Bonus chapter 05: Forecasting

In most design firms, the overall workload is uneven from month to month. This makes it difficult to have the right resources in place when they are needed. If you don't have a reliable method of forecasting the workload, you could easily find yourself overstaffed (and unprofitable) or understaffed (and having difficulty delivering on client commitments). In this chapter, we'll discuss two different types of forecasting for design firms: the first is a short-term projection of the workload based on specific projects and client accounts; the second is a longer-term projection of overall financial activity based on past performance, adjusted for new assumptions about market conditions.

Of course, trying to predict anything is a guessing game. However, if you come to the process with enough relevant information, you can in fact get useful results. The crystal ball needs to clear up just enough to give you an indication of whether your company will be at or near its productive capacity. As soon as you know this, you can make any necessary adjustments — such as accelerating (or perhaps delaying) the start of any large new projects or arranging for more (or fewer) resources. In particular, a reliable projection of the workload can help you determine whether any changes might be needed to your company's head count.

Prerequisites

Before you can begin to predict tomorrow's workload and finances, you need to know exactly where you stand today. This essential business information needs to be coming to you already:

- Daily project balances
- Weekly summaries of new business activities
- Monthly financial statements

Let's take a quick look at each of these individually.

Daily project balances
It's vital to track the time and materials going into open projects. You need easy access to real-time totals of labor and outside costs, which means that daily posting of timesheets and vendor invoices is required. Many different project-tracking systems are available. Among other capabilities, the system you select must compare estimates to actuals and calculate the remaining balances on projects. These numbers are necessary for the workload projection that we'll be discussing in this chapter. Also, keeping a close eye on the time and materials remaining is an essential part of tracking the burn rate on large projects, as we discussed in Chapter 25.

Weekly summaries of new business activities
Your weekly recap of all new business development efforts should include rough estimates of the schedules and expected billings for pending projects. Quantify each opportunity as best you can. Also, make sure you're capturing all marketing activities. In many studios,

several people are involved in soliciting new projects. Preparing and discussing a weekly recap allows the group to exchange information, develop shared priorities, and coordinate efforts.

Monthly financial statements
Your monthly financial statements (balance sheet and P&L) must be timely and accurate. As discussed in Chapter 26, you need to track key financial indicators and watch for trends. To help with this, it's a great idea to maintain a set of monthly charts to visualize the data. (We'll come back to the topic of charts in a moment.)

If you have all of these prerequisites in place, you're ready to move forward to the process of preparing projections. Our discussion will focus on two formats. First let's examine a short-term approach.

Short term
This type of forecast can be described as a "bottom up" projection because it's built up from specific details about active projects and client accounts. It's quite realistic because it's firmly anchored in today's information. The general concept for this is visualized in Figure 27.01.

In preparing this projection, you'll be bringing together two sets of current numbers — actual projects that are winding down plus new business that you expect to be ramping up. Figure 27.02 contains some sample data in this format. As you can see, the upper portion of the worksheet shows active projects. The columns show the approved total for each project, minus the amount already billed, leaving you with the amount remaining. This remaining balance is then spread across the number of months left in the schedule.

Please note that we're looking at dollars rather than hours. This means we're making an important assumption that the two are still largely in sync. However, this might not be the case if you're working on a fixed-fee project that has turned out to be much more labor-intensive than you originally anticipated. The real work might extend beyond the end of the negotiated billings. As you read down this list of open projects, you'll see that some have just begun, while others

are almost finished. When each project does come to an end, the individuals or teams involved will become available for new assignments.

Now let's move to the middle section of this worksheet. It shows potential new projects that will be ramping up. Each new business opportunity has been assigned an estimated schedule and a total billing value. To be conservative, these estimated billings must then be factored back to reflect the probability of you landing the assignment. This probability factor is a judgment call. If a potential project is add-on work for an existing client, it's an initiative that the client is definitely committed to and you know for certain that no other studios are being approached, then you'll assign a high probability. In contrast, if you're in a competitive bidding situation to land a new client and you know they're talking to three or four different firms, you'll assign a lower probability. Your chances may be one in three (33%) or one in four (25%).

Compiling this new business data every week is an ongoing challenge. To quantify each opportunity, you need to be far enough along in your conversations with the client to have sufficient information for your assumptions to be reliable. Any preliminary conversations that are still too vague for you to quantify should only be listed here with zeros.

Regarding schedules: the upper portion of this projection should guide you in setting potential start dates for future work. Obviously, you can't promise to start a big new project tomorrow if you already know that the essential resources for it are still tied up with a previous assignment.

The next step in preparing this short-term projection is to combine the two pieces we've been discussing: project tracking data plus new business information equals a rough projection of the total workload. Based on this projected workload, we can now estimate the total head count that will be needed. At the bottom of Figure 27.02, the monthly number shown for "head count required" is a very loose estimate — it should be calculated using your own firm's history of average billings per person. This is not an exact

Figure 27.01. The projected workload includes current projects winding down and new projects ramping up. Ideally, the combined total is close to your firm's productive capacity.

Current

New

New
Current
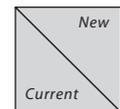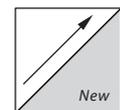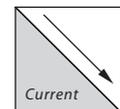
science. It's just a very quick and simplistic comparison of total employees to total revenue. The number includes all staff, not just those doing hands-on creative work. Billings per person can vary quite a bit from firm to firm, depending on the nature of the work being produced by your employees and the amount of third-party services being purchased. For example, a media placement firm could have very high billings but a low head count.

As we discussed in Chapter 26, design firms often expect annual labor billings to average somewhere between $100K and $125K per person. This represents a monthly average of approximately $8K to $10K. For discussion purposes, if your projected monthly billings for the entire company are about $200K and your past billings per employee have averaged $10K per month, then you would need approximately 20 people to support the projected workload.

Once you've calculated the head count required, compare it to the actual size of your staff. The two totals will never be an exact match because capacity and demand are never entirely in sync. However, if the discrepancy between the two is large, you should consider making some changes to your resources.

If the projection indicates that you're going to need more people than you currently have, you now have some lead time for booking freelancers or making new hires. In many industries, managers think it's desirable to have demand that is slightly beyond regular capacity because it puts pressure on the company to become more organized and efficient. In manufacturing, a short-term spike in demand temporarily takes the company into overtime capacity. If workers are being paid on an hourly basis, overtime scheduling results in increased costs. Analysis is done to make sure the additional costs are more than offset by increased sales.

In contrast, design firms usually pay creative team members a fixed salary. This means that temporary spikes in the workload can result in additional billings without any change to labor costs. (Some design managers refer to this short-term dynamic as "compression.") However, if such a situation continues for too long, it has the very real potential of lowering morale, which negatively impacts the quality of work being performed. It also leads to employee burnout.

The opposite situation would be a design firm operating below its regular capacity. If there are not enough client projects to go around, a portion of the workforce will be idle. Typically, design firms have limited financial reserves, and they cannot afford to carry labor costs that do not contribute in some way to client billings. If your short-term projection indicates a workload that is too light to support the number of people on the payroll, you might consider several management options:

- Step up marketing efforts to bring in more project opportunities
- Move up the start dates on new projects that have already been approved
- Temporarily round out the workload with in-house projects, such as updating your Web site
- Encourage employees who are between assignments to begin using accumulated vacation time
- Consider whether or not the overall staff size needs to be reduced

Figure 27.02. This short-term projection shows the workload in terms of anticipated monthly billings. From this, we can develop a rough idea of the head count necessary to produce the work.

PROJECTED BILLINGS / WORKLOAD

JOBS CURRENTLY ACTIVE

Client	Project	Approved total	Already billed	Amount remaining	OCT	NOV	DEC	JAN	LATER
Alpha	identity	95,000	50,000	45,000	45,000	0	0	0	0
Alpha	brochure	25,000	15,000	10,000	10,000	0	0	0	0
Bravo	prospectus	20,000	10,000	10,000	5,000	5,000	0	0	0
Bravo	b/w ads	15,000	6,500	8,500	4,250	4,250	0	0	0
Golf	research	40,000	10,000	30,000	10,000	10,000	10,000	0	0
Sierra	packaging	60,000	10,000	50,000	12,500	12,500	12,500	12,500	0
Tango	signage	50,000	0	50,000	0	16,667	16,667	16,667	0

POTENTIAL NEW JOBS

Prospect	Project	Possible total	Probability factor	Probable total	OCT	NOV	DEC	JAN	LATER
Alpha	templates	30,000	100%	30,000	0	10,000	10,000	10,000	0
Bravo	site update	90,000	90%	81,000	0	20,250	20,250	20,250	20,250
Foxtrot	trade show	85,000	80%	68,000	0	0	22,667	22,667	22,667
Golf	branding	80,000	50%	40,000	0	0	13,333	13,333	13,333
Hotel	banner ads	40,000	33%	13,200	0	0	4,400	4,400	4,400
Zulu	identity	95,000	25%	23,750	0	0	0	7,917	15,833
Zulu	guidelines	65,000	25%	16,250	0	0	0	0	16,250

COMBINED TOTAL

OCT	NOV	DEC	JAN	LATER
86,750	78,667	109,817	107,733	92,733

HEAD COUNT REQUIRED

OCT	NOV	DEC	JAN	LATER
8	8	11	10	9

All amounts as of:
October 1

Obviously, staffing and payroll issues are very important to your company and to the individual people involved. You won't make such decisions lightly. Fine-tune the format of your short-term projection to fit your own company's situation more closely, and make sure all of the numbers are as current and reliable as you can make them. Run this projection at least twice over the course of a month before making any decision about resources.

In the field of personnel management, issues related to projected staffing levels are often referred to as "workforce planning." Every business faces the challenge of having the right workers with the right skills at the right time. Head count is only one aspect of this. You must also consider skill sets.

The supply and demand equation for specific creative skills is different in each city. As a design firm owner or manager, you are of course on the demand side of this equation. Keep in mind that the requirements of your organization today may be different from tomorrow. You may need to make gradual changes to the mix of skills if your firm is evolving away from one design discipline and toward another. New project types will require different design and implementation capabilities. On an even larger scale, you might be contemplating a shift in your company's basic business model. If so, the staffing implications could be significant. For example, if you move toward more brokering of third-party services, it's likely that your company will need a much smaller core staff.

At this point in your planning process, you've determined whether different skills need to be brought into your organization. If the answer is yes, we need to shift our attention to the supply side. What are the conditions in your local labor pool? Is the available workforce supply a match to your company's needs? How many good designers are available in your particular discipline and how much competition is there for them? Recruitment of creative staff tends to be a slow and careful process. In the meantime, you might need some immediate

assistance in producing short-term projects. If so, it may be possible to bring in one or two freelancers on short notice. To keep this option open, you need to consciously maintain a broad professional network, with information about who is available, their specialties, and their billing rates.

To effectively manage long-term client relationships, however, you'll want to assign staff members to important accounts. If you've done a good job of forecasting, you should have enough lead time to go through a careful employee recruitment process. This can easily take a month or more.

One final note about the format of this short-term projection: when you prepare the worksheet for your own firm, the time frame may vary — that is to say, you might need more columns on the right side. Four or five months, as shown in our example, would be a typical horizon for many graphic design firms, which tend to have lots of small, fast projects. In contrast, six months or more would be typical for product development or environmental graphic design firms, where projects tend to be larger and have extended schedules.

Long term
Now we're ready to discuss a longer-term projection, meaning one that covers a year or more. This type of forecast can be described as "top down" because it's a forward projection of total financial activity based on your company's past performance. It is not built up project by project. In accounting, this is called a "pro forma projection," from the Latin meaning "according to form" or "as a matter of form." This term is used to identify financial statements that have one or more assumptions or hypothetical conditions built into the data. (For example, our focus is on regular business operations, so we're assuming there won't be any extraordinary charges or expenses such as those related to a merger or acquisition.) Our projection will show the world on an "as if" basis — that is to say, its accuracy depends on whether the underlying assumptions hold true.

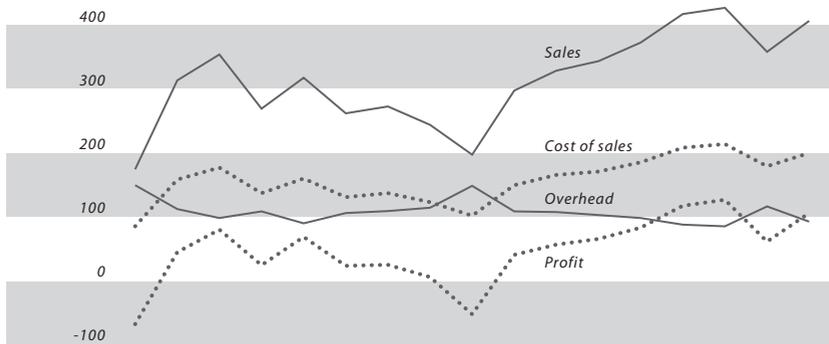| ACTUAL	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M
Sales	170	315	356	270	318	263	273	242	198	299	331	343	373	419	428	358	408
Cost of sales	85	158	178	135	159	132	137	121	99	150	166	172	187	210	214	179	204
Overhead	152	112	98	110	90	107	110	115	150	108	108	104	100	90	87	118	92
Profit	-67	45	80	25	69	24	26	6	-51	41	57	67	86	119	127	61	112

Figure 27.03. A long-term chart of actual monthly totals from the P&L will help you recognize seasonal patterns and identify your break-even point. (In this example, the firm tends to lose money when monthly sales fall below $250K.)

For creative firms, this long-term projection is primarily sales-driven. Expenses are planned in relation to expected revenue. We're taking last year's actual numbers for monthly sales, expenses, and net profits, and we're projecting them forward in a conservative way, adjusting specific amounts as necessary to reflect anticipated changes in client relationships as well as any new assumptions we have about overall market conditions.

One of the big benefits of this extended time frame is that it allows us to analyze whether past activity has followed a seasonal or annual cycle. In many companies, history shows recurring fluctuations in the demand for particular services. For example, if you design annual reports or if you produce marketing materials for retail stores, you'll see that certain months have always been much busier (or quieter) than others.

The first step in developing your long-term projection is to prepare a spreadsheet with actual income and expense data for the past twelve months. If you use a common spreadsheet application such as Excel, you might not have to format everything from scratch — lots of preformatted templates are available that have all the mathematical formulas already in place (one free online source is

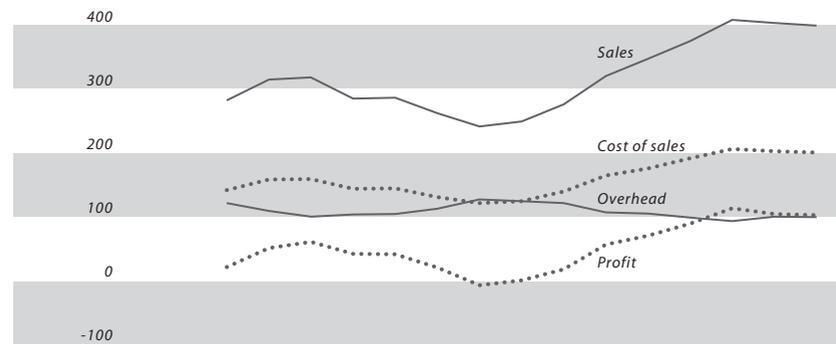| AVERAGE	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M
Sales	170	315	280	314	315	284	285	259	238	246	276	324	349	378	407	402	398
Cost of sales	85	158	140	157	157	142	143	130	119	123	138	163	175	190	204	201	199
Overhead	152	112	121	107	99	102	102	111	125	124	122	107	104	98	92	98	99
Profit	-67	45	19	50	59	40	40	18	-6	-1	16	54	70	90	111	103	100

Figure 27.04. A three-month moving average smooths out monthly volatility and makes it easier to see overall trends. This is a good basis for making forward projections.

http://exceltemplates.net). As soon as you've entered your historical data, start a companion worksheet in the same format and plan out your expectations for the future twelve months.

The next step is to visualize your data by preparing two charts. Even if you tracked down a preformatted spreadsheet, you'll probably want to create your own chart format. As a reference, Figure 27.03 shows a sample. As you can see, four separate lines are being plotted, showing monthly totals for sales, cost of sales, overhead, and net profits (or losses). Your goal in this is to have side-by-side charts that allow you to visually compare the recent past with the anticipated future.

I must add one quick note regarding the line that represents your monthly cost of sales: as we discussed in Chapter 26, payroll expenses should be split based on the actual billable/non-billable hours reported in each pay period. Billable labor is part of your cost of sales, while non-billable labor is part of overhead. This means that when your sales go down, the line for cost of sales will also go down if you're doing a good job of matching project expenses to project billings within each period, but overhead will go up because of the increased non-billable time being reported.

For comparison purposes, you may want to chart your performance against industry benchmarks for cost of sales, overhead, and net profit. The best way to do this is to prepare three small supplemental charts, each with just two lines: one for your actual monthly activity (which will be jagged) and another for the industry average (which will be a straight horizontal line). Benchmarks vary from one creative discipline to another. You'll have to do some research to find numbers relevant to your specialty. As an example, here are typical P&L percentages for graphic design firms:

Sales	100%
Cost of sales	56%
Overhead expenses	33%
Net profit before incentives and taxes	11%

Chart variations
Some firms take a slightly different approach to long-term projections by calculating a "moving average." In statistics, a moving average (also called a "rolling average" or "running average") is used to smooth out brief fluctuations and highlight longer-term trends or cycles. Each new month's numbers are added to the average, and the oldest month is dropped. This is how the average moves forward in time. In general, the shorter the time frame used, the more volatile the activity will appear. For our purposes, a three-month average works well. Figure 27.04 shows an example.

If you've calculated a moving average as the basis of your revenue trend, you might also want to add a "head count required" calculation, just as we did with our earlier short-term forecast. The moving average has given you a steadier base for head count planning than actual monthly sales numbers, because it shows fewer sudden changes.

Another variation for charting revenue is to split your sales history into layers representing your major client categories. This allows you to visualize which ones have been gradually expanding or contracting. Then you can project those layers forward to reflect what you know about industry conditions plus any changes you plan to make in your marketing focus.

Best guess
Ultimately, this long-term projection is your best guess of what will happen, based on the information available to you on the date the projection was prepared. As noted earlier, it's also based on a series of underlying assumptions. Perhaps the most basic of these is that your company is a "going concern." This is a term used by accountants; it refers to a company that is in solid financial shape and can continue operating for the foreseeable future. For this to happen, your company must have several important attributes:

• An active base of regular clients
• Employees who know the business and have strong working relationships with clients and suppliers
• Equipment, furniture, fixtures, and similar assets that are in good condition and still being depreciated (meaning that they are still within their expected useful life)
• Verifiable profits over several years (as evidenced by tax records)
• Positive cash flow (enabling the company to cover ongoing operational expenses)
• The ability to pay off any long-term debts within a reasonable time frame

If your design firm is indeed a going concern, then you have some momentum carrying you forward. A certain base level of activity can be predicted with some confidence. On top of this, you may also be planning for growth. If so, you have to decide how optimistic and how flexible your plan will be. One approach is to define a range for acceptable performance. This involves projecting a conservative trend line that is as realistic as you can make it, and then allowing for variations of plus or minus 5%, creating a range of acceptable performance that is ten percentage points wide. One of the benefits of this approach is that it allows you to manage by exception — corrective action will be triggered if and when actual monthly performance strays outside of the allowed range.

Reaping the benefits
Both short-term and long-term forecasts take a lot
of work to put together, but the process of preparing
them will generate significant benefits for your
creative firm:

- You'll keep a closer eye on current balances
  for active projects.
- You'll quantify all new business expectations.
- You'll link your firm's staffing level more closely
  to the workload.
- You'll set specific targets for future financial activity.
- You'll track and respond to trends more quickly.
- You'll have fewer bad surprises.

Just remember that for this "distant early warning"
system to be as effective as possible, you need
to update your forecasts with fresh data on a
regular schedule.