Conclusion

# Getting Beyond the Chasm

It has become very fashionable of late to talk about how high-tech companies can and should become market-driven organizations. My own view, however, is that there is not any *becoming* involved. All organizations *are* market-driven, whether they acknowledge it or not. The chasm phenomenon—the rapid acceleration in market development followed by a dramatic lull, occurring whenever a discontinuous innovation is introduced— drives all emerging high-tech enterprises to a point of crisis where they must leave the relative safety of their established early market and go out in search of a new home in the mainstream. These forces are inexorable-they *will* drive the company. The key question is whether the management can become aware of the changes in time to leverage the opportunities such awareness confers.

Thus far we have been treating the chasm as a market development problem and have focused exclusively on marketing strategies and tactics for crossing it. But the impact of the chasm extends beyond the marketing organization to every other aspect of the high-tech enterprise. In this final chapter, therefore, we are going to step back from the marketing view and look at three other critical arenas of change: finance, organizational development, and R&D. The goal of the discussion in every case is the same-to keep the enterprise moving forward into the mainstream marketplace and not, as so often happens, to allow it to fall back into the chasm.

The fundamental lesson of this chapter is a simple one: *The postchasm enterprise is bound by the commitments made by the prechasm enterprise.* These prechasm commitments, made in haste during the flurry of just trying to get a foothold in an early market, are all too frequently simply unmaintainable in the new situation. That is, they promise a level of performance or reward that, if delivered, would simply destroy the enterprise. This means that all too often one of the first tasks of the postchasm era is to manage our way out of the contradictions imposed by prechasm agreements. This, in turn, can involve a major devaluation of the assets of the enterprise, significant demotions for people who are unsuited to the responsibilities implied by their titles, and marked changes in authority over the future of the product and technology—all of which is likely to end in bitter disappointments and deep-seated resentment. In short, it can be a very nasty period indeed.

The first and best solution to this class of problems is to avoid them altogether—that is, *to avoid making the wrong kind of commitments during the pre-*

*chasm period.* By looking ahead at the outset, while we are still in the early market phase, to where we must go in order to survive the chasm crisis, we can vaccinate ourselves against making the kind of crippling decisions that doom so many otherwise promising high-tech enterprises.

Let me acknowledge that this is .much harder to achieve than it looks. I am reminded of the many times as an adolescent when I was sagely advised that I was in the process of making some very bad decisions because I was "going through a phase." I loathed that advice. First, it made me feel vaguely inadequate and rather inferior to the person giving it. And second, even though I suspected it to be true, it was totally useless information. I might be going through a phase, but since I was in the phase, and was therefore doomed to perform in some incompetent way, what good was this knowledge? How could I stop being myself?

That, however, is exactly what the high-tech enterprise must accomplish to leave the chasm behind. The enterprise must stop "being itself"—in the sense that it must accept that it is going through a phase and act competently with that knowledge.

To leave the chasm behind, there is a molting process that must occur, a change of company self, wherein we grow away from celebrating familial feelings and dashing individual performances and step toward rewarding predictable, orchestrated group dynamics. It is not a time to cease innovation or to sacrifice creativity. But there is a call to redirect that energy toward the concerns of a pragmatist's value system instead of a visionary's. It is not a time to forgo friendships and implement an authoritarian management regime. Indeed, management style is one of the few things that can remain constant during this period of transition. But there is a call to review and revalue the skills and instincts and talents that helped to build up a leadership in the early market in light of the new challenge of building leadership in the mainstream. And that call can and will test friendships and egos throughout the firm.

The principles and practices for successful postchasm management of financial, organizational, and product development issues are all significantly different from their prechasm counterparts, and not everyone is adaptable or amenable to the changes required to operate in the new order. The good news is, in either case, there will always be plenty of jobs. That is, while individual high-tech enterprises have shown a very erratic track record over the past 10 years, the sum total of revenue and employment of the industry as a whole has grown dramatically. We all need to remember this during the chasm reshuffling. It should not be our goal, that is, to try to evangelize a new style of behavior but rather to create a framework for helping individuals understand for themselves where they best fit in, and then take appropriate action.

With that thought in mind, let us turn to the first and most influential set of decisions that postchasm enterprises inherit from their prechasm selves—the financial ones.

## Financial Decisions: Breaking the Hockey Stick

The purpose of the postchasm enterprise is *to make money.* This is a much more radical statement than it appears. To begin with, we need to recognize that this is not the purpose of the prechasm organization. In the case of building an early market, the fundamental return on investment is the conversion of an amalgam of technology, services, and ideas into a replicable, manufacturable product and the proving out that there is some customer demand for this product. Early market revenues are the first measure of this demand, but they are typically not—nor are they expected to be-a source of profit. As a result, the early market organization is not required to adopt the discipline of profitability.

Nor does the prechasm organization motivate itself by profitability, or typically any other financial goal. Oh, to be sure, there are the get-rich dreams that float in and out of idle conversation. But there are much headier rewards closer at hand—the freedom to be your own boss and chart your own course, the chance to explore the leading edge of some new technology, the career-opening opportunity to take on far more responsibility than any established organization would ever grant. These are what really drive early market organizations to work such long hours for such modest rewards—the dream of getting rich on equity is only an excuse, something to hold out to your family and friends as a rationale for all this otherwise crazy behavior.

So early market entrepreneurs are not called to focus on, nor are they oriented toward, making money. This has enormous significance, as most management theory assumes a profit motive present, serving as a corrective check against otherwise alluring tactics. When that motive is not present, people make financial commitments that have consequences they either do not, or do not care to, foresee. Although this comes in many and varied forms, perhaps its most prevalent one is the *hockey stick forecast of revenue growth.*

In the current, flawed model of high-tech market development—the two-stage one without the chasm—the entrepreneur is asked to drive the enterprise to an early market success and then to hand over the reins to professional managers who will guide the company as its revenues and profits skyrocket toward market leadership. This is the model traditionally endorsed by the venture capital community, the one it uses to attract its capital funds, and the one it applies to its investment opportunities. If you do not show this kind of meteoric rate of return sooner or later, you are not qualified to participate in their portfolio.

Entrepreneurs may be many things when it comes to financial issues, but they are typically not slow on the uptake. If venture capitalists are the ones with the money, and these are the rules you follow to get that money, then they will be sure to follow the rules. And so entrepreneurs raise capital using "hockey stick" graphs of revenue attainment. That is, they bring forward a business plan that shows no revenue development for some period of time-as long as they possibly can defer—after which there is a sharp inflection in the curve, and rapid, continuous, and what any sane person would call miraculous, revenue growth from there on. As a form, it is as precise and conventional as a love sonnet—and just as likely to get one into trouble.

Hockey stick curves are created by spreadsheets, a software tool that many have argued has driven some of the worst of the investment decisions of the past two decades. It is so easy to increment a revenue number by a percentage

and just let the software take it from there. Now in theory, this revenue line approximates a real profile of how the company could capitalize on a developing market opportunity. As such, it would serve as the "master line" in the spreadsheet, the one to which all others must account. That is how profitable operations work.

In fact, however, the revenue line is a slave—and to not just one but two masters. At the front end, it is slave to the entrepreneur's cost curve, and at the back, to the venture capitalist's hockey stick expectations. Revenue numbers, under this methodology, are… well, whatever they have to be. Once that sum is identified, then market analyst reports are scoured for some appropriate citations, and any other source of evidence or credibility is enlisted, to justify what is a fundamentally arbitrary and unjustifiable projection of revenue growth.

Now, if the current model of high-tech market development were not flawed, this might work, or at least work better or more often. But in fact, the revenue development that actually occurs looks more like a *staircase* than a hockey stick. That is, there is an initial period of rapid revenue growth, representing the development of the early market, followed by a period of slow to no growth (the chasm period), followed by a second phase of rapid growth, representing return on one's initial mainstream market development. This staircase can continue indefinitely, with the flat periods representing slower growth due to transitioning into broader and broader mainstream segments, and the rapid rises representing the ability to capitalize on those efforts. As more and more segments are served, sooner or later the ups and downs begin to cancel each other out, and one can achieve the less bumpy results that Wall Street greatly prefers. (In fact, only the most successful high-tech companies have achieved such a state; most continue to fluctuate more dramatically than the financial community can understand, with the result that their stocks routinely take a vicious beating at the slightest indication of bad news.)

All this is well and good. The staircase model is perfectly viable—unless you have mortgaged your stake in the company on making the hockey stick scenario come true. That, unfortunately, is precisely what most high-tech funding plans commit to. And when the hockey stick scenario does not come true, and the mortgage comes due, the founder's equity gets radically diluted, things fall apart, and the company dies in the chasm. That is the course sketched out in the high-tech parable in Chapter 1 of this book.

Now, the venture community has long been aware of this problem. Cynics in high tech believe they count on it—that's how the "vulture capitalists" take over the company from the unwitting entrepreneur. But the truth is, such a strategy is a lose/lose proposition, and most investors know it. They may call it "the valley of death" instead of the chasm, but they know it is there. All they have to do is look at their own portfolios.

The question now becomes, if we have the chasm model to work with, what can we do differently? This question really breaks into two parts—one directed to the financial communities that provide the sources of capital, and the other to the high-tech executives who provide the sources of management. For the former, the key issue is how to reformulate its concepts of valuation and expected rate of return, and for the latter, it is when to spend capital and when to adopt the discipline of profitability. Let's look at both of these more closely.

## The Role of the Venture-Financing Community

All investment is a bet on performance against competition within time. What the chasm model surfaces is a need to rethink these variables. From the investment point of view, the most pressing question initially is, How wide is the chasm? Or, to put this in investment terms, How long will it take before I can achieve a reasonably predictable ROI from an acceptably large mainstream market?

The simple answer to this question is, as long as it takes to create and install a sustainable whole product. The chasm model asserts that no mainstream market can occur until the whole product is in place. A reasonable corollary, I believe, is that once the whole product is in place—in other words, has become institutionalized—the market will develop quickly—normally, although not necessarily, around the company that drove and led the whole product effort.

Can we predict how long this will take? I think so. By analyzing the target customer and the compelling reason to buy, and then dissecting all the components of the whole product, we can reduce this process to a manageable set of performance factors, each of which can be projected ahead in time, with an estimated point of convergence. It's not a science, but it's not a black art either: It is, in essence, just another kind of business plan.

Supposing this plan has some credibility, a raft of other questions immediately follow. How big will this market be? Again, the simple answer is, As big as can be motivated by the value proposition—the compelling reason to buy—and served by the whole product. Market boundaries occur, in other words, at the point of failure of either the value proposition or the whole product. The other market-making factors—alliances, competition, positioning, distribution, and pricing—do not impact the size of market but rather the rate of market penetration. Given free market economy incentives, efficient solutions in these areas will fall into place sooner or later if the market is truly there.

If all of the preceding assertions are true—and that is certainly something that warrants further investigation—then all the key factors of the investment decision are reasonably out in the open, and the decision itself can be made without having to consult the entrails of a sacrificial animal. Estimates of market size, rate of penetration, cost to achieve market leadership, and anticipated market share can all be made in the light of day, without smoke and without mirrors. There will still be plenty of room for disagreement about probability of success and degree of risk, but there should not be any fundamental leap of faith demanded, no "drinking of the Kool-Aid" as one of my more macabre colleagues has put it.

So the call to action to the investment community is, Make your client companies incorporate crossing the chasm into their business planning. Demand to see not only broad, long-term market characterizations but also specific target customers for the D-Day attack. Drive them to refine their value propositions until they are truly compelling, and then use these to test

how many target customers there truly are. Force them to define the whole product, and then help them to build relationships with the right partners and allies. Again, use the results to test hypotheses about market size. As for competitive set and positioning, beware of pushing your small fishes too soon into big ponds. And as for distribution and pricing, don't look for "standard margins" until the chasm has truly been crossed. To sum up, use the crossing-the-chasm matrix of ideas to ensure proper management of financial assets.

## The Role of the Venture-Managing Community

Now let's turn to the entrepreneur's key concern: How long should I live off of capital, and when should I adopt the discipline of profitability? The bounds of this decision work as follows. Until profitability is achieved, nothing is secure, and your destiny is not under your own control. This argues for early adoption. In fact, in slow-developing markets, particularly in the software industry, which has low capitalization requirements, there is a very strong case for adopting profitability from day one. Early visionary customers will pay consulting fees and prepay royalties to help fund low capitalization start-ups. From an accounting view, these prepaid royalties cannot be booked immediately as revenue, but they can make you cash-flow positive from day one, and thus keep 100 percent of the equity reserved for a later date.

The great benefit of adopting the discipline of profitability at the outset is that you do not have to learn it later on. All too frequently, even when they are led by experienced managers, enterprises that are funded for long periods of time fall into a "welfare state mentality," losing their sense of urgency, and looking for their next paycheck to come from yet another round of financing instead of from the marketplace. Moreover, the discipline of profitability teaches you to "just say no" early and often. For most ideas there simply isn't any money to fund them. The enterprise is forced to focus drastically just because of resource constraints. This radically reduces time to market because people are not focused on doing something else and because they understand it is the market that is paying their paychecks. And finally, when one does go seeking external capital, there is no stronger evidence for a high company valuation than it having already demonstrated not only real market demand but its own ability to process that demand profitably.

Indeed, the case for seeking profitability from the beginning is so strong, you begin to wonder why you would ever not choose this route. Essentially, there are two reasons. First, the price of entry is too great to fund with sweat equity or consulting contracts. This is clearly the case in any manufacturing-intensive operation. Today, however, with the move to outsourced manufacturing, when companies like Cisco ship as much as 45% of their products *without ever touching them,* when fabless semiconductor companies use foundries for all their goods, and when there is even such a thing as a chipless semiconductor company, Rambus, which simply licenses a patented memory interface architecture, it is more a matter of getting the team on board and the engineering in place than it is putting in place a line or ramping up inventory. Still,

there are real costs here that typically well exceed a pay-as-you-go budget, and a lot of venture funding goes to supporting just this sort of enterprise.

The other reason to forego initial profitability is when the market is expected to develop so rapidly that you cannot afford to mark time as a bit player. The explosion of the Internet has created a land-grab mentality heretofore unknown, and everyone is racing to beat out competitors in capturing market share. Yahoo!'s capturing the number one position in search sites, Amazon.com's achievement in book reselling, and America Online's in-home communications, all have translated into dramatic surges in market capitalization that have left their competitors seemingly permanently behind. In that kind of game, the race really is to the swiftest, and second prize is a long way back from first, so spending early and big is seen as the key to success. (I personally am extremely nervous about such blind-leading-the-blind markets, but then I am a late adopter by nature.)

Beyond this there is a third, more general principle that can help entrepreneurs think through their management of capital. It is typically more capital intensive to cross the chasm than it is to build the early market. Early market development efforts typically do not respond well to massive infusions of capital—in the .1980s we saw this with the IBM PC Jr. and Prodigy; in the 1990s with pen-based computers and video-to-the-home. You simply cannot spend your way into the hearts and minds of technology enthusiasts and visionaries. To be sure, there is a minimum level of capitalization required. You have to be able to travel to make direct sales calls, and show up looking presentable, and you probably should have an office and a phone that is answered in a professional way. You do need to invest in early market public relations—the product launch is crucial to building early market success—but you do not need to advertise, nor do you need to invest in developing partnerships or building channel relationships. All this is premature until you have established some early market credibility on your own.

Once early market leadership has been established, however, the entire equation changes. The whole product investment— securing the partnerships and alliances and then making them work to deliver the final goods—takes a significant number of funded initiatives. So does the channel development process, both on the pull and on the push sides, creating demand and providing incentives for sales. And it is critical during this period to have an effective communications program, including press relations, market relations, and advertising.

In sum, this is when you want to spend your money—not before. It is important, therefore, that you not start this process until after you have established early market leadership, and that you not commit to throwing off all kinds of cash during the chasm period. Simply applying these two concepts to the business plan can keep you out of a lot of trouble.

## Organizational Decisions: From Pioneers to Settlers

Turning from issues of finance to issues of people, we must recognize that the chasm separates not only visionaries from pragmatists—it also separates the

companies that serve them. To leave the chasm behind, to cross it and not fall back into it, involves a transformation in the enterprise that few individuals can span. *It is the move from being pioneers to becoming settlers.*

In the development organization, pioneers are the ones who push the edge of the technology application envelope. They do not institutionalize. They do not like to create infrastructure. They don't even like to document. They want to do great deeds, and when there are no more great deeds to be done, they want to move on. Their brilliance fuels the early market, and without them, there would be no such thing as high tech.

Nonetheless, once you have crossed the chasm, these people can become a potential liability. Their fundamental interest is to innovate, not administrate. Things like industry standards and common interfaces and adaptations to installed solutions, even when these solutions are clearly technically inferior, are all foreign and repugnant to the high-tech pioneers. So as the market infrastructure begins to close in around them, they are already looking for less crowded country. In the meantime, they are not likely to cooperate in the compromises needed, and can be highly disruptive to groups that are seeking to carry this agenda out. It is critical, therefore, that as the enterprise shifts from the product-centric world of the early market to the market-centric world of the mainstream, that pioneer technologists be transferred elsewhere—ideally, into another project within the enterprise, but if necessary, to another company.

There is a comparable process going on in the sales force at the same time. Here the group at the forefront is the high-tech sales pioneers. These are people who have the gift of selling to visionaries. They are able to understand the technology and product at a level where they can readily manipulate it and adapt it to the dreams of the visionaries. They can talk the visionaries' language, understand the quantum leap forward visionaries seek to achieve, and wrap their products in that cloak. They can translate that language back into concrete manifestations of the product, to be illustrated through custom demos, for which they make insatiable demands. They can think big, and they can get big orders. They are the darlings of the early market. Without them, achieving early market leadership is all but impossible.

These same people, however, also become a liability once you have crossed the chasm. Indeed, they are the ones primarily responsible for dragging companies back into the chasm. The problem is, they cannot stop making the visionary sale, a sale predicated on delivering custom implementations of the whole product. Such contracts are fulfilled by robbing from Peter—the mainstream R&D effort—to pay Paul—the custom R&D effort necessary to achieve the visionaries' buying objective. The key to leaving the chasm behind, however, is to stop custom developments and institutionalize the whole product, to build to a set of standards that the marketplace as a whole can support. This mainstream effort necessarily puts enormous strain on the R&D department, who must not, therefore, be distracted by yet another wild and crazy venture. And so it is that a pioneer salesperson left unchecked can be highly disruptive and demoralizing to a sales organization looking to leave the chasm behind.

So now we have two sets of people—high-tech pioneers and pioneer salespeople—who are fundamental to success in the early market and potentially

a liability after the company has crossed the chasm. They must be outplaced, but who is competent to do so? And how in the world will their knowledge ever be replaced? And who is going to take over what they leave behind? And is any of this moral or fair, given their contributions to date?

I know of no high-tech firm that has not struggled with these issues sooner or later. And how you respond affects not only those who leave but those who stay. This is a time when you must perform impeccably.

Let's deal with the moral issue first. And let us take as our starting point that casting aside people, dislocating their lives and threatening their livelihood, is immoral—even if businesses and governments routinely do so with abandon. The issues then become ones of foresight, agreement, planning, and preparation. Pioneers do not want to settle down. That is not in their best interest nor in the interest of the companies that employ them. If, at the beginning of the process, everyone can acknowledge this fact, and acknowledge that the very goal of pioneers, the final manifestation of their success, is to create a mainstream market and thereby put themselves out of a job, then we can have a reasonable basis for going forward. How we would go forward and under what kind of compensation program is a discussion we need to postpone until we look at how to make the transition to the other side of the equation, to the settlers who are expected to come in and take their place.

The truth is, of course, that settlers do not take pioneers' places. They take other places, ones that pioneers never have occupied nor would ever choose to. Nonetheless, settlers do take over the employment roster, and the management positions and the authority and, ultimately, the budget. And they build fences and create laws (called procedures) and do all the things that created range wars between pioneers and settlers back in the Old West. All this bodes well for the postchasm marketplace, populated with pragmatists, who like reliable, predictable people and abhor surprises. But it hardly sits well with the pioneers. How in the world, then, can you make the transition between these two groups in an orderly way?

## Two New Job Descriptions

The key is to initiate the transition by introducing two new roles during the crossing-the-chasm effort. The first of these might be called the *target market segment manager,* and the second, the *whole product manager.* Both are temporary, transitional positions, with each being a stepping stone to a more traditional role. Specifically, the former leads to being an industry marketing manager, and the latter to a product marketing manager. These are their "real titles," the ones under which they are hired, the ones that are most appropriate for their business cards. But during the chasm transition they should be assigned unique, one-time-only responsibilities, and while they are in that mode, we will use their "interim" titles.

*The target market segment manager has one goal in his or her short job life—to transform a visionary customer relationship into a potential beachhead for entry into the mainstream vertical market that particular customer participates in.* If

Citicorp is the client, then it is banking; if Aetna, insurance; if Dupont, chemicals; if Intel, semiconductors. The process works like this.

Once you have closed such an account as part of an early market sales program, assign the target market segment manager as its account manager with a charter that allows him the kind of extensive customer contact that will let him really learn how their business works. He must attend the trade shows, read the literature, study the systems, and meet the people-first, just within the one account, and subsequently, in related companies. At the same time, he must take over the supervision of the visionary's project, make sure it gets broken up into achievable phases, supervise the introduction and rollout of the early phases, get feedback and buy-in from the end users of the system, and work with the in-house staff to spin off the kind of localized implementations that give these initial deliverables immediate value and impact. At the same time, he will be working with the whole product manager to identify which parts of the visionary project are suitable for an ongoing role in the whole product and which are not. The goal is to isolate the idiosyncratic elements as account-specific modifications, making sure thereby not to saddle the ongoing product development team with the burden of maintaining them.

The market segment manager should not be expected to generate additional revenue from the account in the short term, because the visionaries believe they have already paid for every possible modification they might need. What he can be expected to do, however, is the following:

- *Expedite the implementation of the first installation of the system.* This not only contributes to the bottom line, as it will expedite the purchase of additional systems, but it also secures the beginning of a reference base in the target market segment. Most companies fail miserably in this regard, so much so that even several years later their initial "big name" accounts cannot be referenced. The key here is to remember that pragmatists are not interested in hearing about who you have sold to but rather who has a fully implemented system.
- *During the implementation of the first Installation, introduce into the account his own replacement, a true account manager, a "setter," who will serve this client, hopefully, for many years to come.* Note that at this point the pioneer salesperson is still in the picture, still has the relationship with the visionary, but that the day-to-day operation of the account is entirely in others' hands. This is typically just fine with the pioneer, for he recognizes this to be the kind of detail-oriented settler work for which he has no liking.
- *Leverage the ongoing project to create one or more whole product extensions that solve some industrywide problem in an elegant way.* The intent is either to absorb these elements into the product line or to distribute them informally as an unsupported product extension through a users' group. Either way, such add-ons increase the value of the product within the target market segment and create a barrier to entry for any other vendor.

## The Whole Product Manager

While the target market segment manager is pursuing these tasks in the customer's environment, there is a corresponding internal role to be filled. Here the transition is from product manager to product marketing manager via the short-lived role of whole product manager. These titles are all sufficiently alike as to be confusing, so let's take a minute to sort out these three very different jobs.

A *product manager* is a member of either the marketing organization or the development organization who is responsible for ensuring that a product gets created, tested, and shipped on schedule and meeting specification. It is a highly internally focused job, bridging the marketing and development organizations, and requiring a high degree of technical competence and project management experience.

A *product marketing manager* is always a member of the marketing organization, never of the development group, and is responsible for bringing the product to the marketplace and to the distribution organization. This includes all of the elements on the crossing-the-chasm agenda, from target-customer identification through to pricing. It is a highly externally focused job.

Not all organizations separate product managers from product marketing managers, but they should. Combining the jobs almost always results in one or the other simply not getting done. And the type of people who are good at one are rarely good at the other.

Now, the *whole product manager* is a product-marketing-manager-to-be. The reason she is not one today is that the job itself is premature. Until there is a successful crossing of the chasm, there are no meaningful market relationships or understandings to drive the future of product development. The target market segment manager is off getting these under way, but they are not there today. What is there today, on the other hand, is a list of bug reports and product-enhancement requests that is growing with disconcerting speed. *If this list is not managed properly, it will bring the entire development organization to its knees.*

The tactic, which at once secures proper management of the list and initiates a transition process from pioneer to settler culture in the development side of the house, is to take this list away from the product manager and give it to the whole product manager. For whoever is serving as the product manager at this point almost certainly is a pioneer—otherwise, the organization could not have got to where it is today. The problem with this person continuing to direct the future of the product is that she will be driven first and foremost by her own personal commitments made to early customers. Unfortunately, these commitments are often not in the best interest of the mainstream market customer. To be sure, they must eventually be fulfilled—unless they are to be negotiated away—but in either case, they should not be given automatic priority over other issues. What should increasingly become the prioritizing factor for ongoing product development work is contribution to mainstream, pragmatist customer satisfaction—in other words, contribution to the whole product—hence, the need to transfer authority.

Once this authority is transferred, the enterprise has taken a key step in moving from a product-driven to a market-driven organization. As the shape

of the mainstream market emerges, as the needs of this market can be increasingly identified through market research and customer interviews, then the whole product manager steps into the title that she has had all along on her business card, product marketing manager. To try to take this step earlier in the market development cycle is foolish. During the early market it is important to be product-driven and to give strong powers to the product manager. But to fail to take it now is equally foolish, for every day that the enhancement list is in the hands of the original pioneers, the company risks making additional development commitments to unstrategic ends.

To sum up, at the beginning of the chasm period, the organization is dominated by pioneers, with strong powers invested in a few top-gun salespeople and product managers. By the time we are into the mainstream market, that power should be distributed far more broadly among major account managers, industry marketing managers, and product marketing managers. This gradual dissemination of authority will ultimately frustrate the pioneer contributors, hampering their ability to make quick decisions and rapid responses. Ultimately, it will make them want to leave.

## Coping with Compensation

This brings us back, full circle, to the fundamental issue that underlies so much of the ‘frustration and disappointment that builds up within high-tech organizations—compensation. Few compensation programs recognize either the fundamentally different contributions of pioneers and settlers or their fundamentally different tenures with the enterprise, and thus these programs end up discriminating against one or the other. And when compensation programs do discriminate—when they discourage the very behaviors that ought to be rewarded, or vice versa—then organizations fail.

To work through all the complexities of designing appropriate compensation schemes is beyond both the scope of this book and the capabilities of its author. I can only sketch out a few general principles that seem important to follow.

First, let’s start on the sales side. A typical pioneer sale involves a broad purchase agreement, predicated on successful implementation of a pilot project. Even when there has been a major up-front payment, the rational way to book this business is to defer recognizing the larger order until it has been confirmed. That could be at least a year away, and during that period, we will have introduced a number of new players into the account, including the target market segment manager. The pioneer salesperson might even be gone by then. Say, some account manager just joins the firm, inherits the account, and all of a sudden the flood of orders come in. What is the appropriate way to compensate?

*The key is to discriminate between account penetration and account development. The latter is a more predictable, less remarkable achievement. It is also the more lucrative.* Compensation here should reward such things as longevity of the relationship, customer satisfaction, and predictability of revenue stream. It should be spread out over time and not clumped into dramatic payments.

Because there is high value associated with the intangibles of the ongoing customer relationship, much of it can be based on an MBO formula rather than pure revenue attainment. If equity is part of the compensation strategy for the firm as a whole, it is a reasonable component here as well, provided it is doled out slowly, with the larger portions coming at the end of the program, to reward stability of service. Overall, however, since this is not a high-risk role, it should not be a high-reward one either.

*Compensation for the pioneer salesperson should have the opposite characteristics. It should provide the bulk of its rewards immediately, in recognition of a single key achievement—winning the account.* This is an extraordinary event, one that few can accomplish, and it is critical to determining the firm's long-term future. It is an extraordinarily high risk endeavor, with the odds stacked heavily against the salesperson. It therefore deserves extraordinary compensation. On the other hand, if it was achieved by promising more than anyone can deliver, perhaps even more than anyone really knew, then that is not behavior we want to reward. So, although we would like the compensation to be front-loaded, there must also be a reality check built into the process. Because the pioneer salesperson will be moving on, we do not want an extended compensation program, and thus equity, for example, is an inappropriate vehicle. Taking all this together, the situation argues for a bonus-based program more than a straight commission approach—something lucrative for the salesperson, event-driven and over and done with relatively quickly, and not so closely tied to revenue recognition that either the pioneer has to overstay his or her welcome in order to reap the rewards or earns an extraordinary cash reward at a time when the company simply cannot afford that sort of outlay.

## Compensating Developers

Moving over to the development side, there is one remaining compensation challenge—the pioneer technologist. These divide into two camps—true company founders and very early employees. The former have bet their lives on the equity gamble, and there is nothing further to discuss, except to hope that in reading this book they learn to conserve a large portion of that equity to fund crossing the chasm. The latter pose a real problem. They can point with accuracy to the notion that they created a large part of the core product. Thus, should that product become a mainstream market hit, they feel they should get a major share of the gains. The fact is, they don't, and the truth is, bluntly, they don't deserve it either. Mainstream success, as we have argued at length, is a function of the whole product, not the core product, and that is a very large team effort indeed.

What the pioneer technologist does have a right to is a large share of the early market returns, because here it truly is the core product that drives success. The problem is that cash is typically so tight during this period that there is none to throw off in the form of a reward. So equity is the usual fallback. This is a compromise, to say the least, as equity should be reserved for people who cross the chasm and stay—not the pioneer's ideal role.

The final word on pioneer technologists, I suppose, is that they are in the same bind as authors—a fate I can identify with. Like authors, they are compelled to conduct their craft regardless of whether anyone will pay for it. As such, their negotiating position is fundamentally weak, and their normal compensation reflects it.

To sum up, improper compensation wastes dollars and demotivates people. To be appropriate to high tech, compensation programs must take into account the differences between desired performance in the early market and mainstream market, as well as the types of people that can be called on to achieve these performances, and the likelihood that some of these people will need to leave the company long before it achieves significant profitability. If we can sort through these issues, and come up with an appropriate distribution of rewards, we can forgo much of the agony and loss of momentum that accompany most crossings of the chasm. If we continue to operate the way we do today, we will persist in constructing self-conflicting organizations and wonder why they are not more productive.

## R&D Decisions: From Products to Whole Products

At the outset of this book, we set crossing the chasm as the fundamental marketing priority in high tech. In the middle we established that institutionalizing the whole product was the fundamental strategy for succeeding in this endeavor. It is fitting, therefore, to finish up with a look at the impact of whole product marketing on long-term R&D.

R&D is high tech. Everything else is secondary. As an industrial sector, before anything else, we are technology-driven. Eventually we learn to create products, and then markets, and then enterprises to dominate those markets. But it starts with technology. "Build the product and they will come," to paraphrase the theme of the movie *Field of Dreams.* That is our fundamental dream, the dynamic that drives all else.

The problem is, we grow past the dream. The products and markets and companies we create all grow up to make persistent and legitimate demands on us, and we have no choice but to serve them. *And once this scenario begins, R&D doesn't get to focus on the generic product anymore. It must become whole product R&D.*

Whole product R&D is driven not by the laboratory but by the marketplace. It begins not with creative technology but with creative market segmentation. It penetrates not into protons and processes but rather into habits and behaviors. It does not, like the captain of the starship *Enterprise,* "go where no man has gone before," but rather, like T. S. Eliot, finds the end of all its exploring is "to arrive where we started and know the place for the first time." It prefers to assemble its creations from existing technologies and products rather than to invent new ones from scratch. Its heroes are less like Einstein, who developed a whole universe out of his own head, and more like George Washington Carver, who discovered over three hundred different uses for the peanut.

Not very heady stuff. No wonder it is so often ignored. Indeed, the word that high tech uses for whole product R&D is *maintenance.* And the people they assign to it are… well, the janitorial types. No top guns want to go near this stuff.

Instead, the top guns rush out to create more discontinuous innovations, flooding the market with far more technology than it can possibly absorb, and complaining all the while about how product life cycles are becoming shorter and shorter. They play the game, in other words, almost entirely to the left of the chasm, cycling though endless repetitions of early markets that never cross over to the mainstream. *Product* life cycles truly are getting shorter—but *whole* product life cycles are as long as they ever were. Ask Hewlett-Packard about the recent resurgence in their minicomputer line—not the 9000, the HP 3000, the machine of the 70s and 80s. Ask IBM about their AS/400 sales—same story. Ask Autodesk about Release 14! It is the hottest seller ever. There's gold in them thar hills.

## An Emerging Discipline

Whole product R&D is an emergent discipline. It represents a kind of convergence between high-tech marketing and consumer marketing, where, for the first time, the tools of the latter can be of significant use in solving the problems of the former. Let's look at two examples: focus groups and packaging studies.

As innovation becomes increasingly continuous, focus groups, which are virtually useless in guiding the development of an early market, become effective tools. The reason they are now effective is that the fundamental product proposition is already in the market and absorbed. Until this is the case, consumers are way over their head in trying to anticipate the value and usage of a new high-tech product. But once that proposition is in place, the tool becomes effective. Specifically, it can be used to direct the extension and modification of an existing product line to meet the special needs of a target market segment. In this context, all consumers are asked to do is address relatively minor derivatives from a known entity—something well within their expertise. The information they give back, therefore, is valuable.

Consider another discipline that today is far more advanced in consumer marketing than in high tech—packaging. As an industry, we have considered this to be nothing more than the paint of the box, the logo, the cover. But packaging happens not just on the outside but on the inside, and the goal of good packaging is to ensure a successful experience right out of the box—an area that cries out for more research attention in high tech. Think how many dollars could be diverted into better ends that today go to expensive support services, all because our products are packaged in confusing or obtuse ways.

Now these types of efforts—focus groups and packaging studies—are traditionally located in the marketing department. But in high tech, marketing is too ignorant to drive the bus. What appears to the generalist to be a simple

change may in fact cut across some fundamental technology boundary in a radically inappropriate way. Or conversely, what looks impossible to achieve may in fact be a by-product of a minor adjustment. In either case, engineering must be a direct partner in the effort, or it is wasted. It's not market research alone, nor is it just product development. It's whole product R&D, and it implies a new kind of cooperation between organizations traditionally set apart from each other.

## Leaving This Book Behind

By way of parting, let us look back over the ground we have covered in this and the previous chapters. We began by isolating a fundamental flaw in the prevailing high-tech marketing model—the notion that rapid mainstream market growth could follow continuously on the heels of early market success. By analyzing the characteristics of visionaries and pragmatists, we were able to see that a far more normal development would be a chasm period of little to no growth. This period was identified as perilous indeed, giving companies every incentive to pass through it as rapidly as possible.

Taking such rapid passage as our charter, we then embarked on setting forth strategy and tactics for accomplishing it. The fundamental strategic principle was to launch a D-Day type of invasion, one focused on a highly specific target segment within a mainstream marketplace. The tactics for implementing that invasion were then set out in four clusters.

To begin with, we had to *target the point of attack,* which meant isolating our target customers and their compelling reason to buy. Then we had to *assemble the invasion force,* constructed around the whole product and the partners and allies needed to make it a reality. The next step was to *define the battle,* by creating our competition and positioning ourselves, in that context, as being easy to buy. Finally, we had to *launch the invasion,* selecting our intended distribution channel and setting our pricing to give us motivational leverage over that channel.

Now we have just spent this last chapter stepping back from the immediate tactics of crossing the chasm, to look at the major commitments that get made in the prechasm phase of an organization's growth, thereby to guard against crippling the success of the postchasm venture. That brings us to the end of this road.

Finally, it should come as no surprise that there are no warranties, expressed or implied, on any of the methods described in this book. You must use them at your own risk. But I do claim that they are the best I know of, and that they are representative of best practices as conducted at The Chasm Group. On behalf of my colleagues there, as well as myself, I wish you the best of success in all your upcoming marketing efforts.

## About the Author

**Geoffrey A. Moore** is the author of two bestselling books on the development of high-tech markets: *Crossing the Chasm* and *Inside the Tornado*. He is chairman of the The Chasm Group, which provides marketing strategy consulting services to hundreds of high-tech companies. He is also a venture partner with Mohr Davidow Ventures, a venture capital firm. Moore was recently named one of the "Elite 100 leading the digital revolutin" by *Upside* magazine.