# Discovery Driven Planning:

**Turning Conventional Planning on its Head**

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The concept of discovery driven planning was first published in 1995[1]. The set of ideas it represents are based on our observations that as managers face situations of uncertainty and complexity, conventional means of planning and control are not only unhelpful, but often disastrous. In a conventional world, you can get away with projecting into the future from the past. In a conventional world, you can pretty much anticipate what major challenges you will need to overcome, and how much budget and time you'll need to do it. In a conventional world, holding managers to a discipline of meeting the numbers makes sense.

Uncertain situations turn this conventional world on its head. What you *don't* want, as a manager, is for people to skew their estimates in order to make numbers that had only the shakiest foundation in fact to begin with. What you don't want is people afraid to take even modest risks because they can't predict what is likely to happen. And what you particularly don't want is for people to feel like failures, even as their work has created new knowledge and insight of potentially enormous significance. Hence, we have been working on a way of planning that recognizes that life is uncertain, that makes it OK to find that things didn't work out the way they thought you would, and that (most importantly) helps people manage with discipline even in light of uncertainty.

The core premise behind discovery driven planning is that companies need to be able to plan in such a way that expenses are minimized and learning is maximized. Rather than asking whether managers met projections, a discovery orientation asks whether they managed expenditures with discipline, whether they were conscious about the assumptions they were making, and whether they exhausted all possible ways to create new knowledge before making irreversible commitments. The whole idea, in other words, is to project as far, but not farther, than is sensible given existing knowledge.

## The Assumption to Knowledge Ratio

In any new situation, the proportion of assumptions you need to make relative to knowledge you have is considerable. The dilemma this creates is that you typically have no choice but to make decisions, yet there are no guarantees that your assumptions will turn out to be correct. You can think of this as a ratio, which we call the *assumption to knowledge* ratio. The greater the proportion of assumptions relative to the knowledge that you have, the more disciplined you need to be about making sure your organization is learning which assumptions are valid and which need to be changed.

This is a real problem. People characteristically forget that they made assumptions, find it impossible to recall why they made the assumptions they did, and can't really picture how a change in an assumption in one part of the business can have a massive impact on the whole business model. We can't stress this enough. Unless you are very disciplined about documenting and testing your assumptions, you are likely to become a victim to the single greatest problem to beset new business organizations, namely the treatment of assumptions as though they are facts.

When we look at major business disappointments over the years, this is the most prevalent theme. Well-intentioned managers plan with the best assumptions available to them at the time, yet fail to test their assumptions with discipline. Even worse, many fail to adjust their plans in light of unfolding evidence that all is not well.

For instance, consider the current troubles of Iridium, a company that is now offering global communication services operating on a network of 66 satellites. By some estimates, the Iridium consortium sunk over $5 billion in creating an enormously successful new technology — the phones work, and they pretty much work everywhere. The problem is that they are expensive to buy and to use, and their functionality doesn't yet meet the expectations of the target customer, the frequent flying executive. Result: about 10,000 subscribers to the service as of this writing, and clear evidence that the consortium behind the company is in financial difficulties.[2]

We're not picking on Iridium to be nasty here, we think it's a great concept. The real issue is not the soundness of the idea. The real issue is whether you can avoid making irreversible commitments to that idea before you get some confidence that it can form the foundation for a profitable business. When you are in a world of incredible uncertainty with a new service like this, it makes a lot of sense to try to test your assumptions about who will want it and how much they will pay for it prior to making fixed asset commitments.

The way discovery driven planning accomplishes this is by imposing five disciplines on managers in the organization: 1) framing; 2) benchmarking; 3) strategic translation of operations; 4) assumption testing; and 5) managing to milestones.

## Five Disciplines of Discovery Driven Planning

### Discipline #1

Specification of frame. With a discovery driven plan, you should be looking to guarantee an attractive upside right at the outset. What this means in practice is specifying what any desired business should look like at maturity and making this clear to everyone in unambiguous terms. After all, if you are going to go through all the bother of starting something new, it had better be worth the effort. Discovery driven planning bakes in this reality check right from the start.

### Discipline #2

The discipline of competitive achievement and market reality. As enthusiastic managers formulate plans to do great things, it is very easy for the plan on paper to take on an unrealistic quality. Technologies have better performance under a wider range of conditions than can actually be demonstrated (at least in version 1). Markets magically appear larger and more profitable than they are, sooner than is reasonable. Competition doesn't appear on the screen at all, or is assumed to be a non-issue.

Our second discipline is a way of making sure that you don't fall into these traps. What you want to achieve is a grasp of what the benchmark parameters of a project must be to succeed competitively, and what the scope of the market must be to generate the performance that will make it worthwhile.

### Discipline #3

Specification of organizational deliverables. This specification translates your strategy into specific, implementable actions. Unlike a conventional plan, where the tendency is to look at what you are doing today and make assumptions that project from these activities, with a discovery driven plan, you work backward from what you have to deliver to get the results

that will make it worthwhile. For instance, the number of sales you need will dictate how wide your advertising and promotional reach must be, which in turn will suggest how much you need to be prepared to allocate in costs. In particular, if you are doing something radically new, this discipline makes sure that your operations are appropriate, rather than forcing you to work the way an existing business does.

### Discipline #4

Document, test, and revisit assumptions. This is the single biggest difference between discovery driven plans and conventional ones. In discovery driven plans, the whole plan is organized around converting the maximum number of assumptions to knowledge at minimum cost.

### Discipline #5

Planning to learn at key milestones. A milestone represents a watershed event for your business or project. It is a point at which many assumptions can be tested and lots of new knowledge will be revealed. Some typical milestones are a business concept test, creation of a prototype, first customer use, first customer complaints, first competitive responses, reactions to pricing, reviews by critics and opinion leaders, etc. — you get the idea. Most of the time, you have enough knowledge to plan in detail to the next major milestone, but not beyond it. What milestone planning does is force you to make this explicit by creating a detailed plan to test your assumptions at the key foreseeable milestones in the project.[3]

We find that this approach to planning not only is realistic but is also motivating. It gives people permission to learn instead of having them feel obliged to justify differences between what was planned and what the true reality is. So, how do you do it? In the next section, we use the example of an Internet start-up to illustrate how you would set up a plan and use information like the information on the DeepCanyon web-site to fill in the blanks.

## Creating a Discovery Driven Plan: An Internet Start-up

To show you how to develop a discovery driven plan, we will be referring to a company that was considering going into an internet based financial service business as an extension of its existing print-based financial service business.

### The Business Concept and Profit Model

The business concept was to provide a daily electronic publication of six research reports per day on topics of interest to individual investors. The investors would use these reports as background for their personal investment decisions. The reports would cover key areas like stocks, bonds, derivatives, mutual funds, etc., and would provide well-researched, up-to-date assessments and prognoses for each.

Before you can set up a discovery driven plan, you need to be very clear on what your profit model is. A profit model is a clear specification of how you will make money with this business — what does the customer buy, what piece of this transaction comes to you as profit, and what investments you need to make either before or during the purchase transaction to capture the profits.

In this case, the profit model was simple. Initially, users would be the same as the consumers of the company's current publications. Each user would access the service's site twice a day

to get the three latest reports. They were also expected to review the last six reports. The company assumed that they would spend about 5 minutes reading these reports as background for their investment decisions. The initial pricing proposal was to impose a usage fee of 7½ cents per minute — meaning that the total daily cost to a user would be about 37½ cents. This was less than the cost of a daily newspaper, and thought to be well within acceptable levels for the target customer market, sophisticated users unafraid to make their own decisions and engage in trading on their own behalf, whether on the Internet or otherwise.

The firm (let's call them "E-Info") already had in place all the assets and database capabilities of a large financial information services enterprise. They thought as they launched that the business would be a fairly natural extension of existing print capabilities into the electronic arena.

The basic costs of such a business fall into three categories. The first involves servicing and maintaining subscribers or what the Internet folks often refer to as retaining "eyeballs" and replenishing those that fall out. The second cost involves the creation of truly compelling content: the research and writing of reports that will capture the customers that generate revenues in the first place. The third kind of cost is often vastly underestimated in an Internet business. This is the cost to operate a help desk and communicate with clients and help them solve their access and operating problems. Given this information, we now have enough data to get started with creating an initial discovery driven plan.

**Apply the Discipline of Framing: the Reverse Income Statement**

The discipline of framing becomes highly operational with a tool we call the reverse financial statement. As it implies, with a reverse financial statement you do your financials from the bottom line up, rather than the top line down. Instead of starting with estimates of revenues and working down the income statement to derive profits, you start at the bottom line with profits, return on assets, and subsequent sales required. You then work your plan up to what the necessary revenues are.

This is how it looks:

REQUIRED PROFITS AT BUSINESS MATURITY = NECESSARY REVENUES MINUS ALLOWABLE COSTS

REQUIRED ROA AT BUSINESS MATURITY = REQUIRED PROFITS DIVIDED BY ALLOWABLE ASSETS

The reverse income statement brings a startling clarity and reality to the business. To be worthwhile to a successful established company, you need to clearly specify how the new business will make a real difference to the bottom line. Absent a better idea, we use the standard of 10% increment in profits and a 2.5% increment in profitability. What this gives you is a picture of what the business would have to look like when it is up, running and operating, to make it worthwhile. Otherwise, it is pretty much doomed from the start to disappoint the parent firm.

What would a "reverse" income statement look like for our fledgling Internet project? Have a look at table 1. The existing business, a highly respected and established provider of financial information, generates about $90 million in corporate profits annually, with about 5% return on sales and about 12% return on assets. The company has decided that given the threat to the established business that Internet competition represents, it will be happy if the new business can create an 8% increment in current profitability, at a 7.5% return on sales and a 15% return on assets.

By simply multiplying these numbers out, the challenge for the manager of this new business becomes crisp and clear. To be deemed successful, the business has to be able to generate

$7.2 million in profits. If assumptions regarding returns on sales and assets hold, this implies a business that will generate $96 million in revenues, require no more than $48 million in assets and incur no more than $88 million in operating costs. Notice that this is going to be a formidable challenge — the existing business is going to notice this new one, and notice it soon if plans succeed.

**Table 1: Reverse Income Statement**

|  |  | BENCHMARK SOURCE |
|---|---|---|
| CURRENT CORPORATE PROFITS | $ 90,000,000 | ANNUAL REPORT |
| CURRENT ROS | 5 % | ANNUAL REPORT |
| CURRENT ROA | 12% | ANNUAL REPORT |
|  |  |  |
| REQUIRED PROFIT INCREMENT | 8 % | CORPORATE POLICY |
| REQUIRED ROS | 7.5% | CORPORATE POLICY |
| REQUIRED ROA | 15% | CORPORATE POLICY |
|  |  |  |
| REQUIRED PROFITS | $ 7,200,000 | CALCULATION |
| REQUIRED REVENUES | $ 96,000,000 | CALCULATION |
| ALLOWABLE ASSETS | $ 48,000,000 | CALCULATION |
| ALLOWABLE COSTS | $ 88,800,000 | CALCULATION |

A couple of other features of Table 1 are worth emphasizing. Notice that in the column to the right of the numbers, we have noted the source of the data — in this case, it's pretty simple, since these data are all provided either by company sources or are calculated. Later on in the plan, as you'll see, we document all other sources of data that we use. This helps to remember why we thought as we did, and can help improve the learning process going forward.

**The Discipline of Competitive Achievement and Market Reality**

The next step in the process requires you to get some reality behind these numbers: how likely is this business idea to work, given the nature of competition you face and the kinds of markets you are trying to sell into? The most critical benchmark, given the business model E-Info has been working with so far, is the number of customers that are likely to tap into the service often enough to generate enough revenues to make this whole thing work. So, the question you want to understand is the specific number of "eyeballs" that need to be attracted to the site on a regular basis, and how they will behave once they are there. Table 2 shows how you might set up this question. We list first the element of the plan, then the corresponding numbers and units (to make the plan concrete). The "No." column refers to an assumption number. We assign numbers to all those assumptions which we think are critical to the success of the business (we'll use these numbers again later when we set up key milestones). We also always include a column for the source of the data that we use. Its also a good idea to keep your notes with respect to these assumptions in one place. We do it with a "notes" column.

As you can see, the market discipline begins with how much revenue will be needed. You know this because you have estimated how much you'll need to generate the required profits. Remember, though, the revenue estimate depends on your being able to hit the return on sales and cost figures you assumed in Table 1. Working through the table, you can begin to get a feel for how big this business needs to be, and whether this is feasible.

Since the business model depends on a certain number of "hits" to the site per day, we break the revenue projection into required daily revenues. Then, we try to get a feel for how long each user will spend at the site, since the company plans to charge them for the time they spend. How might we estimate this?

Looking at information provided by consultants can be a good place to start. In the case of this business we rely on information from Forrester Research, a highly respected provider of information on Internet and other computer-based businesses. According to Forrester, a typical user of financial information services can be anticipated to spend about five minutes per visit for frequent-use sites they know well. These users are also comfortable with paying a price of up to 10 cents per minute for this kind of usage. Go above 10 cents, they suggest and you trigger a price-conscious reaction. E-Info decided to set their initial price (for planning purposes) at 7½ cents per minute, based on the Forrester analysis.

From this, we now need to figure out whether we can get customers to visit often enough to make our numbers. Information from a second information provider, Datastream International, suggests that it isn't unreasonable to expect a typical customer to visit twice per day. Working out the calculations, we can now be very clear about how big the market for this business must be. If E-Info can't think of a strategy that will allow them to capture something on the order of 350,000 regular users of their site, the business is unlikely to succeed. The discipline this imposes is now going out and determining which customers with which profile these will be.

**Table 2: Market Reality for the Internet Business**

| BUSINESS ELEMENT | NUMBER | UNITS | NO. | SOURCE | NOTES |
|---|---|---|---|---|---|
| REQUIRED ANNUAL REVENUES | $ 96,000,000 | | | REVERSE INCOME STATEMENT | |
| REQUIRED DAILY REVENUES | $ 266,667 | | | CALCULATION | |
| AVERAGE USAGE TIME PER HIT<br><br>014604 | 5 | MINUTES | 1 | CONSULTANTS-FORRESTER | FORRESTER & ASSOCIATES 37 ERNIES DRIVE LITTLETON, MA |
| USAGE CHARGES | $ 0.075 | PER MINUTE | 2 | CONSULTANTS-FORRESTER | |
| DAILY REVENUES PER HIT | $ 0.38 | | | CALCULATION | |
| REQUIRED HITS PER DAY | 711,111 | | | CALCULATION | |
| VISITS PER CUSTOMER PER DAY | 2 | | 3 | DATASTREAM | DATASTREAM INTERNATIONAL 120 WALL ST FL 15 NEW YORK, NY 10005[5] |
| REQUIRED NUMBER OF CUSTOMERS | 355,556 | | | CALCULATION | |

The market and competitive benchmarking step, fortunately, is vastly easier now than ever before, given the richness of information available on the Internet to help you quickly understand what competitors and customers are doing. Sites such as DeepCanyon can provide an invaluable resource by letting you work out various scenarios this way. You can very quickly discard unattractive ideas and proposals, or rapidly determine that some of them may not be feasible.

In the case of E-Info, management feels pretty comfortable that given their extensive existing customer base, they can add in frequent-use Internet services and meet the required number of customers. The next consideration will be whether they can do this with a cost structure that is competitive in the industry in which they plan to compete.

Normally, we would consider this question in light of key competitive ratios. They key ratio concept is very useful for industry settings that are more or less well established, and stems from the fact that the profitability and profit growth of most businesses are driven by 7-10 key factors. These are often captured in the ratios that analysts use to evaluate the business. Thus, for an insurance company, ratios such as the loss ratio (percentage of revenues consumed by claims), and the overhead ratio (expenses to revenues) are critical predictors of eventual profitability. For retail stores, numbers such as same-store sales changes and sales per square foot are often used. What we do in this section of the planning process is to first identify the key ratios, then use information about what the competitive standard is in the industry to make sure we are being realistic in our planning. After all, if good competitors are able to achieve yields, say, of 999 per 1,000 produced and our best estimate of our capability is 995 per 1,000 produced, we already know we will have a problem competing.[6]

The difficulty with an e-business like the one E-Info is considering entering is that no one knows at this point what the relevant ratios are going to be. We don't know whether the right model is an advertising model, a subscription model, a usage model, a portal model, or some other model as yet unknown. In such situations, the best you can do is run the numbers on a couple of alternatives, then go with the model that seems to best suit your objectives and capabilities.

In the e-business case, an advertising model probably doesn't make sense. Consumers of business information want their information not to be subjected to fancy graphics and time-wasting downloading of ads. The usage model is therefore a pretty good alternative. Given the lack of consensus about key ratios in the industry as a whole for a usage model, the next best approach to establishing the market discipline is by making sure that the company can meet cost and operating targets. This brings us to the next discipline.

**Specification of organizational deliverables.**

The organizational deliverables in the case of the E-Info business have to do with the three significant cost elements we identified as critical in the business concept: the costs of customer enrollment and retention, the costs of creating content for delivery through the new medium, and the costs of providing adequate levels of help desk service and support. If we are way off in our cost estimates for any of these, the business simply doesn't work. Let's consider each in turn, beginning with Table 3.

We start out by making some assumptions about how many of E-Info's customers will revolve each year. In other words, what proportion of the customer base will need to be replaced to keep the revenues we require flowing in. Based on data from the Direct Marketing Association, we can estimate that given our past track record of providing good service, about 80% of our existing customers will stay with us. This doesn't come for free, though. We can anticipate having to spend something on the order of $2 per retained customer each year on offering programs to keep them loyal. At this point in the planning process, we don't have to know what these are, it could be a select customer discount, a frequent-flierlike savings program or some other loyalty incentive. DMA estimates that $2 is in the right ballpark.

More needs to be spent to get new customers, however. Since we need to replace customers who leave, we can also estimate what our ongoing customer replacement costs will be, assuming we are roughly correct about how many customers will stick with us. DMA estimates that it costs six times as much to acquire a new customer as to keep an old one, giving us around $12 that must be spent to replace lost loyal customers. The rest of the table can be calculated out. Since we don't know what the average retention rates of an Internet business will be, our next best substitute is to do a table like this. Provided that we can keep our customer retention/acquisition costs in the right ranges, we can have some confidence that we won't overspend.

Note in Table 3 that we have entered the total allowable costs for the business from the reverse income statement at the bottom of the table. This lets us keep track of whether the costs to run the business as we conceive it at the moment are realistically within the allowable range, given the profits we must make.

**Table 3: Customer Acquisition and Retention Costs**

| ELEMENT | NUMBER | TOTALS | NO. | SOURCE | NOTES |
|---|---|---|---|---|---|
| EXPECTED RETENTION RATE | 80% | | 4 | DMA | DIRECT MARKETING ASSOCIATION INC |
| ANNUAL RETENTION COST PER CUSTOMER | $ 2 | | 5 | DMA | 1120 AVENUE OF THE AMERICAS FL 13 NEW YORK, NY 10036 |
| ACQUISITION COST PER CUSTOMER | $ 12 | | 6 | DMA | |
| TOTAL RETENTION COSTS | $ 711,111 | | | CALCULATION | |
| ACQUISITION COSTS | $ 853,333 | | | CALCULATION | |
| TOTAL MAINTENANCE COSTS | $ 1,564,444 | | | CALCULATION | |
| TOTAL ALLOWABLE COSTS | $ 88,800,000 | | | | |
| REMAINING COST CUSHION | $ 87,235,556 | | | | |

The next cost element has to do with the creation of content. Here, E-Info can rely on its broad experience in the creation of content with its print business and with the data that come from that business, on the assumption that the creation of content for the Internet medium (in the form of research reports) will not be all that different than the creation of content for the existing distribution mechanism. Data from Datastream, as well as information from the Newspaper Publishing Association (NPA), provide additional validation of the business concept. The basic model is that the basic data gathering and writing of reports are done by researchers, who report to editors, who in turn report to experienced section editors. The deliverables here are relatively straightforward. Since the parent company for E-Info has considerable experience in this area, these numbers are probably quite reliable, unless (and this is the big unless) writing reports for e-consumption differs in major respects from writing reports for conventional use.

**Table 4: Costs of Content: Report Generation**

| ELEMENT | NUMBER | TOTALS | NO. | SOURCE | NOTES |
|---|---|---|---|---|---|
| REPORTS PER DAY | 6 | | 7 | STRATEGY DECISION | |
| REPORTS PER YEAR | 2160 | | | CALCULATION | |
| RESEARCH HOURS PER REPORT | 90 | | 8 | DATASTREAM | |
| RESEARCHER HOURS REQUIRED PER YEAR | 1,166,400 | | | CALCULATION | |
| ANNUAL WORKING HOURS PER RESEARCHER | 1600 | | 9 | DATASTREAM | |
| RESEARCHERS REQUIRED | 729 | | | CALCULATION | |
| RESEARCHER SALARY PLUS BENEFITS | $ 45,000 | | 10 | NYP | NY NEWSPAPER PUBLISHERS ASSOCIATION, ALBANY NEW YORK |
| ANNUAL RESEARCHER COSTS | $ 32,805,000 | | | CALCULATION | |
| RESEARCHER PER REPORT SUPERVISOR | 12 | | 11 | NYP | |
| REPORT SUPERVISORS REQUIRED | 61 | | | CALCULATION | |
| REPORT SUPERVISOR SALARY PLUS BENEFITS | $ 65,000 | | 12 | NYP | |
| ANNUAL REPORT SUPERVISOR COSTS | $ 3,948,750 | | | CALCULATION | |
| SECTION EDITORS PER REPORT SUPERVISOR | 12 | | 13 | NYP | |
| SECTION EDITORS REQUIRED | 10 | | 14 | STRATEGY DECISION | |
| SECTION EDITORS SALARY PLUS BENEFITS | $ 90,000 | | 15 | NYP | |
| ANNUAL SECTION EDITOR COSTS | $ 900,000 | | | CALCULATION | |
| MANAGING DIRECTOR SALARY PLUS BENEFITS | $ 150,000 | | 16 | NYP | |
| ANNUAL REPORT GENERATION COSTS | $ 37,803,750 | | | CALCULATION | |
| OVERHEAD AS PERCENTAGE OF SALARIES | 25% | | 17 | NYP | |
| TOTAL ANNUAL REPORT GENERATION COSTS | $ 47,254,688 | | | | |
| ALLOWABLE COSTS AFTER CUSTOMER MAINTENANCE | $ 87,235,556 | | | | |
| PROGRESSIVE REMAINING COST CUSHION | $ 39,980,868 | | | | |

The last cost element for this business design has to do with running a high-quality help and service desk. This is essential to making the customer retention numbers that were projected earlier. Table 5 shows how this might be laid out.

As with the creation of content, running a help desk is an endeavor that is pretty well understood and straightforward. The critical issues are whether the company can anticipate how many calls it will receive, and whether it can recruit enough high-quality service representatives to field those calls. If it can, the rest of the plan falls out in a relatively straightforward way. Since the company doesn't have experience managing a help desk, managers used the benchmarks established by its business, partner America On Line (AOL) as the basis for their estimates.

As before, once each piece of the business model is calculated, we estimate how much buffer the company has in terms of allowable costs. The latter part of Table 5 suggests that E-Info can be off in its estimates by $3.6 million without irretrievably missing its profit goals.

**Table 5: Help Desk Costs**

| ELEMENT | NUMBER | TOTALS/UNITS | NO. | SOURCE | NOTES |
|---|---|---|---|---|---|
| CALLS PER CUSTOMER PER MONTH | 2 | | 18 | DATASTREAM | |
| DURATION OF CALL | 10 | MINUTES | 19 | DATASTREAM | |
| TOTAL HELP DESK CALL HOURS PER YEAR | 1,422,222 | | | | |
| ANNUAL WORKING HOURS PER OPERATOR | 1,600 | | 20 | | |
| OPERATORS REQUIRED | 889 | | | | |
| OPERATORS SALARY PLUS BENEFITS | $ 30,000 | | 21 | AOL | AMERICA ONLINE 111 ACADEMY IRVINE, CA 92612 |
| ANNUAL OPERATOR SALARY COSTS | $ 26,666,667 | | | | |
| SUPERVISORS PER OPERATOR | 20 | | 22 | AOL | |
| SUPERVISORS REQUIRED | 44 | | | | |
| SUPERVISOR SALARY PLUS BENEFITS | $ 45,000 | | 23 | AOL | |
| ANNUAL SUPERVISOR SALARY | $ 2,000,000 | | | | |
| MANAGERS PER SUPERVISOR | 8 | | 24 | AOL | |
| MANAGERS REQUIRED | 6 | | | | |
| MANAGER SALARY PLUS BENEFITS | $ 60,000 | | 25 | AOL | |
| ANNUAL MANAGER SALARY | $ 333,333 | | | | |
| HELP DESK DIRECTOR SALARY PLUS BENEFITS | $ 90,000 | | 26 | AOL | |
| TOTAL HELP DESK SALARIES | $ 29,090,000 | | | | |
| GENERAL ADMINISTRATION COSTS AS PERCENT | 25% | | 27 | AOL | |
| TOTAL ANNUAL SERVICE DESK COSTS | $ 36,362,500 | | | | |
| ALLOWABLE COSTS AFTER REPORT GENERATION | $ 39,980,868 | | | | |
| PROGRESSIVE REMAINING COST CUSHION | $ 3,618,368 | | | | |

## Milestone Events and Assumption Test Checklist

Let's stop a moment and consider what our hypothetical E-Info business has accomplished so far. They have first made sure that if the business succeeds, it will be worthwhile to the management of the company. They know, in other words, what success really means. They have next tackled, in a very disciplined way, what a workable business model would

look like, beginning with how many customers they need and how these customers will behave in order to deliver the profits that are required, and moving on to a carefully speci-fied set of operating activities. The emphasis is on clearly spelling out what the most critical assumptions are, as they are being made, and what the basis for these assumptions is.

The last and most important piece of the discovery driven planning process is to create a vehicle for the disciplined conversion of assumptions to facts. We do this through the joint operation of two documents: the assumption checklist and the milestone plan. The assump-tion checklist is created naturally by pulling out all the numbered assumptions in Tables 2 through 5 above. Thus, estimates of how long customers will spend on line, how much it costs to hire a service person, and how many help desk calls are likely to come in per month are all captured in the documents above.

The most important discipline of them all comes next. This is the careful linking of key assumptions with critical milestone events in the development of a project. A milestone event is a point at which several key assumptions are likely to be tested, revealing infor-mation that was not available before. Often, a company will be able to articulate several milestones with great precision, while others are going to be quite vague for some time.

What you need to be doing here is making sure that you capture all opportunities to test assumptions and that you capture these as early as possible, when the least amount of money and time has been spent. The best way to do this is to create a chart, something like the one in Table 6, which specifically lists which assumptions will be tested at which mile-stone. The golden rule of milestone planning is that you shouldn't have any assumptions that don't get tested by a milestone, and that you shouldn't have milestones without some associated assumptions being tested. This can help make sure you haven't overlooked something critical as you create your business plans. Note that some assumptions get tested over and over again.

**Table 6: Milestone and Assumption Testing Checklist**

| MILESTONE NUMBER | MILESTONE EVENT | ASSUMPTIONS TESTED |
|---|---|---|
| 1 | MARKET STUDY | 1, 3, 7, 10, 18, 19 |
| 2 | FEASIBILITY STUDY | 1, 3, 7, 12, 13, 14, 15, 16 |
| 3 | MOCK UP SAMPLE PUBLICATION | 1, 7, 8, 11, 13 |
| 4 | FOCUS GROUPS STUDIES | 1, 2, 3, 7 |
| 5 | MARKET RESEARCH STUDY | 1, 2, 3, 4, 5, 7, 8 |
| 6 | TRIAL ISSUE OFFER TO IN HOUSE USERS | 1, 2, 3, 4, 5, 7, 8, 9, 17 |
| 7 | HELP DESK SIMULATION | 18, 19, 20, 21, 22, 23, 24 |
| 8 | TRIAL ISSUE OFFER TO LIMITED USERS | 1, 2, 3, 4, 5, 6, 7, 8 |
| 9 | FIRST ROUND RECRUITMENT OF REPORT GENERATION STAFF | 8, 9, 10, 12, 13, 14, 15, 16 |
| 10 | FIRST ROUND RECRUITMENT OF HELP DESK STAFF | 20, 21, 22, 23, 24, 25, 26, 27 |
| 11 | MAJOR MARKETING CAMPAIGN | 6, 7 |

So, where does E-Info stand with its proposed Internet business? At this point, they have decided that it is worth making a modest investment to get to the first two milestones, consisting of a market study and feasibility analysis. We'll see how well their assumptions fare after going through this analysis!

## Discovery Driven Planning — Major Steps

Let's wrap up this article by summarizing the major activities that you would go through in creating a discovery driven planning process in your organization.

### Step 1

Specify a clear frame for each project you wish to plan. This frame should contain (at a minimum) what is desired in terms of specific, quantifiable goals for profits, for profitability, and for asset utilization.

### Step 2

Specify the profit model you anticipate. Be clear — what will you sell? To whom? At that price? How often?

### Step 3

Develop your reverse income statement, and the associated objectives for profits and returns.

### Step 4

Spell out the deliverables specifications you will have to meet to achieve the objectives for profits and returns. Document your thought process. List sources for all key numbers, and try to clearly document the most critical assumptions.

### Step 5

Make sure you are keeping a list of the most critical assumptions.

### Step 6

Create a list of milestone events for your project. Make sure that each milestone will result in the careful testing of a set of assumptions. Sequence the milestone tasks in order to burn the least cash while achieving the most milestones.

### Step 7

Map assumptions to milestones. Remember the rule: no milestone without testing assumptions, no assumptions without a milestone to test them.

### Step 8

Revisit and replan on a continuing basis. It will help if you keep it simple: don't make the whole thing so ponderous that you never want to go back to it.

Remember: in a discovery driven world it isn't an admission of failure to be wrong. The real errors lie in being wrong without being conscious of why, in spending too much before you have validated critical assumptions, and in not learning from every mistake that gets made.

[1] McGrath, R. G. and MacMillan, I. C. 1995.Discovery Driven Planning. Harvard Business Review.73. pp. 44-54.

[2] Reinhardt, Andy and Yang, Catherine. 1999. Risks soar, the rockets don't. Business Week May 31, 1999. pp: 44. It's also interesting to visit the Iridium web site — www.iridium.com.

[3] For more on milestones, see Block, Z. and MacMillan, I. C. 1985. Milestones for successful venture planning. Harvard Business Review.62.4-8. Another great reference for new business development efforts in general is Block, Z. and MacMillan, I. C. 1993. Corporate Venturing: Creating New Businesses Within The Firm. Boston: Harvard Business School Press.

[4] Forrester and Associates are Internet and information systems data consultants. Many companies use them as a key source of data on internet businesses

[5] Datastream international is a major provider of financial services information

[6] For details on how this works in an existing industry, see the original 'Discovery Driven Planning' article.