



## **Embracing Paradox**

**Michael L. Tushman  
Wendy K. Smith  
Andy Binns**

**Working Paper**

**11-110**

Copyright © 2011 by Michael L. Tushman, Wendy K. Smith, and Andy Binns

Working papers are in draft form. This working paper is distributed for purposes of comment and discussion only. It may not be reproduced without permission of the copyright holder. Copies of working papers are available from the author.

## **Working title: Embracing Paradox**

By Michael L. Tushman, Wendy K. Smith, and Andy Binns

**Trying to resolve the paradox between innovation and the core business only weakens the CEO and dooms the company. Exceptional leaders embrace tensions associated with exploiting prior strategies even as they explore into the future.**

*Authors' bio: **Michael L. Tushman** ([mtushman@hbs.edu](mailto:mtushman@hbs.edu)) is a Professor of Business Administration at Harvard Business School, **Wendy K. Smith** ([smithw@udel.edu](mailto:smithw@udel.edu)) is Assistant Professor of Organizational Behavior at the Alfred Lerner School of Business, University of Delaware. **Andy Binns** ([andrew@change-logic.com](mailto:andrew@change-logic.com)) is Managing Principal of Change Logic LLC, a consulting firm based in Boston.*

In the fall of 2008 Mike Lawrie, CEO of the financial services and healthcare-focused software and services firm Misys PLC, asked his senior executives to prepare a plan for weathering the financial and economic crisis. When they came back, top of their list was a recommendation to cut the company's annual \$3 million investment in Misys Open Source Systems, a venture into a potentially disruptive technology in healthcare software.

It is a familiar story. Although most senior executives publicly acknowledge the need to explore new business and markets, they almost always have more pressing claims on the company's resources, especially when times are hard. Innovations like Misys' Open Source face an uphill battle to secure a share of the firm's capital. They lack scale and resources and are often underrepresented at the top table. At best, the leaders of the established business units dismiss them as irrelevancies. At worst, they see the new businesses as threats to the firm's core identity and values.

Often, the only friend the innovation business has is the CEO. But many CEOs in this position tend to view the tension between the demands of the core businesses and the needs of the new businesses as a trade-off to be resolved. As a result they often end up taking on the role of a broker, trying to persuade the heads of the core businesses, in which most new ventures are housed, to support and fund the innovations on which the company's long-term future depends. In this effort to obtain consensus around the right balance between new and core businesses the CEO yields much of his or her own power, and the company ends up as a collection of feudal baronies.

This is a recipe for long term failure. Our research suggests that firms only thrive when senior teams lead paradoxically – when they embrace the tension between old and new to create a state of constant creative conflict at the top of the organization. This research draws on an in-depth study of 12 top management teams at Misys, Zensar Technologies, LexisNexis, IBM, Hewlett Packard, Cray Computers, and other major companies as they attempted to both exploit existing strategies even as they attempted to explore into new domains. We induce three basic leadership principles guiding firms that succeed in growing the profits and market share of their core businesses even as they use their new businesses to reshape their industries. These three principles discriminated between those firms that were successful in executing these paradoxical strategies from those that were not. Those successful firms engaged the senior team around a forward-looking and integrative strategic aspiration that sets ambitious targets both for innovation and core business growth. They chose explicitly to hold the tension between innovation unit demands and core business demands at the top of the organization. And finally they embraced inconsistency - maintaining a consistently inconsistent strategy that had multiple and often conflicting agendas.

Let's begin by looking at what happened at Misys.

### **Open Source: The New Shark in the Water**

In 2006, incoming CEO Mike Lawrie recruited a new management team to turn around Misys's then struggling core businesses in financial services and healthcare. The company had struggled with quality issues and was losing customers at an alarming rate.

Despite the pressure to focus on the existing business, one of Lawrie's first moves was the creation of the Open Source unit, which was a key component of his vision for the company's future. He knew open source was emerging as a serious disruptive threat in the software industry, especially in healthcare applications where it held out the promise of seamless data exchange between the different players in healthcare delivery. He wanted to get out in front of this trend and felt that Misys had an opportunity to be the disruptor.

That investment secured, Lawrie and his team turned to more immediate concerns. By 2007 they had stemmed the tide of customer defections and re-established the company's profitability in the healthcare business. In 2008 Lawrie put the healthcare businesses back into growth mode with the acquisition of Allscripts Inc., a major proprietary Electronic Medical Software (EMR) provider. This was a game changing move for Misys, catapulting them into an industry-leading position just as the US Government planned to inject \$19.2

billion of stimulus money into upgrading IT systems for doctors and hospitals nationwide.

The post-crash outlook was a lot less rosy for the financial services businesses, however, and Lawrie's team needed to generate as much cash flow from cost savings as they could if they were to both keep financial services going and put the necessary capital behind their plans for the Allscripts healthcare unit.

Against this background, the Open Source unit seemed to be more trouble than it was worth, and the leaders of the core units advised Lawrie to unlock capital from a quick sale of the investment. 'Cut it now' one executive told him, 'you can't afford the distraction.'

Many CEOs would have agreed. But not Lawrie. In fact, he did more than just protect the investment. At the height of the financial crisis he actually gave it an even stronger organizational voice; Open Source was the only Misys healthcare asset not folded into the core Allscripts unit. This permitted Open Source to compete with Allscripts even as they sat around the same senior leadership table together. It was uncomfortable for Lawrie's senior team as every strategic issue involved tradeoffs between more immediate returns in Allscripts versus the more distant returns of Open Source. These tensions also were rooted in threats to power and firm identity. For example, Allscripts chief Glen Tullman wanted his proprietary software to dominate and he saw Open Source as a direct threat. His fears proved well-founded; Open Source soon started to beat out Allscripts for contracts.

Nevertheless, Lawrie held this tension in his senior team. He has seen his strategy pay dividends. Allscripts revenues grew more than 30% in 2009 even as Misys Open Source won important contracts that open up the prospect of hospitals, physicians, and insurers all being able to view and exchange critical data. The potential for integrated data could have radical implications for the US healthcare system's ability to manage costs and patient outcomes. At the same time, Open Source has triggered innovation into other Misys units— a new banking product has large open source components, and the Misys website is completely open source.

Tullman and his fellow business unit leaders have also started to recognize that Open Source is not the irritating drain on resources they had supposed, but a vital experiment aimed at securing Misys' long-term future. In June 2009, Bob Barthelmes, the executive Lawrie recruited from IBM to head the Open Source unit, received an unlikely gift from Tullman and the other unit heads at the annual top team offsite: an inflatable shark, symbolizing their acceptance of the unit's right to a seat at the top table with the other sharks.

The patterns we observed at Misys were repeated in our other successful cases; they were not in our less successful ones. Let's now look at the leadership principles that made this happen.

### **Principle #1: Develop an Overarching Identity**

The impact of the way you frame your organization's identity is well known. In his seminal 1960 HBR article, *Marketing Myopia*, Ted Levitt argued that the failure of the US railway companies to survive the rise of the motor car and the passenger jet in the 1950s was in large part because they defined themselves too narrowly by the assets they had built up rather than by what they did with those assets – they were railway companies rather than transportation companies.

It's a mistake companies still repeat. In the 1990s, Polaroid had developed the world's most advanced digital camera. But the company was wedded to an identity as a seller of film; they could not see why consumers would want a camera without a hard copy image. Polaroid went bankrupt, while Kodak, whose identity spoke of being 'the leading *imaging* company', prospered from the technology change. Overarching identities provide permission in the firm to engage in paradoxical strategies; to exploit existing products and/or services even as they explore into new products or services. Similarly at the Ball Company, its ability to be innovative over more than 100 years in wooden buckets, glass jars, metal cans, and plastic bottles was in part rooted in their overarching aspiration to be the "world's best container company"

Mike Lawrie took a similar approach at Misys. Misys had grown by acquiring software assets and building a large customer base tied to proprietary products. Lawrie refocused the company on its customer's *mission-critical problems* and embraced open source as a new way to help customers solve them. As they began to think of Misys as a company that solved industry-wide problems, not as a vendor of software applications, new areas of innovation emerged. In Banking, the 'BankFusion' solution is enabling retail banks to bring products to market faster, by challenging some of the software industry's standard approaches.

At LexisNexis's Martindale-Hubbell business, CEO Phil Livingston faced a similar dilemma. He reinvented his business unit from a publisher of legal directories to being a web-based marketing business for lawyers. His integrative aspiration to create 'leads for lawyers' opened up a range of new marketing-related services for law firms that has made his unit the fastest growing in the LexisNexis portfolio.

## **Principle 2#: Hold Tension at the Top**

In many companies, innovation units are embedded in the core businesses and negotiations for capital and resources take place under the radar screen of the top team. In 1996, Hewlett Packard scanner division faced this exact situation. It had built a successful franchise in the market for flatbed scanners for businesses and consumers. But as the business was rapidly scaling to meet burgeoning demand, a new possibility emerged: the portable handheld scanner. Here was the ability to do everything a flatbed could do, but on the go.

A small team, several layers down within the Scanners business unit, developed the prototype that they felt would revolutionize the market. However, they could not get attention from managers whose focus was winning maximum share in the fast growing Flatbed business. Although senior HP executive Antonio Perez intervened with \$10M of funding to validate the business, within months the Scanners business unit had diverted the funds to plug a hole in the flatbed business's development budget. The Portables R&D team was left with no authority and no funds; all they could do was to shout.

Pushing down the conflict like this is a common pathology. It shields the top leadership team from the pain of making tough choices about how to fund innovation while maintaining their core business. Because nobody at senior team level carries the responsibility for innovating, senior management time is dominated by operational problem-solving, with only occasional flashes of interest in the future. Meanwhile, the tension gets resolved, as in our HP Scanner example, when the new unit starves or is suffocated by the core business.

Another frequent result of pushing innovation down into the business unit is a lack of co-ordination. British Telecom in 2002 was a collection of powerful customer defined telephony-focused business units, nominally held together by BT's twenty-five person Management Committee. All BT's innovation businesses, however, were housed within the units. Since the Management Committee did not discuss cross BT innovations, debate around emerging trends was ceded to lower level management levels. The result of this senior team abdication was that BT launched two under-funded competing broadband products.

Those effective CEOs make it clear that decisions associated with the firm's present and the future are made at the top table. Our research identified two equally successful approaches. The first is 'Hub and Spoke,' where the CEO (or general manager) sits at the center of a wheel surrounded by business units, each individually executing their responsibilities with reference only to the leader and not one another. The CEO manages each spoke of the wheel separately and each business unit relies heavily on the leader. Analog Devices

has thrived over 40 years through managing this way. Even as they were leaders in analog integrated chips, they created a new digital signal-processing chip. As they became leaders in this chip, they began working simultaneously on a micro-electromechanical chip.

Each time the organization developed a new stream of revenue, they created a new unit with its own leaders, engineers, and local culture. CEO Ray Stata took personal responsibility for the integration across these revenue streams so that his other leaders could focus on their own products and associate time frames. That didn't mean that Stata made decisions alone. Key to his model was a COO who shared responsibility for the integration; Stata even had a soundproof room built, off the CEO's office, for his fighting matches with his COO. Many 'Hub and Spoke' senior teams manage through these 'inner circles' of two or three individuals. Although unit leaders interact extensively with this inner circle to learn, advocate, and report progress, they rarely deal with other unit leaders and team meetings are more informational updates. Resolution between the firm's exploitative and exploratory strategies takes place in the senior leader's office.

In contrast to 'Hub and Spoke' approach, Pete Ungaro at Cray Computers adopted a 'Ring-Team' model, where decisions are made collectively in his senior team on how to allocate resources and make trade-offs between the present and the future. Cray's legendary supercomputers of the 1970s and 80s had defined the first era of the IT industry. However, as processing power commoditized, their market shrank and Ungaro was hired to lead a turnaround. As a first step, Ungaro and his team articulated a new identity that embraced not engineering excellence, but technology solutions. From this overarching identity, Ungaro grew the Custom Engineering business unit, which uses the firm's technical expertise to solve complex IT problems for specialized users of high-performance computing. He knew that scaling the business would face a major barrier in a sales team well drilled in selling computer hardware, not in the art of solution sales. So, Ungaro convened his team and proposed a creating a new unit. The team decided "to bite the bullet to create a separate business unit organization, which was a pretty big decision for us and we knew was going to hurt our short-term financial performance."

'Ring-Team' leaders like Ungaro engage the team to attend to the tensions between existing products and innovation. The Business Unit leaders are compensated on total company performance – not individual P&Ls – and there is a clear focus on the long-term drivers of growth. They make decisions as a full group in team meetings. This involves higher degrees of collaboration, extensive communication and a leader who is able to deal with the complex senior team dynamics associated with contrasting time frames.

Ring Team members share an obligation to dissent over critical issues, with leaders unfailingly identifying problems and calling them out in a transparent manner. Ben Verwaayen, then CEO of British Telecom, told us that shortly after he joined BT he challenged an executive who had come to present to the top team, “When I pressed him on what he said, the presenter said that ‘he didn’t agree with anything that he had presented, he was just presenting what he was told to present.’ At that point, I told the team that if they can’t talk about the business between them, it was not important for me to listen.” This is a classic Ring-Team approach – get the issues onto the table and hammer them out. This is not a search for compromise, but rather a shared search for the right way to advance the company’s short and longer-term agendas.

In these “ring teams”, giving the innovation units such a powerful voice in the senior team and such a substantial claim in time and resources is stressful. As Cray’s Ungaro recalled, “we had to convince ourselves that spending fifty percent of our time on something that is delivering five percent of the company’s revenues was worth the effort.” Nonetheless, the results speak for themselves. From near death, Cray has reemerged; returning to profitability and growing revenues at more than 6% in 2010.

### **Principle #3: Embrace Inconsistency**

In many companies innovation businesses find themselves subject to the performance disciplines and measures of the core business. This holds the innovation unit captive to the past; it struggles to match up to a business that has proven itself and is well established.

The successful top teams we studied did not fall into this trap. They held core and innovation units to different standards, demanding profit and discipline for some, encouraging experimentation in others. They look at the needs of each unit in isolation so they can focus on what’s important for a business at its particular point in its growth cycle. Take former USA Today CEO Tom Curley who grew his company’s online business, even as he scaled the newspaper into a publishing phenomenon. Curley’s expectations for everything from performance to dress were markedly different between the two media channels. In the newspaper, deadlines were daily and professional journalists broke fresh content based on their well-tended sources. In contrast, in Curley’s online business there were 600 deadlines a day delivered by a young, web savvy staff who packaged wire service content. Curley created two fundamentally contrasting units, physically and culturally distinct, that reported directly to him.

The result of this differentiation is that the company’s mission and strategy can seem incoherent, with different parts of the business focusing on different time horizons and metrics. A CEO and his team might support a given



strategy in one part of the business yet to seek to cannibalize it in another. For example, Ray Stata continued to build out and invest in a fab for manufacturing analog chips, even as he was aggressively investing in research for digital chips. At Cray, Ungaro recalled that the core business was managed tightly on revenues and profit, but in the exploratory business “we would celebrate if somebody went for a cup of coffee for their partner in an exploratory business.” Similarly at Zensar Technologies, a mid-sized Indian IT services firm, because his product oriented general managers were ignoring a potentially disruptive software solution, Ganesh Natarajan, Zensar’s CEO, built a distinct business unit reporting to him. In 2005, Natarajan pushed his senior team to attend to the tensions between their known technologies and this new platform. By 2010, much of Zensar’s growth is rooted in this new solutions platform

But leaders like Stata, Lawrie, Natarajan, Livingston, Curley and Ungaro understand that supporting core businesses simultaneously with innovation businesses requires a leader to be “consistently inconsistent”, that is to say they live with a dual agenda, an approach at odds with conventional thinking on leadership. Indeed, we believe that too much consistency in a company’s strategy is a danger signal, indicating that the company has run out of ideas or that it is delegating innovation to lower organizational levels, as we saw earlier with British Telecom.

Of course, resources are scarce and it is not always possible to give both innovation and core units everything they need. Successful top teams, therefore, are frequently moving resources between businesses depending on shifting needs. They will tilt capital investments in favor of specific core business needs at one moment and soon after ring-fencing funds for the innovation unit. HR talent will also flexibly move between the units to make sure the best talent is where it is most needed. For example, in IBM’s software group, they created sales ‘SWAT teams’ to sell a new content management system. General Manager Janet Perna saw this as a way to focus resources for a short period of time on new areas, before pulling them back into an integrated sales team.

\*\*\*

In late 2010 Curley’s successor at USA Today, David Hunke, announced the paper was shedding 10% of its workforce in the print edition and switching operations to digital. It will also launch a new, all digital, USA Today Sports focused on winning share in the tablet and mobile phone news market. As once great newspapers like the Washington Post struggle for survival, USA Today has positioned to reinvent itself beyond print. It is able to do this because Curley, like Mike Lawrie at Misys and the CEOs at other successful firms, moved toward

paradox and tension using the leadership principles outlined here. In contrast, those less successful firms had senior leaders who either avoided or could not hold the tension between their firms' past and its future. Those most successful leaders enabled their senior teams to move from a negotiation of feudal interests to an explicit, ongoing, and forward-moving debate about the tensions at the heart of the business. Their capacity for embracing and taking advantage of the paradoxical objectives, needs, and constraints of businesses that explore new horizon and businesses that exploit rich territories has enabled them to deliver extraordinary performance, time and again.

### **Sidebar: Are You Embracing Paradox?**

If you want to get a handle on whether your company is doing a good job of fostering innovation while supporting the core business, ask yourself these eight questions:

#### **Develop an Overarching Identity**

1. Identity – Do you have an emotionally compelling identity that encompasses your existing products and/or services (like Ball’s aspiration to be the world’s best container company)?
2. Does your identity fasten you to customer groups or solutions that may be disrupted in the future? If so, you need to articulate an identity that enables you to attend to the present while aspiring to the future.

#### **Hold Tension at the Top**

3. Reporting lines – Do innovation business units report directly to a CEO or a BU General Manager? If not, you may be allowing your current business to starve your innovation lower in the organization.
4. Ownership – Does someone in the leadership team own the innovation? If the answer is ‘everyone’, your current, cash generative businesses may continuously trump speculative innovation units.
5. Locus of Debate – Are the fiercest strategy battles being fought inside the top executives’ room? If not, the tensions between the existing product and innovation may fester and destroy the innovation rather than allow creativity. Ring teams fight these battles together. Hub and Spokes teams fight these battles among the small inner circles. Either way, these battles need to be fought at the top.
6. Coordination – Do you know what the innovation units need from the core business to be successful? If not, you may be losing the integrative value of attending to these contrasting agendas.

#### **Embrace Inconsistency**

7. Management System – Is your innovative businesses measured and rewarded against the same metrics as established ones? If so, you are probably setting yourself up for failure in the innovative business.
8. Decision Making – Are you consistently shifting resources (financial investments, HR talent) between the existing product and innovation? If not, you may be limiting the value of your resources by keeping them stable and locked into one investment.