**ANITA McGAHAN ON INDUSTRY EVOLUTION**

*Why some breakthrough ideas never pay off.*

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**UBIQUITY:** Your book focuses on industries rather than corporations. Isn't that unusual?

**MCGAHAN:** Yes, I think most books about innovation tend to deal with organizational practices or even with individual entrepreneurial leadership styles. Looking at innovation with a different lens, it's clear that not all prescriptions about strategy will work in every situation. The trajectory of industry change will set broad parameters defining what will work in a particular situation. So for example a company like Wal-Mart is undergoing what I call "progressive change" in its industry, and can only disrupt its operations creatively if it tries a Hail Mary pass with entirely new sets of activities, along with a whole new way of relating to customers. On the other hand, in an industry like pharmaceutics, if you don't do drug discovery then you can't come up with the kind of breakthrough product that will lead you to superior performance. You have to make big risky investments in a situation like that.

**UBIQUITY:** In "How Industries Evolve" you point out that companies can fail to profit from their investments in an innovation when they break their industries' rules for how change can take hold.

**MCGAHAN:** Right. I make an analogy between the rules of industry change and the barriers on a highway. The barriers on the sides of the highway establish only the direction of change: they don't say anything about how fast you go or which lane you're in or even which road you travel. It's just that if you are going to be on this road, you have to play by these rules: that's the analogy. What I'm fundamentally saying is that not all strategies for innovating will work in every situation, so the goal is to pursue innovation that is consistent with the direction of change in the industry so that you can profit from it.

**UBIQUITY:** What prompted you to write the book?

MCGAHAN: The motivating observation in the book is this idea that a lot of organizations have spent money to capitalize on breakthrough ideas yet find that those investments never pay off, because they're ahead of their time or behind their time, and they're very frustrated that efforts to innovate profitably are not paying off. This book is designed to explain why that's occurring. Some of the major findings of this work are that the process of industry change generally takes decades, and that the opportunity for many executives is to understand the long course of change in their industries and capitalize on it.

**UBIQUITY:** So this is an optimistic book?

**MCGAHAN:** Yes. The good news here is that if you understand this kind of change, you can do something about it early. Of course, the bad news is that the force of industry change is largely beyond your control, so you really have only a limited opportunity to change over time. Let me give you an example. Right now, the overnight letter delivery business is at the early phases of a radical transformation, and when I ask my students about this they all agree that we will no longer be sending letters by overnight delivery in 15 years -- we'll be sending them through secure encryption on the Internet. The only disagreement among my students is how long this transition is going to take. Another example of transition that's further along in its process is the transition from LAN line to wireless telephony. We all agree that in 100 years nobody will be laying copper wire to your house and that all telephony will occur on wireless technology, so the only issue is how long that's going to take -- 10 years or 15 or 25 or 30? So what this book is about is really understanding how long it takes for these kinds of transitions to occur and how you make money along the way.

**UBIQUITY:** In the book you talk about the "four trajectories" -- tell us about them.

**MCGAHAN:** The four major trajectories of industry change describe the broad types of trajectories that tend to emerge. The simplest one is called "progressive change" is the most similar to what Clayton Christensen call "sustaining technological change" in his book "The Innovator's Dilemma." It's what I've just described as occurring in discount retailing when the system of activities in a business where the assets of the business are easy to understand and are not threatened, and so the way you make money and the way you innovate is by coming up with new insights about how to organize your system of activities effectively. So Home Depot, for example, did that in the home improvement business. And some classic examples of companies on this trajectory that are making a lot of money or have in the past made a lot of money would be Blockbuster Video or Toys'R'Us or Yellow Freight in the long-haul trucking business, or Wal-Mart or even many of the commercial airlines, such as Southwest.

**UBIQUITY:** And progressive change contrasts with what?

**MCGAHAN:** At the other end of the spectrum, we have radical change where all the assets and activities of the business are becoming irrelevant, because they're being blown away by some new approach, as is occurring in land line telephony or in overnight letter delivery. Now just because we all agree that overnight letters are going to be made obsolete in 15 or 20 or 30 years, doesn't mean that Federal Express should get out of that business today, because these transitions take decades to occur. So it's tricky to figure out exactly how to manage your commitment to a business like this, because in the short run this may be a very profitable business -- even though in the long run it's going to be seriously challenged by these new technologies. So with regards to a business undergoing radical change, the challenge is figuring out a way to make money in the short run and to devolve your commitment to the business over the long run.

**UBIQUITY:** Then so far we have progressive change versus radical change. What are the other two industry trajectories?

**MCGAHAN:** They're ones that Clay Christensen does not focus on particularly. The first one is intermediating change and it reflects very serious threats to the way that you make money in a business. It occurs when your activities -- the way you interact with your customers, for example -- are threatened, but your underlying assets retain some relevance to your customers, and continue to carry the potential to create value. This is what's occurring, for example, in the auctions business or in auto dealerships and news bureau services, where you have capabilities in assets that carry the potential to create value, but you can't make money off of them in the same old way you have historically. And technically constitutes an architectural change, in the sense that it's more similar to disruptive change than it is to sustaining change, to use Christensen's language. But it's easy to underestimate the significance of the change.

**UBIQUITY:** What would a good example be?

**MCGAHAN:** There's a great case study that's been written from Harvard Business School on Sotheby's, the auction house, that describes how Sotheby's initially responded to the Internet opportunity as just a new channel, whereas fundamentally the Internet really blew up the whole auctions business. It's easy to underestimate the significance of that kind of challenge under intermediating change.

**UBIQUITY:** Is underestimation of the change the main problem?

**MCGAHAN:** No, it's equally quite possible to overestimate it, and that brings us to the fourth trajectory, which is creative change. It's easy to overestimate the significance of creative change -- the kind of change occurringin the pharmaceutical industry or filmmaking or oil exploration. In these businesses, it's part of the course of doing business that you have to have these big development projects and throw Hail Mary passes and really develop new assets. But the downstream relationships with customers don't turn over very frequently. Last Saturday night I went to the movies with my family just like I did a year ago and the year before that and the year before that, which shows that the movie industry's downstream relationships with its customers remain relatively stable -- and as a result the business of the film studios retain their identities pretty much stay the same. Disney and Paramount and Sony and Warner Brothers survived generations of filmmaking technology and generations of films because of their relationships with the movie studios and the movie-going public.

**UBIQUITY:** Then you don't think that the public's movie-going habit is dying out or will die out?

**MCGAHAN:** I think that industry is going through a life cycle where the industry is in maturity, but I don't think that movie-going right now is being threatened with obsolescence. This is supported interviews and market research with the movie-going public. An industry can actually go through a life cycle and no longer be growing, yet still not be threatened with obsolescence. If filmmaking ever gets to the point where the making of films becomes obsolete -- because we don't want to look at two-and-a-half-hour movies or for whatever reason -- then the industry will either be going through radical or intermediating change but right now we have evidence of that happening.

**UBIQUITY:** Is there some extent to which industries or organizations do all of these trajectories at the same time?

**MCGAHAN:** The trajectories are defined in a formal way, so that only one can apply at a time. What I do is distinguish activities from assets: activities are analogous to income statement items that generate revenues and costs that hit the income statement, whereas assets are analogous to balance sheet items, and have durability even if they're not used in the short run. Progressive change occurs when *neither* activities nor assets are threatened; radical change when *both* are threatened. Under creative change, the assets are threatened, but the activities don't change, and vice versa for intermediation. In the case of intermediation, the activities are threatened but the assets retain their durability. So the four trajectories are defined to be mutually exclusive, because activities retain their relevance under multiple scenarios for change; that is to say, activities retain their relevance under both progressive and creative change, and assets retain their relevance under both progressive and intermediating change. There are overlaps in some of the characteristics of these scenarios, but to make a long story short, only one can apply at a single point in time. Precisely because it's easy to confuse them, it's important to understand how they're different.

**UBIQUITY:** You mentioned your students before and noted that they have different perspectives on how much time it takes for change to occur. What other misunderstandings do you find common among your students or your clients?

**MCGAHAN:** I often see companies walking away from very valuable knowledge that they have (or other kinds of assets they've accumulated, such as brand capital) because they overestimate the significance of the change going on in their businesses. For example, we see pharmaceutical companies underinvesting in their medical detail sales forces and in conferencing activity and in sponsorships of medical journals, because they underestimate the importance of their roles as educators of the public on how to use their new therapies. Alternatively, we see many firms that are in industries undergoing radical change or intermediating change underestimating the significance of the threat. So the purpose of "How Industries Evolve" is really to help leaders understand what will work in different situations and how to assess the significance of the change and to identify what's important.

**UBIQUITY:** What about an industry like publishing -- how would you begin to think about the changes it faces?

**MCGAHAN:** Well, I'm a believer in relatively narrow industry definitions, so I would see publishing as a sector that encompasses a lot of different industries. For example, music publishing would be a separate industry. In the very advanced stages of intermediating change, nobody wants to pay for music anymore, but the music companies have very, very important assets that retain their relevance -- providing they can find ways to make money off of them in a new world. They know how to develop bands and how to market them and run concert tours and so on, they just have to figure out a way to get people to pay for those services. On the other hand, there are some areas of publishing that are staying on the traditional creative model, such as some specialty magazines that provide sports news and that have simply moved to online distribution to complement their print distribution, and in the process have been able to maintain and even expand their subscribership basis. Their business has grown and remained profitable through the transition to the Internet, and therefore represents a model of creative change. In contrast, we have other areas of publishing that are just getting blown entirely out of the water. Consider the publishing of classified ads. There was a little weekly magazine published by one of our local presses here in Boston that would carry apartment listings and cars-for-sale and so forth, but now all of that now is being managed online by companies that have very different capabilities. The old companies are losing their edge and the new ones are taking over. New ones such as Craig's List and Monster.com and different job posting services are blowing away these old publishers. The bottom line is that we need to look narrowly at each separate industry and at how its economics are affected by new approaches. We could find, for example, within the broader healthcare and financial services sectors examples of industries that are going through each of the four trajectories.

**UBIQUITY:** What about the Internet as such? Can you think about that as one thing?

**MCGAHAN:** Sure. I think you probably can tell what my answer is going to be, just by the way you phrased the question. Of course, the Internet has a different impact on different industries. In some industries, such as discount retailing, the greatest impact of the Internet has been in intranets that help coordinate the supply chain down into the discount retail stores, so that organizations like Target, Wal-Mart, Kmart and Sears have been able to use the Internet to better coordinate just-in-time delivery of critical products into their stores. That works right on the progressive model that is governing change in those businesses. In contrast, in many other industries we have the old way of doing business being obliterated by the Internet, as it is in the classified listings I just discussed, where all the old assets and all the old activities for making money in that business are becoming obsolete because of the Internet. But though discount retailing and classified publishing represent two extremes, we can also think of everything in-between. So, for example, the music publishing industry is a setting in which the Internet has threatened activities, yet the Internet can't replace the service of training bands to be more effective and marketing them directly. The simple fact is that the impact of a technology can run the gamut across all four trajectories of change.

**UBIQUITY:** You've emphasized that significant industry change really takes a very long, long time. Is that true even in high-tech industries?

**MCGAHAN:** Yes. There can be episodes of rapid change, but it's much easier to respond to industry change if you understand the context and the direction. What I would say is that you're much, much more likely to be able to make money in the short run if you understand why the nature of the change you're responding to. You do that by reflecting on the broad trajectory of change that has led to the breakthrough you're observing.

**UBIQUITY:** What industry would you be inclined to enter if you decided to abandon teaching and consulting?

**MCGAHAN:** I think I might go into scoring the quality of investments for institutional brokerage firms seeking to invest large amounts of money in companies. Right now, the investment brokerage business is going through an intermediating change because of a whole series of challenges, the most recent of which were made by New York attorney general Elliot Spitzer. There's a major movement under way in investment brokerage to decouple advisory services from the act of executing a trade, which means that the business of advising people on how to invest their money is now about to take off. I think that if I were to leave academics, that would be a business I would enter, given my personal skills.

**UBIQUITY:** Well, instead of making you an analyst, let's make you a CEO, and give you a choice: would you rather replace Carly Fiorina or Steve Jobs?

**MCGAHAN:** Me personally?I would rather replace Steve Jobs, because I think Apple has assets -- particularly brand capital, industrial design capabilities, and buzz that created around new products -- that I think could be relevant to a range of industries, consumer electronics products. I think Apple has the resources necessary to have a major impact as the consumer electronics business becomes rejuvenated with a series of creative new products. I think the business of enterprise computing services is not poised for the same kind of change as consumer electronics.

**UBIQUITY:** What about companies like Google?

**MCGAHAN:** Google, like Microsoft, participates in a range of industries, and we have to look at each one independently to understand the nature of change in that business. What's happening in the operating system business right now is quite different than in application software and in network center computing, and in some of the other businesses like, and the rules for change in each of those businesses are different. Google participates in the online search business and has recently diversified into the scientific research business. There are indications that Google has its eye on the desktop and wants to eventually be primary user interface, which suggests that online search engines are going to create an architectural change in the operating system business -- but in order for that to occur you have to understand how the profit stream in the operating system business is being threatened by online search engines. I don't see that threat as a clear threat.

**UBIQUITY:** Is there a clearer threat?

**MCGAHAN:** I think the threat to the operating system business is coming mainly from open source computing rather than from online search engines -- from Linux and the next generation of online code and so on. The online search business may be a complement to the open source computing business. But there are relationships between these industries that need to be mapped out and understood carefully in order to be able to evaluate any claim that Google poses a threat to Microsoft. And the research represented by "How Industries Evolve" is oriented toward helping you understand the relationships between these industries rather than which firm is going to have competitive advantage in which business.

**UBIQUITY:** What would you give as marching orders to people engaged with these issues?

**MCGAHAN:** The marching orders I'd offer your readers would be to reflect on whether the issues that they're confronting are industry issues or issues of, say, competitor positioning or leadership or something like that? And if they are issues of industry change, what I would suggest they do is think carefully about the broad trajectory of change that they're confronted with. The two publications that are relevant to this would be my Harvard Business Review article that came out in October 2004 and then this book, so they might want to look at the HBR article as a way of testing whether this framework is relevant to the situation they're facing. It's only a seven or eight-page article, which they could page through to get a sense of what the insights are that come out of this way of thinking before they make a full-scale commitment to the book.

**UBIQUITY:** No wonder you're an academic. A businessman would say, go out and buy the book. Make them buy the book. They can afford it.

**MCGAHAN:** All right. So, go out and buy the book.

**UBIQUITY:** As we end the interview, let's spend a few minutes on your background, starting with college. Where did you go and what did you major in?

**MCGAHAN:** I attended Northwestern, and studied humanities, with a concentration in social and political thought. Then I got an A.M and Ph.D. from Harvard, and also an MBA. I had an MBA first and went with McKenzie for several years as a consultant in New York, and I also had experience at Morgan Stanley. Then I decided to go back and become an academic and look a little bit more deeply in the industries I was interested in.

**UBIQUITY:** What were your best academic experiences?

**MCGAHAN:** They were at Northwestern and then in the Ph.D. program at Harvard, and I also very much enjoyed the MBA program. But the MBA program, of course, was designed to equip me and my classmates for business careers, and I was becoming increasingly aware that I wanted to be an academic, so the Ph.D. program as well as my undergraduate training were wonderful for me. They were terrific, because they were at the center of my interests.

**UBIQUITY:** What kinds of students do you have now, and what kinds of advice do you give them.

**MCGAHAN:** I'm very fortunate: I teach MBA candidates as well as Ph.D. students, my advice to them is always to pursue business opportunities that reflect their personal interests and capabilities. What that almost always requires is developing a deep awareness of what they're good at, because in general we don't want the five-foot- two-inch guy planning to become a pro basketball player, even if he's wildly interested in it. So it requires some reflection on what their capabilities are. But it also requires thinking creatively about how businesses are changing, and develop expertise in industry settings where there's a long-term opportunity for them to mature and continue to meet new challenges.

**UBIQUITY:** Can you give us an example?

**MCGAHAN:** Yes. I had a student in here the other day who's very interested in doing strategy analysis, and I advised him to pursue commercial lending where he can do relatively small-scale, financially oriented, strategy analyses as a component of his lending decisions. Again, what I'm saying is that the goal is always to match capabilities with change. And that's probably what this book says, which is that, as a company, if you're Federal Express, confronting a long-term trajectory of radical change in your overnight letter business, you've got to think about, how do I stretch my hard assets in the business rather than reinvest in some new hub that will be operating with excess capacity in 10 years? And at the same time, what do I do to re-deploy those airplanes and all that sorting capacity into new businesses where they may retain their relevance?

**UBIQUITY:** Don't you think we should remind people to buy the book?

**MCGAHAN:** Yes indeed. Operators are waiting.

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