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## Columbia Business School International Faculty Profile

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Hitendra Wadhwa, Assistant Professor of Marketing

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*Professor Hitendra Wadhwa has 12 years of professional experience in strategy consulting, quantitative marketing and technology entrepreneurship. At Columbia Business School he teaches elective MBA and EMBA courses on strategy consulting skills, pricing strategies and building and managing customer relationships. He has also taught the core courses Marketing Strategy and Managing Marketing Programs and an elective on marketing channels. Professor Wadhwa consults to corporations and teaches executive seminars on strategy and marketing issues.*

*He has also been a consultant with McKinsey & Company, where he counseled senior executives at large retail, consumer products and financial services companies on a range of strategic issues, including growth, pricing, CRM, product launch, market segmentation and channel management. He has also been a consultant with ADA, a quantitative marketing consulting firm, where he developed systems for pricing, product portfolio design and customer segmentation for Fortune 500 clients, including GM, HP, Apple and IBM.*

*Between 1999 and 2002, Professor Wadhwa founded and led Paramark, a technology company backed by \$10 million in venture capital that developed the first real-time optimization platform for online marketing. Paramark's clients included such leading financial institutions as Capital One, JPMorgan Chase, Bank of America and Ameritrade, and it was recognized by VentureWire/Technologic Partners as a top 100 Internet technology company in 2001 and 2002. Professor Wadhwa speaks frequently at digital marketing industry events such as Ad:Tech, Jupiter's Online Advertising Forum and IQPC's Pay-for-Performance Marketing Conference.*

*Professor Wadhwa has an MBA and a PhD in management science from MIT's Sloan School of Management. His doctoral dissertation introduced new techniques for dynamically pricing retail merchandise, such as fashion items that have short life cycles.*

**What precipitated your decision to pursue graduate work?**

I pursued a BA in mathematics because I was intellectually stimulated by the discipline. At the same time, I wanted to find more social relevance to the studies I was going to

do, and pure mathematics just didn't offer that. I was looking for a field where I could blend my interest in math with something that could be of value to society. I discovered the discipline of operations research, which is the application of mathematics to complex business and organization problems.

I came to a doctoral program directly from undergrad. My interest in the academic world is as a place where knowledge is developed and taught and delivered to the managerial community. For me, it's the interface between academia and practitioners that has been the most fascinating to participate in. I discovered, however, that while the PhD program experience is very deep in whatever discipline you are pursuing, it does not give you much breadth. And so I applied and enrolled in the MBA program at Sloan. After I finished the MBA I became further convinced that I needed to get practical grounding before doing research so that I could really understand business problems and get my hands around them. So I petitioned my PhD committee to allow me to take a break from school. I worked for two years at ADA, a quantitative marketing consulting firm in the Bay Area, and that was a huge learning experience for me.

When I look back I'm amazed at the free reign the faculty on my doctoral committee at MIT gave me to broaden my horizons—from doing the MBA at Sloan to taking a break from school. Their attitude reflects the culture at MIT—very entrepreneurial and cross-disciplinary, more so than one might see at most schools.

### **What made you decide to transition from operations to marketing?**

Operations research has traditionally focused on operational issues, such as manufacturing and logistics. For instance, it concerns itself with how you efficiently plan the production and distribution of products or how you design systems for delivering services. So this was how I initially got exposed to the application of mathematics in the business world. ADA, the consulting firm I went to work at, was instead focused on applying quantitative methods to marketing issues. They had people there with my kind of background—math, stats, and operations research—but consulting on marketing issues such as customer segmentation, pricing and product design to Fortune 500 players like IBM, GM and Apple.

I was initially concerned that I would find the domain of marketing soft and nebulous. I mean, how can you take something like human behavior and actually use hard data to model it and deliver insights to managers? It's kind of funny, because there was a similar consulting firm in the Bay Area that was more focused on operations-related quantitative consulting. I had similar job offers from both firms and needed to decide between them. I picked ADA because I felt more excited about the people there. I figured I would have

more fun with these people. If they enjoyed marketing, I felt that I would enjoy it too. And in fact, after some initial struggle, I thoroughly enjoyed the migration of my thinking toward marketing. So when I returned to MIT to finish my PhD I became interested in finding marketing topics to which to apply my mathematical-modeling background.

**What research did you focus on in your dissertation?**

My dissertation was on how to price products that have very short life cycles, like fashion goods. These products tend to be in season for some months. Typically, over time, retailers will start marking down these products, selling them at a lower price because they don't want to be left with unsold inventory at the end of the season that may need to be liquidated. But if retailers discount the products too quickly or deeply, they can end up in a situation where they run out of inventory prematurely and thus lose the opportunity to have sold the products at a higher price for a longer period of time. There is, therefore, a tradeoff between minimizing the risk of an early stock-out and the risk of being left with unsold inventory at the end. The research I did was around how you review on a regular basis the sales data that are coming in and the inventory status of your products, and then make optimum decisions around when and how much to mark down the products.

My PhD work became all the more memorable because of the relationship I developed with my adviser, Professor Gabriel Bitran. He is one of the loveliest persons I have met, one who deeply cares for people and looks out for their well being, much beyond the call of professional duty.

My field of work would later come to be called revenue or markdown optimization. At the time, there weren't any analytical software tools out there to guide businesses on such pricing issues. If I had more entrepreneurial zeal in me at the time, I probably would have pursued this as a business venture after my PhD.

**In a way, one might say you were ahead of the game?**

Yes, on the one hand it's very gratifying that one was building something that is getting a lot of traction in the business world today, and on the other hand one feels silly about not having had the passion to go out and do it oneself at that stage. However, I wasn't ready to take on such entrepreneurial ventures at that stage of my career.

Over the past few years, a number of firms like Demand Tech, Profit Logic and Khi Metrics have emerged that are leveraging the kinds of methodologies that I and others in the research community had developed for retail pricing. They have introduced pricing-optimization systems that are now being deployed actively by retailers. Many retailers have

attributed significant profitability improvements in their businesses to the use of these systems.

When I look back, I think I was relatively conservative in terms of how I was shaping my professional direction at that stage when I was at MIT. I was comfortable following traditional career paths; venturing out on my own was beyond my comfort zone. After I wrapped up my PhD, I wanted to go back into corporate life and do high-level strategy work and so decided to join McKinsey. McKinsey helped in broadening my grasp of business and in developing more confidence in myself.

**You said McKinsey helped develop your confidence. How so?**

In some ways, the McKinsey experience was an opportunity to unlearn all the stuff that had been so deeply embedded in me, and it unshackled my brain and made it think in different ways.

For example, a mathematically trained mind is inclined to be very rigorous about needing to acquire lots of data before drawing inferences and conclusions. The power of that is that you become very logical and structured and fact-based; the downside is that in business situations you have to make decisions in very short periods of time, there are a lot of qualitative factors that you cannot even quantify and there are people issues to deal with. Rigorous modeling and analysis works when you have the luxury of doing a lot of research, and in most cases you don't. In the first few projects I would always come back and want to analyze things to death, and my mentors would try to convince me away from that. Then I would be in this no-man's-land where I would wonder how to stay logical and fact-based while still getting to the answer rapidly. They showed me how you could approach fuzzy strategic business issues in a structured and logical manner, how you can ground your arguments in facts rather than opinions and yet do it in a way that is practical and attuned to the qualitative and people issues.

I also learnt the critical role that communication plays in business—a strong piece of analysis won't have any impact if you're not able to persuade a skeptical, distracted and perhaps divided audience. So that was the “unlearning” I experienced at McKinsey—to shed my old mindsets and habits before adopting new ones.

**What made you decide to finally make the leap into entrepreneurship?**

I was coming to a point where I wanted to step beyond the world of consulting into something more entrepreneurial. It was also a time when the Internet was coming into full bloom, and I found an opportunity to link my passion for marketing, analytics and operations research with this emerging new medium. On the Web, marketers have a lot of flexibility to modify products, offers, ads and prices. Unlike the physical world—like

marketing via direct mail, where once you print and send a postcard or a catalog or a credit card offer, you cannot change it—on the Internet if you observe a certain pattern of user behavior today, you can program your web server to change what users see tomorrow—or in the space of a few hours, minutes or even seconds! You can also test your offers by showing different offers to different people and observing which offer is driving more activity, more conversion—and then automatically redirect the traffic to that offer. You can't ever think of doing that in a bricks-and-mortar store environment, that is, changing the store layout on the fly and experimenting with different offers in real time.

So I teamed up with a couple of friends who had more of an engineering and computer science background, and we started brainstorming around what we could do that would be innovative in terms of new technology for real-time marketing and continuous in-market testing. Once we got the initial idea, I knew that this was the right opportunity and that we needed to give it our every ounce of energy. So I gave my notice at McKinsey after wrapping up my current engagement, packed bags, got on to a flight for Silicon Valley, rented a room in Palo Alto and started meeting with my teammates in cafés to flesh out our business plan.

For nine months—which is much longer than we thought it would take—we tried to flesh out our concept, fine-tune it and get market validation. After much trial and error, we finally got to a point where we had a sound concept and a business plan that caught the imagination of a group of early customers and of some leading angel investors who provided us with early funding. We were off the ground and had entered the topsy-turvy world of start-ups. In the next two years, I would relish triumphant moments like having our start-up featured in the *Wall Street Journal* and *Fortune* and having leading financial services companies adopt this technology we'd conceived—and at the same time, I would find myself at one stage close to bankruptcy!

### **What are some of the key takeaways from this experience?**

First, it's important to be thoughtful and careful about the individuals you team up with. This means going beyond social affinities and relationships to understanding people's personal ethics, work styles, professional skills and goals in order to make sure they align with yours. We had a fair amount of challenge in the early days within the founding team because we naively based our choices on whom to team up with on social connections rather than direct professional exposure. It took over a year for the founding team dynamics to get ironed out, including a couple of major exits from the team and some soured personal relations.

Second, you need to recognize that a start-up never proceeds linearly. There are many imponderables and many lessons learned along the way, leading to substantial and unexpected changes in direction and business models. Be prepared for continuous suspense and evolution!

Third, don't underestimate the importance of the discipline of selling and of the skills needed to sell well. Initially, I put a low priority on building a sales team while we were in the beta phase of product development, despite the advice of my mentors—our angel investors—to do this early. By the time we were ready to launch version 1.0, I was scurrying to get a sales organization in place—and it took quite a while to finally make this happen! So we lost some precious time there. And we also didn't get it right the first time; we hired salespeople who were skilled at selling low-ticket products, whereas our product was a strategic, high-ticket sale. We had to completely redesign and restaff our sales team as we understood what kind of sales process and people were appropriate for us.

There is also another dimension to my learning around the topic of selling, and that is to learn how to sell yourself, your ideas, your vision. You may be any kind of professional—not necessarily in the sales function—and you are constantly thrust into situations where you want internal and external parties to buy in to something. There you are, you are selling! So becoming good at knowing how to persuade and sell people your vision is a key skill—and one that is constantly being honed in the world of a start-up. As a founder and CEO, you are constantly working on selling your vision to investors, prospective employees, partners and customers.

Finally, figure out your appetite—and practical ability—for risk taking before doing a start-up. I knew start-ups involved risks but only saw with time how intense and how frequent these risks are in the life cycle of a start-up. Perhaps my worst moment at Paramark came when we were out raising a \$7 million Series B round of venture-capital financing, and the stock market was turning south. After a lot of pitching, we finally did get a reputed VC firm to commit to being our lead investor, but on one fateful day, I got a call from our champion there saying they were going to pass on financing us. We had essentially run out of money a few weeks earlier, and I was personally over \$100,000 in debt—I hadn't taken salary for a while and had been paying employees with my own cash. I finally exhausted all my personal cash, borrowed money from my sister, maxed out my AMEX card and my bank rejected my application for a personal loan! I was actually taking the situation quite calmly, but only because my capacity for risk taking had gradually been expanding over the course of my two years at the start-up. If you had asked me during my prior years at McKinsey or in graduate school if I'd ever relish this level of exposure and risk, I think the answer would have been an emphatic "No!"

A broader learning I might share is the idea that it's good for people to occasionally put themselves in unknown territory professionally, because you never know what your true calling and temperament might be until you actually try some of these things out. We finally made it, by the way, for we struck a deal with another venture capital firm at the eleventh hour and saw seven million dollars make it into our bank account just in time to make payroll!

**What made you decide to return to academia? Why did you leave entrepreneurship and consulting to come to Columbia Business School?**

I have always had a strong interest in business education. It is a natural extension of the consulting mindset—consultants enjoy *solving* clients' problems, while educators enjoy making professionals *learn how to solve* problems on their own. I started teaching at Columbia three years ago while I was still involved with my entrepreneurial and consulting interests. I found the Columbia Business School community to be a lot of fun and very supportive, and gradually my involvement evolved from adjunct teaching to a full-time faculty role.

Initially, I was drawn to the challenge of melding my past academic training and professional experiences into course content that would provide MBA students with a rich palette of learnings on strategy and marketing issues. The Strategy Consulting Skills course, for example, initially grew out of my learnings from my stint at McKinsey. But I also learned that the classroom is a rich crucible for ongoing learning on what to teach and how to teach. So my courses have gone through substantial evolution as I have tested and refined my approach and responded to the tremendously valuable feedback I continue to receive from students. I love the stimulation and challenge that our highly energized and talented student body provides in the classroom.

In my position, I have a mandate to develop and teach innovative courses that speak to students' needs, as well as to support appropriate student and School initiatives, such as events in the consulting and marketing arenas, but without the obligation to pursue academic research. This allows me to continue to actively interact with the business community beyond Columbia, via executive education, forums and selective consulting, and this is great because it allows me to make my teaching more relevant to what is happening out there and to bring new learning and stories to the classroom.

**Can you tell us a bit about the international component of your work?**

Recently I have become more involved with India. It's been a very rewarding experience to go back and reconnect with that culture—I was born and raised in India, and most of my

family is still back there. I accompanied the MBA students on the Chazen India tour last winter, and we saw firsthand the energy and optimism that has taken hold in the business community there in recent years. This year I will teach an EMBA international seminar in India. It will be a combination of lectures and field visits to local companies. I am also working with our administration and my faculty colleagues in exploring other avenues through which we can strengthen Columbia Business School's name and presence in India via a variety of potential initiatives, from executive education to academic research.

**What advice would you give students from your own experiences?**

Looking back at my career, my biggest learning has been that you can be your worst enemy in terms of what you see your shortcomings to be. Students who are adept and motivated enough to make it to a top-tier MBA program have the capacity to become very good in almost any domain or business skill they wish to acquire. I would challenge students to start immersing themselves in areas they feel weak along but where they want to improve. The professionals I have most respect for are those who thoughtfully establish development goals themselves, go beyond their comfort zones to tackle new tasks and challenges, stumble, learn and improve, thus developing themselves into well-rounded professionals over time who endlessly continue to evolve in their interests and skills.