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Organizing for Innovation in the "New Normal": Profiting from Uncertainty

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Marshall L. Fisher, The Wharton School

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Organizing for Innovation in the "New Normal": Profiting from Uncertainty

November 9, 2012

Mack Center for Technological Innovation | The Wharton School, University of Pennsylvania

CONFERENCE EXECUTIVE SUMMARY

The current business climate is not unlike the aftermath of Hurricane Sandy (one of the largest Atlantic hurricanes ever recorded), which struck the East Coast just before the Mack Center conference, Organizing for Innovation in the "New Normal": Profiting from Uncertainty. The storm caused damage and business interruption estimated to cost over $60 billion (2012 USD). "Super storm" Sandy serves as an apt analogy of the unprecedented uncertainties businesses now face from multiple, intertwined sources whose combined magnitude can disrupt entire industries and leave leaders facing a totally new business environment. Rapid technological innovation and globalization of product, labor, and financial markets have coalesced into a "perfect storm" through which firms must navigate while discovering new ways of delivering customer value and bottom-line profits. However, these changes also mean new opportunities, including tapping into "big data" with more powerful analytic systems than ever before and building new pathways for communicating with customers and engaging with employees and entrepreneurs.

Organizing for innovation—both the internal structures as well as external partnerships—is a crucial competency for all firms competing in today's markets. This Mack Center conference focused on how firms can optimize their innovation capabilities within the always-changing business climate. The host of the conference, **Saikat Chaudhuri**, assistant professor of management at the Wharton School, framed the current challenges and opportunities and led the conference participants in discussions about formal structural elements such as hierarchies and business units. The conference also explored optimal leadership and business cultures, the metrics that are part of these processes, and the resource allocation that helps to define the organization in its innovation efforts. Today's new normal includes the following challenges:

- Rapid technological change
- Market evolutions and creation of new markets
- Globalization and/or integration of product, labor, and financial markets
- Frequent, regular changes at industry level
- Periodic shocks at the system level with strong ripple effects

Representatives from academia and industries such as mobile technology, consumer goods, software, and telecommunications infrastructure shared their best practices in organizing for these new business parameters.

These top business leaders represent companies that are nimbly responding to the innovation demands of the new normal. China is one example of a market that is creating new demands upon business as it evolves. Once known strictly for its expertise in manufacturing, Chinese companies are increasingly taking on innovation in design to create their own brands. One example is the Chinese company, Goodbaby, which

Conference Presenters

Marshall L. Fisher: *UPS Professor of Operations and Information Management, The Wharton School*

Larry Huston: *Managing Director and Founder, 4iNNO*

Juan-José Juan: *Global Head of Enterprise Innovation and Transformation, Vodafone Global Enterprise*

Tim Munoz: *Managing Director, 4iNNO*

Roy Rosin: *Chief Innovation Officer, University of Pennsylvania Health System*

Inder Sidhu: *Senior Vice President, Strategy and Planning, Worldwide Operations, Cisco Systems*

has had successful product launches with innovative products such as a baby stroller that folds to neatly fit into airplane overhead luggage racks. So far, however, outsourcing design from Western companies to Chinese manufacturing firms has not met with much success.

Another way the Chinese market is evolving is in its cost structure. China is no longer a cheap home for manufacturing. As the emerging Chinese middle class receives higher wages, the cost of manufacturing for Western companies has risen. In addition, this emerging middle class represents a new market for both Chinese and Western companies. Chinese companies have begun offering their own brands of cars, baby products, and clothing to Chinese consumers. As a result of the higher cost of manufacturing in China, Western companies have brought some manufacturing back to the United States. Specifically, higher-priced items manufactured in the United States allow for premium products that carry the "made in USA" label. And before simply relocating to less expensive overseas manufacturing sites, Western companies are more carefully assessing the markets to find a country that has the right economic, social, political, and monetary environment. It is no longer as easy as just chasing the cheapest needle.

Companies are also looking beyond their employees and even going abroad for the best entrepreneurial innovations. Harnessing the creativity of entrepreneurs from anywhere in the world is now available via "innovation hubs" and the principles of "open innovation." Unlike conventional research and development projects that focus first on developing a new technology, open innovation starts by envisioning all of the possible end products: commercial *developments* or *products* that an emerging technology could offer. In other words, it starts by identifying a product and then looking for the technology or the right entrepreneur who can develop that technology.

Creating innovation hubs involves using social media and other networks to find the right entrepreneur who is actively working on a project in which a firm is interested. Once social and private networks gained the technological power to offer vast amounts of data storage and fast transmission speeds, innovation hubs could be developed. Thus, the combination of these existing technologies became an innovation in itself. With an innovation hub, companies can acquire dossiers of individual entrepreneurs with precise skill sets that match their research and development needs in significantly less time than developing these skills in-house, thus ramping up the speed-to-market of new products. By one estimate, using such open innovation techniques results in the doubling of the net present value of innovation projects versus those done solely in-house at a firm.

As always, a firm must first thoroughly understand its customers' needs in order to know which new products to develop. Innovation in the new normal does not necessarily require new technology or even

new data to address these customer needs. Firms may be ignoring valuable information by not looking at all available databases and networks. New solutions to customer problems can be found in old or existing data. For instance, data compiled from existing cell phone towers can be analyzed and triangulated to help provide the basic data points needed to offer real-time traffic reports, a new service that companies can offer customers on a monthly fee basis, thus creating new business.

Another evolving aspect of the new normal is the nature of work. Employees connect to their colleagues and customers via mobile devices and computers, whether they are in the office, at home, or traveling. Employees often combine personal and business use on the same mobile device. Thus, the rapid technology advances in these devices directly impact productivity and can lead to innovative ways of communicating internally with other employees and externally with customers.

Successful leaders will need to manage relationships with internal full-time employees as well as outside parties. Recognizing which internal employees are best suited for innovation projects is key to successful organization. Some employees are happy to work on "sustaining" innovation projects—developing incremental improvements to existing products. Others crave more of a challenge and need to create never-before-seen, "disruptive" innovations. Managing both types of employees is vital in the new normal. And, as more large companies move to a model of accessing innovative products or systems via acquisitions, relationship management becomes a very important tool. Learning to manage more than in-house employees—the contractors, consultants, and entrepreneurs—and recognizing the value they all bring to the new normal work environment is an essential skill.

Best practices indicate that creating a separate department or unit to focus and manage innovation is the most productive way to introduce innovations. This separation is necessary because innovation projects need to be nurtured more than the "bread and butter" products or services a company produces. Management needs to understand that innovation projects may take

longer, require more resources, and not deliver income as quickly as other, more standard programs. Without the sponsorship of high-level management, innovation efforts could easily fall behind and get measured against existing profitable products, thereby hiding their true potential.

New product ideas can also develop from better communication and engagement with the customer. For example, observable versus reported customer behavior could help firms uncover valuable information for new product development. In many instances, people are not aware of their behavior. Within firms, managers can reach out to their customer call centers or similar departments to gain insight into how customers actually use their products. Often a new feature is developed after seeing patterns or repeated calls about a specific function of a product. This may not be a new concept, but it remains true in the new business climate.

Many firms institute a team-based approach to review new product ideas. A goal is to learn fast at low cost, while constantly applying little fixes at each stage of a new product's development. Concurrent with the shift to a team-based approach, companies must also change their performance metrics and build a business culture that welcomes diverse ideas. By learning fast, a company can increase the speed with which new ideas can be made tangible and brought to market. It is also important to reward employees who contribute to innovation efforts. For instance, even though an employee may not have launched a new blockbuster product, if he or she was able to quickly ascertain which products to cut early on in the development process, this example of learning fast also needs to be rewarded.

In addition to speaker presentations, this Mack Center conference also featured a knowledge network in action, as attendees spent an hour debating the pros and cons of four aspects of organizing for innovation at their companies and sharing their best practices in these areas.

Resource constraints and inertia were the two biggest barriers to creating structures that encourage innovation, participants said. Successes included a training consortium developed in an industry in which many companies were entering the same emerging market. Attendees discussed ways in which their firms' organizational structures were either a good fit for or a barrier to innovation; discussed what their firms are doing or what they need to do structurally to take better advantage of innovation opportunities; listed ways their firms are using co-creation or open innovation strategies with partners, customers, and vendors; and shared how their leadership teams were meeting these challenges.

Chinese Supply Chains at an Inflection Point

Marshall L. Fisher

China, long known for its production facilities and low-cost labor, is facing rising wage costs and is transitioning into an economy that creates its own brands. Marshall L. Fisher, UPS Professor of Operations and Information Management at the Wharton School, presented an overview of joint research he is conducting with Edwin Keh on China's transformation at the November 9, 2012, Mack Center conference, Organizing for Innovation in the "New Normal": Profiting from Uncertainty. Studying China's shift from a manufacturer of others' goods to a designer of its own products offers lessons to businesses in other countries. Many Western companies are finding that the extra cost of higher-wage markets can be offset by creating a higher-priced product. Improving productivity, revamping cost and pricing strategies, and adding or expanding technical or artistic innovation to production capabilities are all ways Chinese companies and others have reacted to this new normal.

THE END OF CHEAP CHINA

The Chinese government's economic forecasts have outlined a shift from manufacturing and sourcing to innovation, and everything is going according to plan, Fisher said. China is not just about cheap labor and manufacturing anymore. "The legitimacy of the Chinese government depends on delivering a better lifestyle for its population, and it has set a goal of increasing wages," Fisher said. As such, one of the cornerstones of this plan is transitioning from a labor-intensive market to a talent-intensive market. China is turning its coastal factories, former engines of production, into research and development centers. This means that costs are now increasing for companies who outsource production to China. However, Fisher has found that productivity is rising faster than labor costs. At the same time, there is a growing middle-class population in China with rising incomes, and this group has become an attractive market. As cheaper-wage markets such as Bangladesh, India, Indonesia, and Vietnam open up, Chinese companies can either move their production facilities to these countries, increase and improve productivity at home, or raise their prices, Fisher noted. Western companies face many of the same challenges.

THE CHALLENGE OF RISING COSTS

Western companies, more involved in design than production, have the same choices as the Chinese companies: improve productivity, move to cheaper-wage markets, or raise their prices. They can also, Fisher noted, begin seeing China as a market and begin selling into that market. Fisher gave brief case studies on

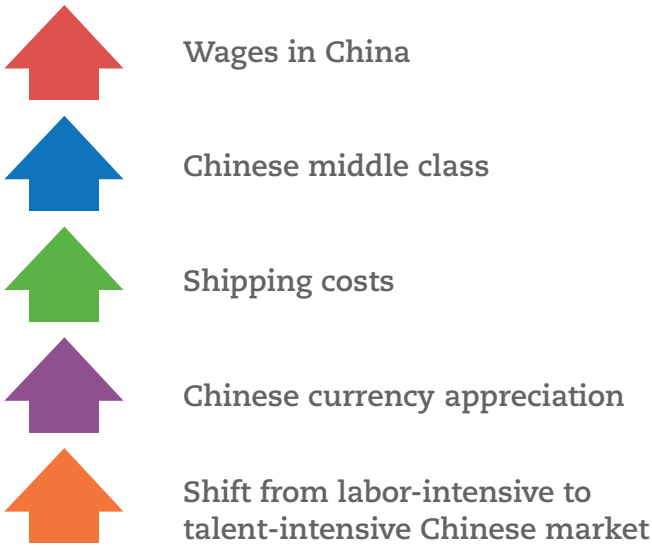
different approaches to rising labor costs and other aspects of this new normal.

New Balance and Converse: Producing Higher-Priced Shoes in the United States

While most U.S. shoe production has left the United States for lower-wage countries, New Balance, a privately held company headquartered in Lawrence, Massachusetts, continues to do at least some of its production in Lawrence. With U.S. wages roughly ten times the wages in China, New Balance is able to profit using U.S. production because it makes a more expensive shoe at its U.S. factory. The higher cost of U.S. labor means a lower percentage profit margin, but because the shoe is expensive, the dollar margin is still acceptable. Another plus is getting the "made in the USA" recognition. New Balance also took steps to increase productivity by implementing process improvements suggested by its workers, and that higher productivity partially mitigates the impact of higher U.S. wages.

Another example of production coming back to the United States is Nike's Converse brand. Converse produces a high-end "distressed" shoe out of its U.S. facility in Maine. "With the distress element, the quality control is higher; it's a more difficult product to make," Fisher said. "For one thing, that distressed patch on the shoe can't be just anywhere on the shoe. It has to be in exactly the same spot shoe after shoe—it's got to be consistently distressed." Also, Converse's trademark rubber strip at the base on the shoe is applied by hand, a difficult task. "Because of the complexity of assembling each shoe, more production samples are needed. You need lots of integration between production and design, and that's the reason the shoe is made in Maine, near their design

Several Factors Contributing to Chinese Supply Chain Changes



Some of the changes that have brought Chinese supply chains to an inflection point include rising wages in China, a growing Chinese middle class, a rise in shipping costs, the appreciation of Chinese currency, and the transition from a labor-intensive to a talent-intensive Chinese market.

office, and not a lower-wage country. It also sells for a higher price, which absorbs the extra cost, and it also has the 'made in the USA' cachet."

"The value chain for a product has multiple steps, proceeding from artistic design to technical design, component sourcing, and assembly," Fisher said. These steps are performed by different teams that need to effectively communicate with one another, so ideally you'd like for all steps of the value chain to be in one place. But usually, the best place to handle technical or artistic design is not the same as where the product is assembled, as the skill sets for design and manufacturing are very different. This creates a tension about where to locate the steps of the value chain, and usually the result is that communication between design and production suffers.

New Balance continues to assess non-U.S. production venues. Its management team developed a scoring system that rates each country where they could have their shoes produced. Politics, tariffs, currency risks, infrastructure, and the other shoe manufacturers already in a certain country are some of the factors used to compile an overall score on a 100-point scale. When all potential countries have a score, they are further assessed by classifying each into one of three categories, basically "yes," "maybe," and "no." By continually reassessing its global production options, New Balance is reacting to the new normal in overseas manufacturing.

Luen Thai: Supply Chain City and Design to Store

Luen Thai is the largest private label apparel manufacturer in the world, and their customers are a who's who of wholesale and retail apparel brands. In 1999, Luen Thai established a supply chain city in Dōngguǎn, China. This huge complex not only has apparel production factories but also showroom space for component and material vendors, office space for buying teams who visit from Western companies, and a team of Luen Thai designers. All of this enables Luen Thai to provide an end-to-end value chain service they call Design to Store, or D2S. With D2S, a buyer can show up in Dōngguǎn and "have a new product designed quickly, choose fabric, buttons, and other components, see a prototype, alter it, and have the finished product shipped directly to their store all from one location."[1]

To meet the challenge of rising local wages, Chinese manufacturer Luen Thai introduced lean production by moving from batch production to flow production and implementing suggestions from workers on how to improve productivity. Luen Thai also calculated that a 10% labor cost increase for a high-margin product could be covered by a 1% increase in the retail price. Moreover, with excess capacity in its Dōngguǎn complex, the company was able to expand production with zero increase in overhead.

INNOVATION IN CHINA: FROM E-COMMERCE TO STROLLERS

While many may assume that Chinese companies merely produce knockoffs of Western brands, Fisher pointed to several Chinese companies that are beginning to compete on innovation and branding.

Yihaodian was identified by Deloitte in 2012 as the fastest-growing tech company in Asia and one of the only companies worldwide to be successful at internet grocery retailing. Begun in July 2008, the company is headed to revenue well in excess of the $1 billion mark in 2013. Walmart bought a 51% stake in the company, which will act as its internet arm in China. Among the company's

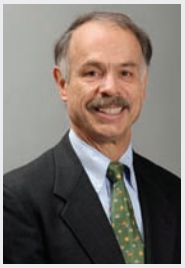
[1] Marshall Fisher, "Luen Thai Holdings, Inc. (A) Strategy for a Post Quota World," available from the author, July 2008.

innovations are same-day delivery, "last mile" own fleet capability, and billboards in train stations with pictures of products that commuters can easily order by scanning bar codes on the billboard using a smart phone. Yihaodian was founded by Junling Lui and Gang Yu, who received a PhD from the Wharton School in 1990.

Goodbaby was founded in 1989 by Zhenghuan Song, a teacher who invented the "push and rock" stroller that operates either as a conventional stroller or in "wheels up" mode as a rocker. The company's website proudly proclaims that they "are one of the few PRC [People's Republic of China]-based companies with world-class product design and R&D." One example is a baby stroller that, with the push of a button, automatically folds itself up small enough to fit into an aircraft's overhead bin. "It solves a problem many of us have when traveling by air with small children," Fisher noted. "Goodbaby is the number one brand in China. They sell through Western brands in the U.S. and Europe but are eager to become a brand at some point."

Another way Chinese companies innovate is to buy brands. Geely, a Chinese car manufacturer, purchased Volvo in 2010. Geely will use the know-how gained from acquiring Volvo to introduce a new car to the Chinese market.

As a closing thought, Fisher reminded attendees that Foxconn, which opened in 1976 producing plastic television knobs, now produces some of the world's top brands and has $40 billion in revenue. "Their next phase is innovation. Think about Japan in the 1970s—it was known as an imitator, and then they became innovative. Korea was the next wave of producers that became innovative, so it's plausible that the same trend will be seen in China."



Profile

MARSHALL L. FISHER

UPS Professor of Operations and Information Management, The Wharton School

Marshall Fisher is the UPS Professor of Operations and Information Management at the Wharton School and co-director of the Fishman-Davidson Center for Service and Operations Management. During his 35-year career, Dr. Fisher's research has focused on supply chain management, with a varying emphasis on private truck fleet scheduling, supply chain management for hard-to-predict fashion products, and a scientific approach to retailing. Dr. Fisher joined the faculty of the Wharton School in 1975. He is the co-author, with Ananth Raman, of *The New Science of Retailing*. Dr. Fisher has been a consultant to many Fortune 500 companies, and his research has been recognized by numerous awards.

Key Points

- Higher wages can be met with higher-priced, more complex products.
- Artistic design elements, for now, work best when done closer to the customer.
- Innovate productivity by listening to your workers.
- Sell to China's emerging middle-class market.

The Open Innovation Business Model

Larry Huston and Tim Munoz

Accomplishing sustainable, breakthrough innovations within multinational corporations is attainable using "open innovation" and "innovation hubs," according to Larry Huston, managing director and founder, 4iNNO, and former vice president of innovation, Procter & Gamble, and Tim Munoz, managing director, 4iNNO. Open innovation, with roots in Procter & Gamble's well-known "Connect + Develop" strategy, blends a firm's internal assets with the seemingly limitless knowledge pool outside of the firm. "Open innovation is about combining your assets with the assets of the world. Put them together so that you can drive superior shareholder value for the company and satisfaction for the customer," Huston said. One important capability for driving open innovation is the establishment of an innovation hub, which Munoz described in detail for attendees at the November 9, 2012, Mack Center conference.

TWO TIMES THE NET PRESENT VALUE

"Innovations that are connected, or open, have about two times the net present value versus innovations done internally at the company," Huston said. Open innovation allows companies to connect with companies and innovators who have "ready-to-go" products, services, or technologies, in order to minimize risk and to circumvent the innate inefficiencies often found in large corporate structures. "Think of all the time spent doing corporate stuff rather than innovating," he said. "Even with having to pay licensing fees or royalty payments, or even acquiring a technology, there's still about a 2× return versus doing it inside." When Procter & Gamble (P&G) implemented open innovation, the percentage of innovations having either a foundational element or the entire ready-to-go innovation sourced externally went from less than 4% to over 60%. "It put 600 innovations in the market, delivered $12 billion in top-line sales, and drove its success rate from 35% to 75%. These results are definitely a basis for disruption, a whole new business model," Huston said.

CASCADING STEPS FOR OPEN INNOVATION

Implementing open innovation is a cascading process that incorporates critical steps from strategy through implementation: the innovation vision and mandate, the "where to play" strategy, the "how to win" set of activities and processes, the capabilities needed, and the governance provided by management.

A clear innovation mandate is essential for success. "Leadership must be involved in distilling an innovation vision into a clear innovation mandate," Huston said. The mandate at P&G was to deliver 7% of organic

growth per year. That meant delivering $100 million per week, which P&G did for 5 years running until the recent recession. The very bold and very public goal announced by P&G's CEO, A. G. Lafley, to increase its "insourced" innovation from 4% to 50%, was nothing less than startling, Huston said.

P&G might not have met its goals without both top-down and bottom-up strategies that addressed the culture change. "P&G ramped up very quickly with open innovation and it worked because of the commitment from the top levels of management." Implementing the vision involved four concepts: using other people's ready-to-go ideas and assets, changing its culture to "proudly found elsewhere," building a global innovation network, and recognizing that its intellectual assets were now a combination of "know-how" and "know-who."

By opening up the company to "externally cooked ideas and businesses" and joint developments, together with its in-house research department, P&G grew its revenues from $52 billion in 2001 to $82 billion in 2012, according to Huston. Open innovation gave P&G the benefit of essentially adding the equivalent of 5,000 full-time people by leveraging ready-to-go ideas from external entrepreneurs.

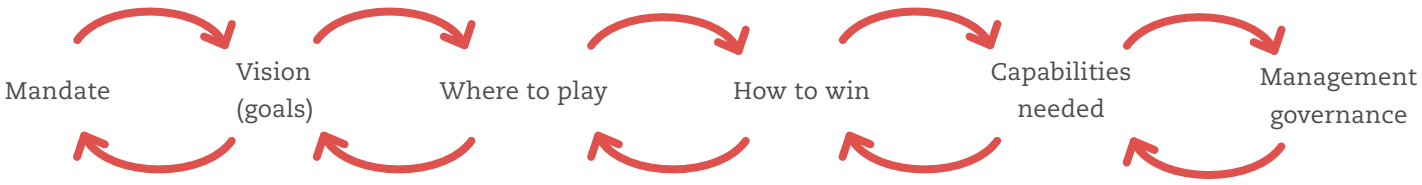
INNOVATION HUBS

The usual stage-gate, systematic process of moving new ideas forward at large corporations stifles innovation, Tim Munoz said. While the idea of open innovation is not new, most companies do not employ a truly open model because it is not business-as-usual. "The ability to access talent via networks in a matter of hours, not weeks, is available now," through the wealth of big data and analytics that can find and manage innovation networks. Innovation hubs start with envisioning all the possible downstream innovations from a new technology. Hubs are made up of subject-matter experts assembled in standing teams. "Using this structure ensures speed, quality, and buy-in. We go from an idea to a term sheet in six months or less," Munoz said. With an innovation hub, managing heterogeneous groups of stakeholders and constituents is critical, as the mix of people gathered in any particular innovation hub can be very diverse. "In R&D innovation hubs, the leaders combine technical know-how with commercial sense. They are trained in rapid deal-making around defined science and technology areas," Munoz said.

The five steps of creating an innovation hub are "want, find, assess, get, and transition." "You start with a tight brief, with a defined innovation strategy of the [partnering] company, to be clear about what you want and what your specific requirements are; you find interesting assets externally, you assess them, you 'get' them by structuring term sheets, and then you transition them into the company," Munoz said.

"Half of the hub activity is in the assess stage," Munoz said. "Assessment starts at a broad screening of potential products and technologies that might meet your brief, continues through strategic assessment, and then focuses in on due diligence. Technical, IP, commercial, financial, legal due diligence—all of these activities happen concurrently in the hub, rather than one after the

Integrated Implementation Process



other, as in a typical business process." The big potential associated with innovation hubs comes from the focus on monetizing a technology that can drive a portfolio of offerings, not just an individual product.

"The usual research and development model isn't fit for purpose anymore," Munoz said. Unless you access leverage from outside players, you're probably not going to succeed. "Almost any innovation is dependent on other people participating, whether to drive the innovation initially or to drive the adoption of it," he said. But large companies must get comfortable with easing back on the controls. "You've got to tap into these open networks. There is a huge first-mover advantage to this."

Many innovative companies are now staffed with a new role called "the growth entrepreneur." These people search throughout their assigned domains—defined by business unit, customer segment, technical expertise, and/or market or geography—and collect a smorgasbord of new ideas from every corner of the world. With an innovation hub, the company gains a team of very experienced deal makers and subject-matter experts. Over time, such a team can set the firm apart as the preferred innovation partner.

GAME-CHANGING TECHNOLOGIES

P&G focused its open innovation efforts in three key areas: unmet needs of current businesses, building businesses through adjacencies, and finding new growth platforms. The company sent employees across the world to locate disruptive, game-changing technologies—but only if they were proven. "We were interested in finding out who the key people were who were working on these ideas," Huston said. An essential component was listing the top ten consumer needs for each business.

P&G built extensive external networks. With 9,000 employees and work that demanded a "huge amount of science," Huston said, P&G estimated there were approximately 1.8 million people outside of the company working on projects that P&G was interested in for internal growth opportunities. "When we say we build a network, what we do is we gather the names and dossiers and email addresses of the people in the various areas that might know about new business models." This process can involve as many as 10,000 names in areas such as absorbing structures. His company creates "invention profiles" for each person with a ready-to-go, new technology. "We essentially get very targeted so that we are able to go to the right person, not carpet bomb the whole universe of inventors in a broad area, and we knock on that one person's door and tell them what problem we are trying to solve, and that we'd like to talk to them about it. It's very effective. It's much more productive than putting 100 people in a lab to chase something that may already exist outside of the company."

Key Points

- Vision and mandate: The CEO must lead the transformation to open innovation. The vision should be simple and translated into a specific mandate: What is the specific contribution of innovation to our total growth?
- Where to play: Focus on unmet needs in existing businesses, adjacency opportunities, and creation of new growth platforms.
- How to win: Focus on "ready-to-go" products and services and game-changing technologies that can be extended across the portfolio.
- Develop capabilities: Create innovation networks to leverage the industry ecosystem and innovation hubs to find external solutions and commercialize them quickly.
- Don't forget to "give it heart": Promote the right people; acknowledge that change takes time.

Huston also showed attendees an example of a total consumer experience map; this example was a hypothetical consumer and her concerns about germs. "We want to understand the whole meaning of germs, throughout the consumer's whole life. We look for her insights, for new product ideas, and totally new concepts."

ADD HEART TO THE CULTURAL TRANSFORMATION

The immediate reaction to the P&G CEO's announcement about open innovation was that the company was simply outsourcing its research. But the change was more nuanced, according to Huston. "It involved insourcing the ideas and intellectual assets of the world with what we know to better serve the consumer." To accomplish this shift in strategy P&G had to create a cultural shift within the company. "We changed from a culture of keeping everything inside to a culture of our know-how plus our know-who."

It was important to "add heart" to this cultural transformation, Huston said. "We didn't say to our employees, you're broken and we're going to fix you with open innovation. We did not believe that. Instead, we said, this organization is like a Porsche and we are going to turbo-charge it and help you drive faster." Make sure you promote people and recognize the heroes, said Huston, and remember that such a major transformation takes time. "P&G spent about $50 million; it spent time and money on public relations efforts, and it started from the top-down. The CEO cannot just be a figurehead."

Profile

LARRY HUSTON

Managing Director and Founder, 4iNNO

Larry Huston is managing director of 4iNNO, the leading open innovation and growth consultancy, and also serves as chief innovation officer of Spencer Trask Collaborative Innovations, a venture capital firm applying open innovation to recreate the venture capital model. In addition, Mr. Huston is a senior fellow at the Mack Center for Technological Innovation and teaches at the University of Pennsylvania Aresty Institute of Executive Education. Mr. Huston is the founder of inno360, an open innovation enterprise platform, and a recent Edison Gold Medal winner. Formerly, he was vice president of innovation for Procter & Gamble and created their Connect + Develop open innovation strategy. Mr. Huston's approach has been presented in *Harvard Business Review*, on CNBC, and in several books.

Profile

TIM MUNOZ

Managing Director, 4iNNO

Tim Munoz has a distinctive record of driving innovation within competitively intense industries. Mr. Munoz has served as a senior operating executive at Verizon (managing director, Consumer Markets), Comcast (vice president, Sales and Marketing), and Legg Mason (global head of marketing). In these roles, Mr. Munoz led product development, customer strategy, marketing, business development, and innovation; he helped these companies to successfully navigate through the challenges of deregulation, convergence, and globalization and to profit from change. Mr. Munoz is currently managing director at 4iNNO, an expert on global innovation, where he is an advisor to executive teams at some of the largest companies in the world. He has helped these clients leverage external assets, identify new business models, and create new growth engines.

Driving Business Transformation through Innovation in a Globally Connected World

Juan-José Juan

Whether it's selecting the right ten-minute block to place an advertisement on the billboards on London's Oxford Street or reporting on the real-time speed of cars on a European highway, Vodafone is using a strategy of aggregation to help drive its innovation efforts, which in turn have helped it drive bottom-line results at top speed. "Innovation was changing faster than how the company could change," Juan-José Juan, global head of enterprise innovation and transformation at Vodafone Global Enterprise, told attendees at the conference. "Innovation is not just about technology anymore; there is an aggregation lag. We are not inventing the next technology; we are aggregating to deliver a combination of technologies on a global level for multinational companies," he said of Vodafone's strategy. The company is intently listening to its customers' responses to the question, what is your biggest challenge within the next three years? This is a much shorter time-span than is customarily considered, Juan said. "New technologies by themselves do not add value; the challenge lies in aggregating them to run seamlessly anywhere in the world and orchestrating all the other functions needed for that to happen," he said.

TAMING A PERFECT STORM

Vodafone created a separate business unit to deal with the pace of innovative technologies. The company realized it needed to do something to harness and apply all those new developments. "In the past, our innovation came mostly from technology," Juan admitted. "For instance, Vodafone created and pushed the first use of SMS technology." In the mobile space, making your network better than your competitors' was business as usual, until Vodafone used a different strategy. The new cyber workforce and the rapid introduction of new technologies have created what Juan called a "perfect storm" that requires a new way of thinking about customer needs. "We created a business-driven innovation strategy to approach the multinational model; we reinvented the company by creating a new innovation unit within Vodafone, which is focused on solutions for global businesses that need consistency to operate and communicate globally," said Juan.

Vodafone's fastest-growing markets are Egypt, India, Turkey, and Africa; the challenges in these markets are completely different than in its other markets, such as Europe or the United States (where it owns 45% of Verizon wireless). Yet all of its customers need a communications model that works anywhere, all the time.

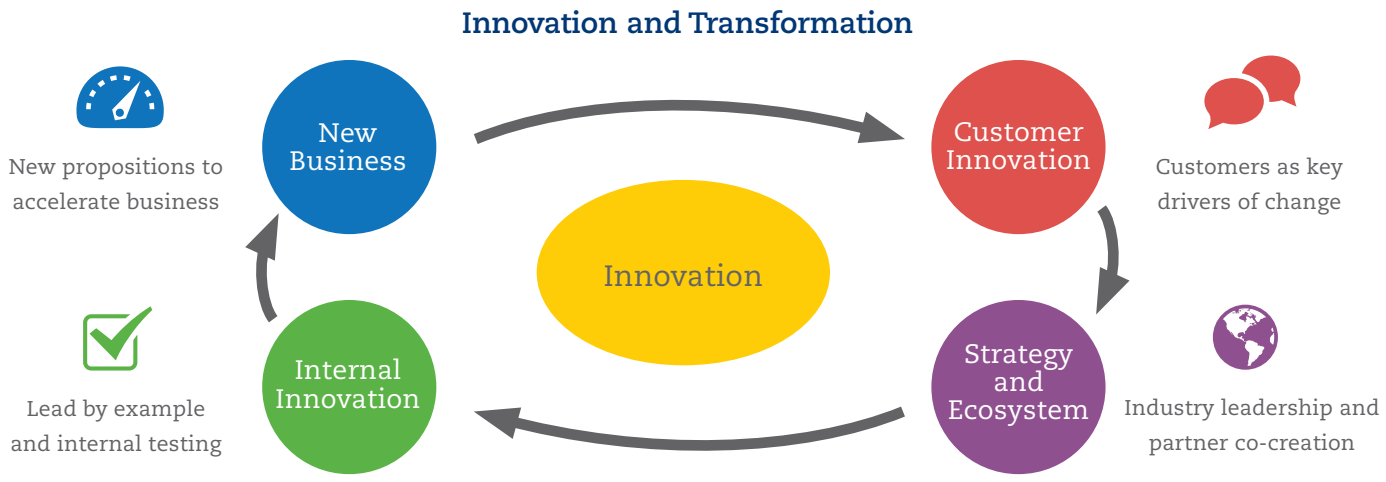
Conversations with customers begin by asking them what their needs will be in the next three years.

"Everyone can define, ten years from now, the big trends. Three years out is close enough to start doing something now, but it is not that close that you do not have anything left in the budget for it. This is our key challenge—three years out," Juan said.

COMPETING WITH ANGRY BIRDS

Juan has observed that mobility services are not something companies have typically looked at systematically. The first mobile devices were usually purchased through a company's procurement department, and there wasn't much thought about employees liking the devices. Now, however, as mobile devices allow employees to work from virtually anywhere, the devices need to be attractive to users. "People and IT—both departments need to like the devices that are in use and they must be deployed on a global basis." However, Vodafone's overall push is in innovation efforts that are about more than just devices. "Devices are constantly changing," Juan said. The challenges that customers are suffering are not in fact technology challenges. Their challenge involves a "nightmare" of different services and the expectations companies face from their employees and their customers. "In one sense, companies are competing with Angry Birds. If your internal applications and services are not as attractive for the end user as games like Angry Birds, you're in big trouble." At the same time, a company's IT department needs to approve services from a security point of view.

Opportunities lie in creating applications on a global scale, and this approach must be tied in with the non-technology aspects and challenges. Traditionally, device manufacturers focused on the end-user experience, but Vodafone began to work with gaming companies and other designers to find ways it could aggregate very complex information in a way that users could understand. Europe comprises 30 to 40 countries, each with its own set of languages and network regulations, so carriers usually operate country by country, although technology is independent of regulations. Vodafone was dedicated to solving these types of complexities by looking at things from a global level. "We looked at user experience in the management of global communication services, something that had not been done before," Juan said. "We focused on organizing very complex information so that people could understand it. Today's customers and end users want their information in five seconds, but they don't care what happens in the back end."



Key elements of Vodafone's innovation model.

THE POWER OF MOBILITY

"Mobility services are potentially one of the best enablers for a company to grow and expand and to actually change processes, which is what is happening with the iPads and iPhones and the Androids," Juan said. "When they were first introduced it was not clear what would be the role, if any, of the iPads for industry and businesses. The typical approach of a traditional corporation would have been to create a committee and have a decision in six months." In this case, Vodafone knew it needed to move faster, and Juan instituted a program in which he sent out between 60 and 70 employees to buy iPads around the world. "We gave them challenges, such as this week when you meet with customers you can only present via the iPad; next week it would be to measure how many hours of extra email productivity you can achieve while at an airport or a train station. We wanted to know if the iPad, or any other types of tablets, could open any opportunities for us." As a result of these hands-on trials, Vodafone recognized an opportunity in providing tablets as a service to customers even in countries where they were not yet currently available. "We created a new concept called Managed Tablet. We started to handle deployment of the tablets as a managed service, worldwide, including logistics, security, remote configuration, connectivity, and support, which no one else was doing at this point." The new venture was up and running in less than six months.

ANALYTICS AND INTERNAL INNOVATION

Vodafone's innovation model is designed around simplifying the complexities of information technology and then orchestrating the available devices and applications to meet customer needs. There are four key elements for this virtuous cycle: understanding and co-creating with customers, creating key partnerships, driving internal innovation, and creating new areas of business and revenues. Once the customer need has been identified, if Vodafone's internal resources are not sufficient to create the solution, partnerships are created.

To create solutions, Vodafone is using analytics to unlock meaning and opportunities from the vast amount of data available on its network. Vodafone realized it could tell businesses not only where their customers were at any given time of day, but where they were headed. For instance, looking at the anonymous information of cell phone connections made to towers near London's busy shopping district, Oxford Street, Vodafone realized it could tell merchants the demographics of customers in the area—in real time. If there were a significant number of French cell phone users in the Oxford Street area at a certain time everyday, stores might want to hire French-speaking employees.

"This information had been there for more than 25 years—the age of the network—but for 25 years we weren't looking at it," Juan said. "This became a new business area for us. We brought talent from different areas of the organization together. Using analytics, we beta tested the potential of telling advertisers the best time and location for outdoor ads, or telling every retailer the volume and demographics of customers that pass across the street every second of the day." The company has taken particular care to ensure that customers' privacy is protected.

Vodafone has also used analytics to offer real-time traffic reports. This idea surfaced during a brainstorming session with one of Vodafone's customers, TomTom. The company wanted to move away from selling devices and mapping to providing a service for which it could receive revenue on a regular basis, and the Vodafone team immediately thought of using Vodafone's cell networks to track the amount of cars

and average speed of cars in any road and street. Thus, with additional development, TomTom could provide a real-time traffic service to their customers across many countries. The partnership has resulted in new organic growth for both TomTom and Vodafone.

"We've done this process—taking various sources of complex data and technologies and orchestrating them—with several companies, and what we've learned is that new technologies by themselves do not add much value. It's combining them to run seamlessly, potentially anywhere in the world, covering an underlying business or market need, that adds value," said Juan.

Internal innovation is always the underdog, according to Juan. Vodafone has instituted "Project Champagne," in which a group of more than 100 employees around the world are given new applications to test. "It's a very quick test. We use a social network to test and validate," Juan said. "Every single day we give them a different challenge." Having employees use newly developed applications and services allows Vodafone time to fine-tune them for ease of use and any bugs before offering them to customers.

Having a senior management member nurture new innovation efforts to the "point of no return"—the point at which it is clearly the right thing to do—protects new initiatives from the usual inertia at most companies, Juan said.

Acknowledging that successful innovation now lies in the ability to simplify the user experience with various technologies rather than strictly developing the next big device has allowed Vodafone to respond more quickly to customers' needs. By reexamining its existing services and networks, Vodafone has found new ways to help its customers grow and, in turn, spur its own growth.

Profile

JUAN-JOSÉ JUAN
Global Head of Enterprise Innovation and Transformation, Vodafone Global Enterprise

Juan-José Juan heads Enterprise Innovation and Transformation at Vodafone Global Enterprise, the division of Vodafone that manages the communications needs for the largest multinational companies worldwide. He drives the company's engagement with multinational customers and strategic partners to implement the next evolution of technology and mobility services that will transform the company's business strategy and growth. Prior to this position, Mr. Juan led the Customer Solutions area in Vodafone, achieving marketing recognition and awards from Gartner, Ovum, and Mobile World Congress. Mr. Juan has developed most of his career at Vodafone in different functions and countries.

Key Points

- Innovation is not just about new technologies—it is also about new ways of getting impact from new and old technologies.
- Every part of the organization must contribute jointly to innovation efforts.
- Listening to customers must be central to innovation efforts.
- Helping customers involves aggregating new technologies along with other components to produce a seamless service that operates anywhere, anytime.

Creating an Organization that Fosters Innovation for the Present and the Future

Inder Sidhu

Focusing on both sustaining and disruptive innovation has enabled Cisco to double its revenue, triple its profit, and quadruple its earnings per share between 2003 and 2010, said Inder Sidhu, senior vice president of strategy and planning, Worldwide Operations, Cisco Systems, at the November 9, 2012, Mack Center conference. "Doing sustaining and disruptive innovation simultaneously will give you a mutually reinforcing multiplier effect that is unbelievable in terms of its impact to your business," Sidhu said. "When faced with a choice, don't automatically take it. We are trained in business school to be decisive; to say 'let's do a bit of both' sounds kind of wimpy. But in our personal lives we are quite comfortable with doing both." And in business, combining both types of innovation allows for the greatest gains to be realized.

Cisco's logo, a stylized image of San Francisco's Golden Gate Bridge, symbolizes its commitment to "doing both," Sidhu said. He compared it with the San Francisco–Oakland Bay Bridge (known locally as the Bay Bridge), another engineering marvel built a few years before the Golden Gate Bridge. But the Bay Bridge was designed solely on the ideas of strength and durability, not beauty. Today it is the Golden Gate Bridge that has become the symbol of San Francisco—and it is also the more flexible bridge. During the 1989 Loma Prieta earthquake, a part of the Bay Bridge collapsed while the Golden Gate Bridge remained undamaged. The Golden Gate Bridge swayed as the earthquake struck; the bridge's flexibility demonstrating its strength. That kind of strength and flexibility is what Cisco strives for: "You don't have to choose between strength and flexibility; you can have both. The two reinforce each other."

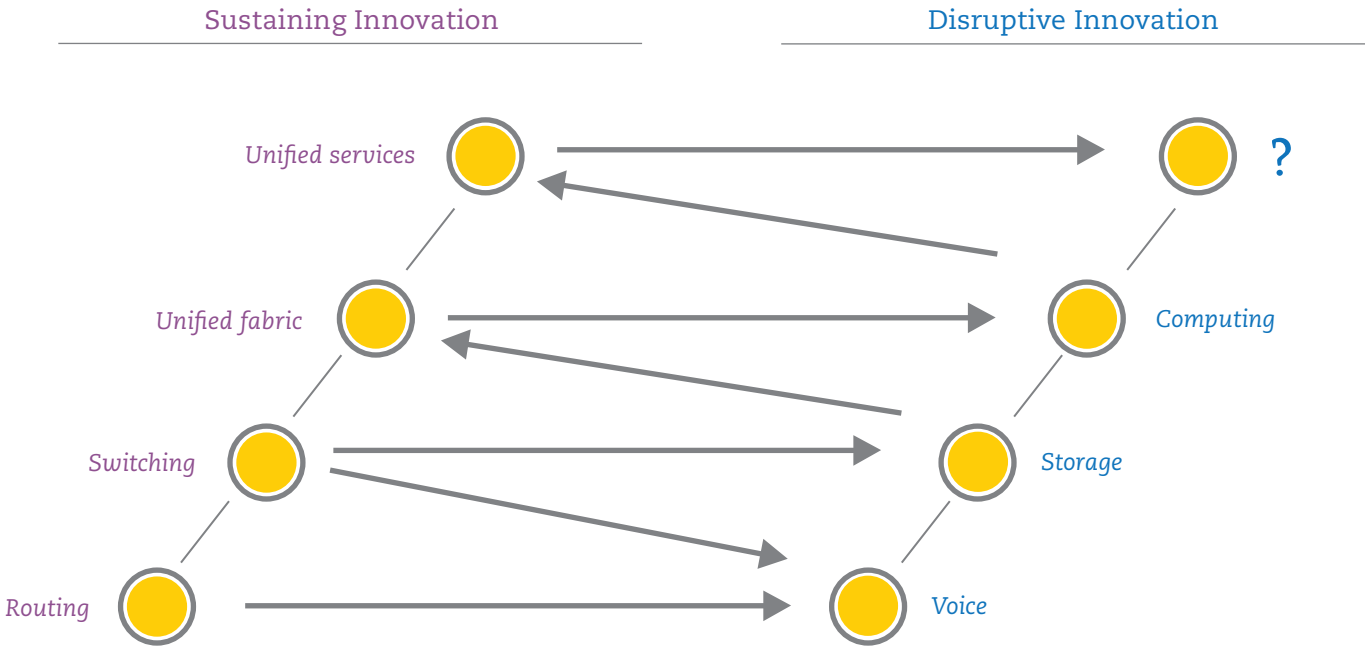
Cisco applies this principle of doing both to every aspect of its business, Sidhu said. This dual approach helped the company weather the dot-com bust and recession and come out stronger. The computer giant Apple also delivers both sustaining and disruptive products, Sidhu said. He described sustaining innovation as incremental improvements to last year's releases. Alternatively, disruptive innovation introduces new technologies that disrupt markets and create new ones. For example, Apple was the first company to sell music via 99¢-digital downloads; together, the iTunes store and iPod device represent a revolutionary product and platform. "Apple gets talked about a lot, but they are one of the ones who actually do both disruptive and sustaining innovations. They interlock the two approaches and get that multiplier effect. Apple is one of the most valuable companies on the planet." As a rule, it is usually the

smaller companies that excel at disruptive innovations, Sidhu said. They can't do sustaining innovation because they've never had to, while most large corporations have a "really hard time doing disruptive innovation."

Cisco employs thousands of engineers, and at any given time most of them are working on sustaining innovations. "We have floors and floors of engineers working on the next router that's 10% or 20% faster than the current one." Employees, customers, and shareholders are very happy with status quo, he said. "Many employees want to focus on sustaining innovation for a variety of reasons. Some like the security that comes from working on a large, revenue-generating project. Others like the satisfaction that comes from pleasing existing investors or customers. Often investors and shareholders tell us, 'You have a profitable business here, don't do crazy things that are disruptive. Just keep doing what you are doing.' Some customers tell us, 'I'm so used to using your products, just make them a little bit faster, maybe a little cheaper, and I'm happy,' " Sidhu described.

Despite incentives to focus on sustaining innovations, some engineers prefer greater risk. In other words, they prefer working on disruptive innovations. Cisco has found two models of adding disruptive innovations to a sustaining innovation environment. First, Cisco created its internal Emerging Technologies Group (ETG). Second, Cisco's external ventures bring new innovations to the company. The key is matching the right employees to each venture: Some engineers prefer an established development framework and are thus more suited to

Doing Both: The Multiplier Effect



By doing both disruptive and sustaining innovation, Cisco is benefiting from the multiplier effect.

sustaining innovations, and some prefer to build from scratch or want exposure to more entrepreneurial endeavors. This second group of engineers is a good fit for the ETG.

INTERNAL INCUBATION: EMERGING TECHNOLOGIES GROUP

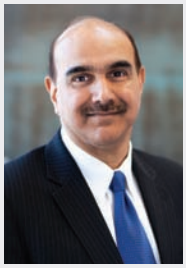
While known for producing products such as routers, Cisco used its ETG to build TelePresence, a high-definition, multiscreen teleconferencing system that is used today in almost all Fortune 500 companies and generates well over a billion dollars of business for Cisco. Sidhu described the ETG as using a "going into the bunker" mentality to incubate disruptive innovations. Located in a separate building, the group is tasked with delivering two disruptive innovations per year. Failure is allowed but never for the same reason twice. The head of ETG reported to Cisco's CEO. "We didn't want anyone messing with this group," Sidhu said, noting that it is important to give employees working on disruptive technologies certain leeway. The ETG received a limited, fixed budget along with the ability to hire anyone. The ETG group's employee incentives were somewhat unconventional, Sidhu noted, and raised a few eyebrows in HR. Basically, employees "got to keep their jobs" if they finished TelePresence on time; if they finished early, depending on how early, generous bonuses were paid. "We set an ambitious goal and went for it; when we won, we celebrated like hell," Sidhu added. He defined the key lessons of internal incubation projects as follows: picking the right person to lead these efforts, allowing him or her to pick the team, not giving them a huge budget but keeping it fixed during good times and bad, and not constraining the team in terms of reward.

EXTERNAL VENTURING

Because it's not possible for Cisco to hire all the brilliant people in the world, open innovation techniques can bring more talent into the company. His company focuses on looking for new start-ups that have an attractive technology that can be added to its existing product lines. Sidhu called these ventures "spin-ins." Just as some of Cisco's engineers like the stability of sustaining innovation and some like the challenge of being part of the ETG, there are some young start-ups looking for a company like Cisco to acquire them. Through these acquisitions, Cisco has gained leverage into the adjacent markets of voice, storage, and computing. Cisco has also started nine businesses: of them, four have succeeded, four are on their way to becoming successful, and one failed. "My personal disappointment here is that only one failed. To me, that means we're not pushing the envelope hard enough." Cisco has also done close to 150 acquisitions. This broad reach outside the company is what Sidhu called using "all the settings on the dial." The rewards of relatively low-risk internal ventures are used to finance the riskier acquisitions. With both the internal and external engines driving at full speed, the company can see significant revenue generated from each effort, Sidhu added.

MUTUALLY REINFORCING STRATEGIES

Developing the disruptive TelePresence product through its ETG also helped Cisco's bread-and-butter business. "TelePresence borrowed the call manager software that we were using in all of our voice products and so it was able to come to the market much sooner," Sidhu said. The result is that the money spent on developing TelePresence is being paid back by increased sales in its mainstream business units. The codecs and the cameras developed for TelePresence are now being incorporated into the video phones Cisco is developing. "We now sell a lot more routers because people want to run their TelePresence. The two products have become mutually reinforcing," Sidhu said. "This is an example of how we've applied the principle of doing both."



Profile

INDER SIDHU

Senior Vice President, Strategy and Planning, Worldwide Operations, Cisco Systems

Inder Sidhu is senior vice president of strategy and planning for Worldwide Operations at Cisco, the $45 billion worldwide leader in networking for the internet. From 2006 to 2010, Mr. Sidhu jointly led Cisco's Emerging Countries Council, which drives business success in fast-growing geographies. He also co-led Cisco's Enterprise Business Council. In 2010, Mr. Sidhu published *Doing Both: Capturing Today's Profit and Driving Tomorrow's Growth* (FT Press). In this *New York Times* bestseller, he identifies common business dichotomies and explores how successful companies avoid difficult trade-offs and instead achieve bigger outcomes by "doing both."

Key Points

- Adopt a mindset of "doing both" rather than "either-or."
- Combine sustaining and disruptive innovations to produce a multiplier effect.
- Incubate internal ventures: choose the right employees, give them leeway, and compensate accordingly.
- Add external ventures: leverage Cisco's leadership and reach to attract small start-ups with disruptive innovations.

Leading Innovation to Dramatically Transform an Organization

Roy Rosin

Realizing that almost half of Quicken's customers were using the software to run their small businesses—a function it was not designed for—was a turning point for Intuit. Contextual inquiry, where teams immerse themselves with customers to understand the reality of how work gets done (e.g., why all the highly rated small business software was failing most business owners), is just the starting point of Intuit's innovation approach. On that foundation, Intuit added methods ranging from rapid validation of key assumptions to portfolio management, engaging leaders across the company to care about growing new revenue streams. These approaches are credited with helping Intuit achieve impressive results: After five years of executing against an explicit innovation framework, the company delivered shareholder returns 33 times greater than the S&P 500, 5 times greater than Nasdaq, and 3 times greater than Google. Roy Rosin, former vice president of innovation at Intuit, shared the company's steps in its organizational transformation at the November 9, 2012, Mack Center conference, Organizing for Innovation in the "New Normal": Profiting from Uncertainty. Embracing surprises, adopting methods of rapid experimentation, and paying attention to observable (not reported) behavior were some of the methods the company used to transform itself. Underlying this transformation was a high-level and thorough commitment to change from management, Rosin said.

OBSERVE CUSTOMER BEHAVIORS AND SAVOR SURPRISES

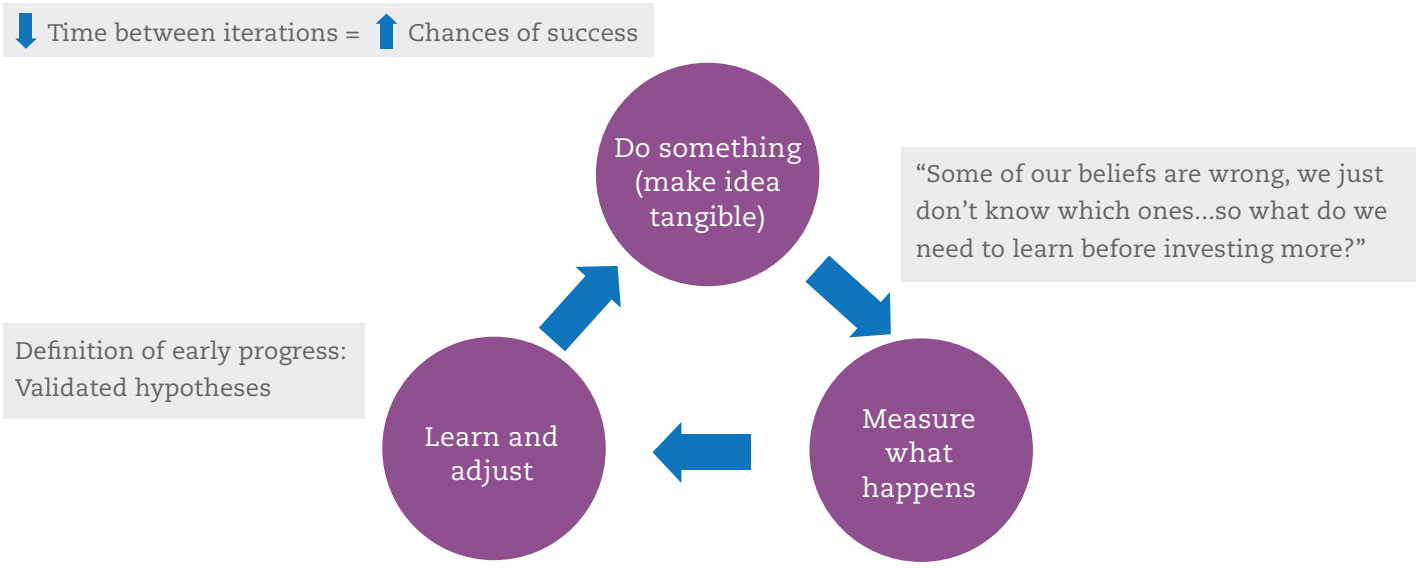
Intuit learned early on in the Quicken product life cycle that many customers were using it to run their small businesses, which was a surprise. "Quicken was all about you, where your money is going, how much you have, and balancing your checkbook. A couple years in we found out this crazy fact, that 48% of Quicken users were using it to run a small business. What do you think we did? No, not QuickBooks, at least not initially. We said 'it doesn't make any sense, given all the highly rated, fully featured small business packages out there,' " Rosin said. When that percentage climbed to 49%, "We ignored it again. It just wasn't our strategy to go after the small business market. Eventually, Intuit's founder Scott Cook asked why, if there are so many great products out there, are people using Quicken for something it wasn't designed for?"

That question, and the insight to focus on an unexpected behavior, led to the "aha" moment. "When teams went out to observe small business owners in action," Rosin said. "We realized all of these other highly rated small

business accounting packages were based on double entry accounting with debits and credits." Small business owners just didn't understand these formal accounting methods; therefore, they outsourced much of the work to accountants. In keeping with one of the fundamental litmus tests of disruption theory, big opportunity lies where people outsource due to their lack of skill or expertise. Some of these business owners had more time than money and would do at least some of the work themselves if it were easy enough. "From the behavior we observed, we got rid of the debits and credits. The result was QuickBooks, which became the cornerstone of a billion dollar division."

Among the principles emerging from this and similar formative experiences was the need to savor surprises. "If all these other small business programs are so great, why are people using our product instead, when our product was never designed for this type of application? The key," noted Rosin, "is to learn how to stop and embrace situations where something is working differently than expected, instead of tuning it out." A related principle is to trust what Rosin calls "observable behavior" versus "stated behavior." Intuit learned to *observe* their customers' behavior instead of relying on customers' self-reported behavior. "People aren't aware of their own behavior or often can't remember or articulate the insights you need to create something an order of magnitude better," Rosin noted. In addition to the story of observing how business owners couldn't handle double entry accounting, he shared the example of the development of Soccket, from the company Uncharted Play. It was developed by students who spent time observing people in places that lacked electricity. They saw the observable behavior reinforcing what an important problem this was, as families hunched over dangerous and unhealthy kerosene lamps and even walked great distances to the nearest light source to extend the day after the sun went down. They also saw kids spending the day kicking things, from cans to soccer balls. Those insights led to Soccket, a soccer ball with a coil inside that stores energy from the kicks it receives throughout the day, turning the ball into a generator at night that can provide up to three hours of electricity.

Eliminate Uncertainties and De-risk Early (Culture of Rampant Experimentation)



FAST, CHEAP "FAILURE" IS GOOD

Intuit's history, Rosin said, was one of a serial disruptor, yet the company had far more failures than successes, which is true with most companies. "It wasn't a problem that we had the failures, the problem was that we didn't understand what led to the good outcomes versus the ones that never met expectations, so I was tasked with figuring this out." Rosin found that many companies tried to scale their innovations prematurely, trying to grow something big before getting it right. He identified the need to engage employee populations and enable faster testing of ideas—clearing obstacles, visibly celebrating the entrepreneurial behaviors you want to see more often, and making space for small experiments—before management focuses on the ultimate goal of growth.

"It's hard to tell the difference between good and bad ideas before you test key assumptions," Rosin noted. "And a lot of the successes at companies don't have anything to do with what the executives thought was a good idea." Adapting a policy of learning fast at low cost, where employees can take a few days or even weeks to design a rapid experiment and gather some initial data, tips the chances of success in your favor, versus the standard stage-gate process, which tends to kill innovation prior to evidence of what might actually work. "You need to architect an innovation system where employees are free to try new things quickly with minimal friction." At each phase, leaders help teams winnow down to the one or two key assumptions that the project's success depends upon, and give guidance on designing fast experiments to test those hypotheses. Explicit time is reserved in reviews to find something to like about the idea, no matter the doubts. "As Dick Costolo, head of Twitter has noted, innovation is all about going down lots of blind alleys until you find one paved with gold, and the only way to do that is if each alley is explored fast and at very low cost." The shorter the time between iterations of a new idea, the higher chance of success. "Speed is essential. Intuit previously had a culture of one year from idea to release; now they have projects getting into customers' hands in weeks. And when you do that, fun things happen."

SHIFT IN CULTURE, SHIFT IN METRICS

Companies must change their metrics when they change their approach to innovation, Rosin said. To become successful innovators, companies need to build a culture that enables diverse ideas to emerge. According to Rosin, leadership teams have to "change what you measure, change what you make visible, and change what you celebrate." Traditional measures like revenues, profits, and customer counts celebrate size, so they push teams to get big before they get innovations right. That's deadly, because few innovations start out in the right direction. Instead, Rosin challenged the audience to conceive of new key metrics with highly visible leaderboards, such as the number of ideas tested in less than a month or the incidence of projects less than three years old that have validated a business model. "When a team comes for regular review meetings, leaders ask them certain questions," Rosin explained. "If the team knows you'll ask about revenue growth, they'll focus on revenue and make sure they have something to say about revenue growth. But if they know you'll ask about how you're testing assumptions in days, how many new ideas were validated with live experiments, or about time-to-market, those new expected deliverables change where people focus."

Further, Rosin suggested that leaders need to use their highly visible communications channels to celebrate employees who exhibit behaviors they'd like to see more often. "Make these employees who designed and executed fast experiments into heroes," he said. "Just as you would make a hero out of the employee who closed the latest $50 million deal. Corporate culture is basically storytelling and the say:do ratio of actions reinforcing what you're saying is important." What stories do leaders tell publicly? What questions are they asking

and what deliverables are they defining? Are they focused on deliverables that get something new right before making it big?

As part of his assignment to look at the company's innovation, Rosin met with many of Intuit's managers and asked them how they were spending their time and what was the focus of their meetings. Again, he found reported behavior was not always the same as observed behavior. "I sat down with some and looked at how they were spending their time, looked at the agendas of their all-hands meetings. Some leaders were saying they wanted innovation but if you looked at how they were allocating their time and what their agendas were, they weren't placing emphasis on innovation or experimentation—neither in the core businesses nor in new efforts," he said. "We didn't have much of a pipeline, but there were teams working on new projects. All of the leaders' time, though, was allocated to our core businesses without paying enough attention to future horizons." The profile of people and projects with the potential to drive growth further out were elevated by introducing concepts such as simple portfolio management, where leaders explicitly balanced investments in near-term and future growth, and visible platforms to celebrate innovative projects.

BEYOND BUSINESS AS USUAL

One of the successes Intuit has seen since implementing this approach includes helping farmers in India increase their income by 20% through a "mobile agricultural marketplace" called Fasal. Using a cell phone, farmers can find where to get the best price for their produce and get access to information that aids their bargaining. This team used a rapid validation methodology and a "fake back-end" learning approach to get the first version in farmers' hands within weeks. They identified the big assumptions, including whether farmers would act on the digital information and whether they could, in fact, increase take-home pay. That focus on the key outcome, defined by the people the team aimed to help, led to multiple experiments and the evolution of a solution with real impact. For some, the increase in take-home pay means the ability to send their children to school. "Innovation done well changes lives. It makes a difference," said Rosin.

Profile

ROY ROSIN

Chief Innovation Officer, University of Pennsylvania Health System

Roy Rosin was recently named chief innovation officer of the University of Pennsylvania Health System to develop methods to deliver health care at a lower cost, devise ways for "working smarter, not harder," and generate nontraditional business opportunities. Prior to joining Penn Medicine, Mr. Rosin served as the first vice president of innovation for Intuit, a leading software company best known for Quicken, QuickBooks, and TurboTax. While there, he oversaw changes to Intuit's management of new business creation; these changes allowed small teams pursuing new opportunities to rapidly experiment and get products to market. Mr. Rosin also built innovation programs that dramatically increased entrepreneurial activity.

Key Points

- Observed customer behavior tells you what your customers can't. Embrace even the most surprising findings.
- Give employees permission to fail, as long as it's fast and low cost. Innovation requires risk.
- Encourage rapid experimentation.

Managing Innovation Ecosystems

OVERVIEW

An "instantaneous learning network" is how one participant described the lunchtime discussions at the November 9, 2012, Mack Center conference, Organizing for Innovation in the "New Normal": Profiting from Uncertainty. Attendees from academia and industry contributed to impromptu research as they discussed and debated aspects of organizing for innovation at their respective companies.

This blending of thoughts from academic researchers and best practices from industry members is at the heart of what the Mack Center does: provide research-based guidance on managing the risks and rewards of the emerging technological innovations that allow firms to create new value for themselves and their customers. "Not everyone needs to emulate each other. There are different ways of competing," summarized Saikat Chaudhuri, assistant professor of management at the Wharton School, who coordinated the discussions. The following is a summary of the discussions sparked by four questions on innovation and organizational structures.

List some examples from your experience when the organizational architectures were either crucial to an innovation occurring or were obstacles to its realization. How do structures and processes in an organization encourage innovation—or inhibit innovation?

A representative from a large pharmaceutical company admitted that, although companies like his foster innovation in the labs, they do not always have the best organizational structure for enterprise-wide innovation. However, his company entered into a consortium with other pharmaceutical companies when many made the push into emerging markets across the globe. This allowed economies of scale and set training standards; before, each company was training its employees in these markets in different ways. It was a successful effort and was the first time his company had shared classrooms with its competitors. An earlier effort to outsource its first clinical trials was not a success until his company let go of the reins and allowed the clinical research organization to conduct trials in its own way, rather than in the strict fashion that his company had originally dictated. "This consortium idea is a unique solution because it addresses the fact that we all face the same resource constraints, and cooperating with your competition is an approach I had not heard of before," said Chaudhuri.

What can or should your own organizations do better structurally or organizationally to take fuller advantage of innovation opportunities that are within reach? What do firms in your industry need to do better to optimize innovation?

A "must have" for successful innovation is early and

visible buy-in from leadership. Without a high-level executive sponsor from the beginning, the chance that innovation will succeed is low, said one participant. Other participants spoke about their companies' efforts at virtually connected research centers as well as crowdsourcing, such as creating platforms for customers and nonemployees to collaborate.

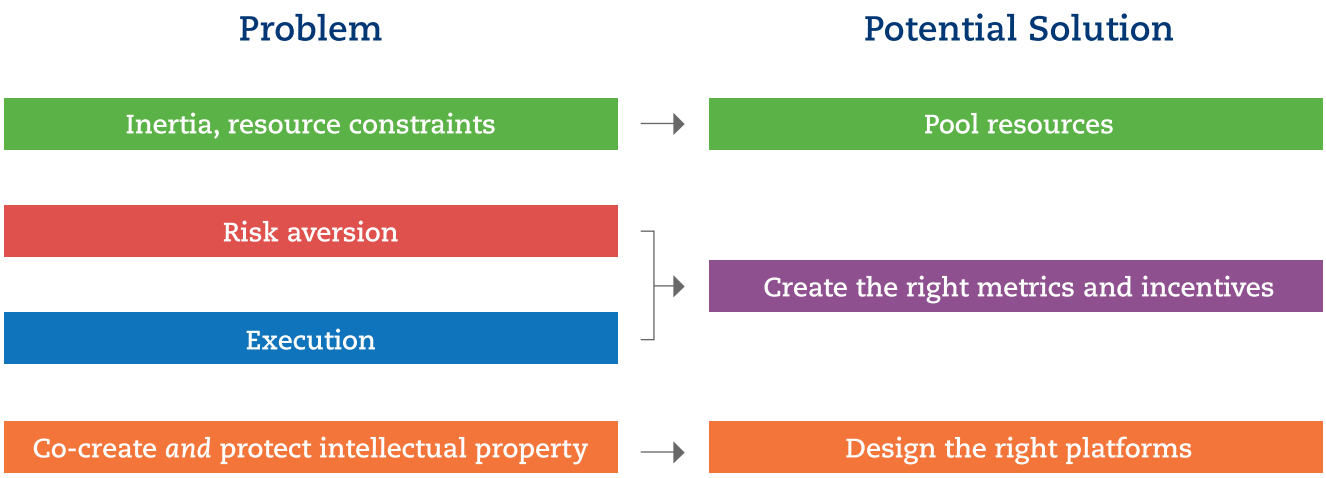
Attitudes toward risk also need to be reexamined and become more nuanced. One attendee's company chose an employee who was one year from retirement as its chief strategy officer. His proximity to retirement made it easier for him to take risks, which led to the training consortium. Corporations must move away from the mindset of strictly avoiding any risky initiative and begin defining acceptable levels of risk-to-benefit ratios. Thus, resources need to be allocated to new innovation strategies just as they are to established products or services, the participants noted. Such resource constraints were a common denominator throughout the discussions. In particular, companies that have become too lean may be too tapped out to truly innovate, making it much harder to develop an idea into a solid, working business.

Chaudhuri observed that when companies become too lean or too focused on one capability, exploration of new possibilities is hampered. "If your company is so tightly orchestrated that you're always fighting fires or thinking at the operational level, you lose the ability to step back and think about where you are headed, where resources could be allocated in the future, for instance."

Describe how co-creation strategies with partners, customers, and vendors are presently deployed in your organizations. What are the managerial challenges and opportunities? How are you tapping into open innovation?

Being customer-focused is essential when considering open innovation. Companies must develop systematic and multilayered approaches to uncovering customers' needs. Companies also need to identify the big trends in their markets and create solutions to customer problems.

Once it's been established that an innovation can unlock value—be it a joint venture, an alliance, or a partnership—it is important to get legal and human resources involved as soon as possible: legal to protect



the intellectual property and human resources to make sure personnel are in place as needs develop. If an open source approach to a particular innovation project is taken, make sure that the right people are chosen to lead this effort. Innovation champions need to have the energy, enthusiasm, and the right metrics to bring an idea through planning to successful implementation. Strategy should be driven by business units, not top-down, one attendee commented.

"Another aspect of co-creation is that you must be very focused," Chaudhuri added. "I like the idea that was shared here about being able to properly collate the data—the information—not just for gathering the knowledge, but also for being able to interact. Clearly, doing innovation across firm boundaries is very different from doing low-end, well-defined codified work. So whether it's with horizontal partners, vertical partners, or third parties, we need to find platforms and focused ways of doing this."

Discuss how you are trying to architect innovation ecosystems, with special focus on the organizational challenges this strategy poses for your leadership team. Where are you and your organization within your innovation ecosystem? How would you like to improve your position?

Structure is essential for innovation, noted a visiting scholar at the Wharton School. Yet, when companies become large, inertia develops. That is when outsourcing becomes a viable route for innovation, he said. For innovation to be successful, it's essential to conduct formal reporting on what does and doesn't work, so an organization can learn how to better run the next innovative initiative. Surprisingly, this step is often ignored. Maintaining a deep dialogue with customers, especially as new products are developed, is one way of systematizing innovation development.

Another central part of the day's presentations and discussion was the need to move beyond a product-

centric approach and toward innovation. Innovation has to be employed across the corporation, noted one participant. The focus must be on customer solutions, not just individual products. Conducting systematic "Voice of the Customer" reviews and reaching as many customers as possible is vital to generating innovation solutions to unmet needs.

One attendee noted that traditional projects are not subject to resource constraints the way new innovation projects are. Passing the cost of capital review is the only barrier for more traditional projects, while with newer, more innovative projects, everything is constrained from the beginning.

"It's an interesting paradox," agreed Chaudhuri. "It's the nature of innovation. In the academic sense we think of two fundamental activities: one is exploration and the other is exploitation. So once you've chosen a particular path it becomes an efficiency exercise; you're committed to it. You put the resources behind it to pull it through and you're then committed to it. In the exploration phase you need to have a lot of resources available and the problem of course is that we have only a fixed set of resources."

Ultimately, corporations need to create cultures that welcome and support innovation. As most large companies are now multinational, tapping into employee networks can provide solutions from other parts of the world. What's seen as a constraint in one part of the world may be seen differently elsewhere. Employee diversity can be a tremendous asset if tapped.

"Resource constraints is a problem we all face," summarized Chaudhuri, "which is why we seek solutions with external partners—we are limited in both time and resources and even perhaps our own expertise. Firms can become vulnerable if they are only good at one thing. When conditions change, market-wise or technology-wise, then your key capabilities can become rigidities and it's very hard to bounce back."

Inertia is another challenge that participants identified. In large, multinational companies, moving a good idea forward can be an insurmountable challenge without dedicated personnel, especially when using open innovation and working with both internal and external employees.

Strategy cannot be left out of the picture either, Chaudhuri noted. "Different firms are in a position to do different things … our decisions around innovation, as mentioned, are also governed by resource constraints and by the prioritization that we have to do. We can't take on every innovation."

ABOUT WILLIAM AND PHYLLIS MACK

William L. Mack (W'61) is a former Vice Chair of the Board of Trustees of the University of Pennsylvania and now a Trustee Emeritus. He has served on the Wharton Board of Overseers since 1998 and is presently the Vice Chair; he has provided invaluable counsel as a member of the Undergraduate Board since 1989. He was Vice Chair of the Advisory Board of Wharton's Zell/Lurie Real Estate Center. Mr. Mack is the Founder and Chairman of AREA Property Partners, a major global real estate investment company. Mr. Mack is Chairman of the Board of Mack-Cali Realty Corporation, one of the nation's largest real estate investment trusts (REITs).

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The Mack Center's research community studies how firms compete, survive, and succeed in the face of innovation. They share their findings and knowledge through publications, conferences, and workshops and by providing guidance to decision makers in technology-driven industries.

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