common to talk to professors and students about new products. We’d focus on what components these new software products used and how they compared against what could have been. Value was quality of engineering: how much of the latest technologies they used.

Generally, we thought everything sucked. Very few products survived our critiques. We wondered why the marketplace was packed with mediocrity and disappointment. We’d even invent geek conspiracy theories to explain the evil decisions, which we thought were made against engineering purity and thus made little or no sense to us. Often, we’d focus blame on the marketing departments of these companies 3 (not that many of us understood what marketers did).

3 Faisal Jawdat, a tech reviewer of this book, threatened me with death by sarcasm if I didn’t point out how ironic it is that I then went on to work for Microsoft.
Even in my first few years in the industry, the same kinds of conversations took place again and again. Only then there was greater scrutiny because we were competing with many of the products or web sites that we talked about.

When we looked at the world, we saw technologies and their engineering merits only. We never understood why poorly engineered products sometimes sold very well or why well-engineered products sometimes failed to sell at all. We also noticed that engineering quality didn’t always correlate with customer happiness. For these mysteries, we had two answers. First, it had something to do with the magic powers of evil marketing people.

Second, we needed smarter customers. But we didn’t think much about our flawed conclusions. Instead, we went back to writing code or finding other products to tear to shreds. I was able to see my view for what it was only after I’d listened to some smart marketers and some talented product designers.

The technology view places the greatest value on how things should be built. It’s a construction and materials mindset. There is an aesthetic, but it’s from the technology perspective, not from the customer’s perspective. There is a bias toward the building of things, instead of understanding how, once created, those things will help the business or the customer. In the stereotypical engineering view, a database that satisfies the engineer’s aesthetic is sufficient, even if it’s so ugly it makes men cry, no customer can figure out how to do anything with it, or it fails to meet its sales projections.

As critical as that last paragraph was of technologists, many important questions come from the technology view only:

- What does it (the project) need to do?
- How will it work? How will each of the components in it work?
- How will we build it? How will we verify that it works as it’s supposed to?
- How reliable, efficient, extensible, and performant are the current systems or ones we are capable of building? Is there a gap between this and what the project requires?
- What technologies or architectures are readily available to us? Will we bet on any new technologies that will be available soon but are not available yet?
- What engineering processes and approaches are appropriate for this team and this project?
- What applicable knowledge and expertise do our people have? What won’t they be working on to work on this project?
- How will we fill gaps in expertise? (Train/hire/learn/ignore and hope the gaps magically go away.)
- How much time will it take to build, at what level of quality?

**The customer perspective** This is the most important of all three perspectives. Because the project is made to serve the customer (and perhaps serve the business, but only through serving the customer), it follows that the greatest energy should be spent on understanding who those customers are. This includes studying what the customers do all day, how they currently do it, and what changes or improvements would be valuable in helping them do what they do. Without this information, engineering and business are shooting in the dark.

But, sadly, the customer perspective is the weakest in many organizations. It generally receives the least staffing and budget support. There are fewer people in most organizations that have been trained in understanding and designing for customers than their business and technology counterparts. And even when customer experts are hired (such as user interface designers or usability engineers), they are often restricted to limited roles in the project decision-making process and are granted few requirements or little design authority.
In any case, the customer point of view is built from two different sources: requests and research. Requests are anything the customer explicitly asks for or complains about. This kind of information is valuable because the customer has the greatest motivation to identify these problems (“Yes, my computer explodes whenever I hit the Space bar”), but it is also problematic because, in most cases, customers are not designers. They often blur the distinction between problems that need to be solved and specific ways of solving them. They may explicitly ask for a feature, such as print preview, without describing the real problem (people throw away too much paper). If the project team can start by understanding the problem, there may be many ways to solve it that are cheaper or better than the feature requests. Even skilled designers often struggle at designing for themselves.

There are two kinds of experts who understand customers and design for them: usability engineers and product designers. Usability engineers are experts in understanding how people work, and they provide metrics and research to help project teams make good decisions from day one of project planning. Product designers, or interaction designers, are people trained in how to take that data and convert it into good designs for web sites or products. If your organization is fortunate enough to employ these fine folks, involve them early on. Ask them to be advocates for this point of view. If you’re working without them, you are at a distinct disadvantage to your competitors. Consider hiring someone to consult and advise on where these efforts would be of the most value.

Without expert help, the project manager must make do on her own. This is possible, but because it’s often the least interesting perspective for folks with engineering backgrounds and is least understood by senior management, it typically gets less support than the other points of view. Enough resources and seniority need to be invested in the customer perspective to balance out the technology and business ones. Otherwise, surprise: the customer perspective won’t be credible and won’t be heard.

4 This is a deliberately inflammatory remark designed to promote these footnotes. But seriously: when designers design for themselves, they tend to over-design, perhaps indulging in the freedom of not having a client to work for.

The important questions from the customer view include:

- What do people actually do? (Not what we think they do or what they say they do.)
- What problems do they have trying to do these things? Where do they get stuck, confused, or frustrated?
- What do they need or want to do but aren’t able to do at all?
- Where are the specific opportunities to make things easier, safer, faster, or more reliable for them?
- What design ideas for how to improve how the thing should work—in terms of what people actually do—have the most potential for improving the customer experience?
- How can those ideas be explored? What prototypes, sketches, or alternatives need to be investigated to help us understand the potential for the project?
- What core ideas and concepts should the project use to express information to users?