

## EXECUTIVE SUMMARY

### RESEARCH QUESTION

1. **Shifting Mindsets:** How do you shift the mindset of employees from a product based (siloes) system to one involving portfolio solutions (cross functional working) to provide better solutions to customers?
2. **Speeding Innovation:** How do we balance the need for processes, to ensure quality of products, with the speed of innovation?
3. **Innovation by investing in Diversity and Inclusion**

### INTRODUCTION

As a result of the costs associated with the Affordable Care Act, hospitals have changed the way they operate. This in turn has caused companies across the healthcare and devices sector to adapt their business models to cope with this change, resulting in changes to the organizational structure with an emphasis on improved collaboration across verticals, advancing innovative solutions faster and finding new markets for products. We believe technology and improving the diversity within R&D teams can help transform organizations, and help them achieve their business goals.

### SHIFTING MINDSETS

A major concern faced by companies moving from a bifurcated organization to an integrated one, that shares information and develops solutions using resources from all parts of the organization, is the lack of interaction and communication between verticals. Based on our research, we believe that using **companywide virtual networks** to enable communication and interaction between verticals can be very effective in making employees think past a product centric solution to a portfolio centric solution. By using virtual networks to locate and leverage needed knowledge and expertise throughout the organization, we can create a global community that not only feels included but also is able to make problems visible and solve them faster, accelerate decision making, and increase innovation<sup>1</sup>.

Creating a virtual network however requires time and dedicated integration of social media in the organization. The company must craft a strategy with its end goal of integrating social media in mind, and use this strategy to integrate social media into the organizational fabric.

Some steps to integrate social media into the organization include, <sup>2</sup>

1. Identify objective of using social technologies
2. Based on the objective, select a relevant social technology platform. *e.g. LinkedIn for networking and building relationships, Facebook for multiple purposes including networking*
3. Hire or designate personnel who are experts in the technology
4. Devote at least two hours every day to the platform
5. Follow the 80/20 communication rule, where 80% of the time something of value is shown to the user and 20% of the time the company's services are sold to the user
6. Always respond to negative comments and try to find a solution to the issues

The success stories range from individuals who are better connected in the organization and can make new connections on demand, to improvements in knowledge transfer and application, to quantified business benefits measured by increased efficiencies and cost reductions <sup>3</sup>.

### SPEEDING INNOVATION

A common issue facing major companies, in healthcare or other regulated industries, is the need to balance speed of innovation with the need for processes. We believe the answer to this question is **crowdsourcing**. An early example of crowdsourcing comes from 1714, when the world's top scientists (including Giovanni Domenico Cassini and Isaac Newton) were unable to develop a method to determine longitude at sea, a contest was announced by the British Government with the winning entry coming from a carpenter and clockmaker, John Harrison.

Crowdsourcing exposes a problem to widely diverse individuals with varied skills, experience, and perspectives. It can operate at a scale that exceeds even that of the biggest and most complex global corporation, bringing in many more individuals to focus on a given challenge. In certain situations, that means we can solve problems more efficiently.

**Merck** found a better way to target diseases through a competition for ideas which was won by a team of computer scientists (who under normal circumstances would never be consulted for a disease related problem), and the idea is currently being implemented.

Using crowdsourcing companies are able to involve partners early in the product development phase, allowing for faster refinement and development of ideas. This helps companies narrow down products before scaling up production, saving millions of dollars. **IBM** partnered with Apache in the late 90s to build a free and far better web server infrastructure tool than its competitors <sup>4</sup>.

In addition to benefits of scale and diversity, crowds offer incentives that companies find difficult to match. Crowds, research shows, are energized by intrinsic motivations—such as the desire to learn—that are more likely to come into play when people decide for themselves what problems to attack, the opportunity to burnish one’s reputation among a large community of peers is another strong motivator (as is money, to be sure). Also, crowds are often more cost-effective per output or per worker than traditional company solutions.<sup>4</sup> **GE Aviation** was able to reduce the cost of an engine bracket by 84% without any impact on quality <sup>5</sup>

The internet has made collaboration and idea sharing a lot easier and more effective; some common platforms used for crowdsourcing include Kickstarter, Indiegogo, and Kaggle. Crowdsourcing generally takes one of four distinct forms—*contest*, *collaborative community*, *complementor*, or *labor market*—each best suited to a specific kind of challenge<sup>4</sup>, see Appendix A for more details.

## INNOVATION THROUGH DIVERSITY AND INCLUSION

A diverse and inclusive workforce is necessary to drive innovation, foster creativity, and guide business strategies. It is no longer simply a matter of creating a heterogeneous workforce, but using that workforce to create the innovative products, services, and business practices that can give the company a competitive advantage in the marketplace <sup>6</sup> (see Appendix B). To build diversity into the strategy of innovation, first, *a well-defined organization to carry out its implementation* is required (see Appendix C). Companies like AT&T, Mattel, and Intel organized employee self-governed groups as Business Resource Groups (BRGs) which foster inclusion among women and other minorities within their organizations, and also provide valuable insight into the markets they reflect. These organizations help the companies define products that work for their regions or demographics (see Appendix D). These diverse employee groups have saved their companies from making potentially costly mistakes.<sup>6</sup> At MasterCard Worldwide, employees in BRGs gain an opportunity to enhance their cultural awareness, develop leadership skills, and network with colleagues across all business units and at all levels, including senior leadership.<sup>7</sup> Second, companies need to sow the seeds *to build a culture of diversity and inclusion* in order to spark the innovation. The “six behaviors” to successfully drive diversity-based innovation are - **1.** Ensure that everyone is heard; **2.** Make it safe to propose novel ideas; **3.** Give team members decision-making authority; **4.** Share credit for success; **5.** Give actionable feedback; and **6.** Implement feedback from the team. Leaders who give *diverse voices equal airtime* are nearly twice as likely as others to unleash value-driving insights, and employees in a “speak up” culture are 3.5 times as likely to contribute their full innovative potential. <sup>8</sup>

## CONCLUSION

After going through a wide variety of articles, we feel that **technology can and will play a vital role in the future of organizations**. In the form of technology networks and crowdsourcing, technology can improve company processes and efficiently bring innovations to the market. In addition to technology, organizations have begun to realize that to compete in today’s complex, ever-changing global marketplace, having a diverse workforce is a vital source of competitive advantage and will play a crucial role in the future of business.

### **CITED REFERENCES**

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<http://www.mastercard.com/us/wce/PDF/diversity-brochure-final.pdf>
8. Hewlett, Sylvia Ann. "How Diversity Can Drive Innovation." Harvard Business Review, 01 Dec. 2013. Web. 20 Mar. 2015.  
<https://hbr.org/2013/12/how-diversity-can-drive-innovation>

### **FURTHER READING**

1. Crowdsourcing cures  
<http://search.proquest.com/abicomplete/docview/1022168708/25301782C77C4DA4PQ/13?accountid=10267>
2. Enabling a new way of work  
<http://web.a.ebscohost.com/ehost/pdfviewer/pdfviewer?sid=e582719e-cc5f-466c-a1d0-da23182f766c%40sessionmgr4004&vid=16&hid=4107>
3. Innovation in Medical Device sector: an open business model for high-tech small firms - Technology analysis & strategic management. 23, 8, 2011, 807-824; Davey S.M; Brennan, M.; Meenan, B.J; McAdam, R

### Appendix A: Types of Crowdsourcing

	PURPOSE	CHALLENGES	BEST USE
Contests	Generating high-value solutions to complex or novel problems through large-scale and diverse independent experimentation	The problem must be generalized and stripped of company-specific details	Highly challenging technical, analytical, and scientific problems; design problems; creative or aesthetic projects
Collaborative Communities	Aggregating a large number of diverse contributions into a value-creating whole	The crowd lacks the shared culture and cohesiveness of a company, making it harder to control; intellectual property can't be protected	Customer support communities; wikis; open-collaboration projects for information and software products with complementary assets inside the firm; FAQs
Complementors	Encouraging innovative solutions to users' many different problems with your core product	It can be technologically daunting to provide access to the functions and information in the core product while protecting your assets	Open operational, product, or marketing data initiatives; content mashups; apps
Labor Markets	Efficiently and flexibly matching talent to discrete tasks	Identifying which problems to farm out and who in the organization will manage the labor pool may be difficult	Well-established categories of work that can be clearly described and evaluated; human computation; repeated tasks

Reference: Harvard Business Review, Using the Crowd as an Innovation Partner (2013)

### Appendix B: L'Oréal USA Harnessing Employee's Diverse Perspectives for Innovation

At cosmetics giant L'Oréal USA, the importance of diversity and inclusion is expressed by its formula for diversity management:

*DIVERSITY + INCLUSION = INNOVATION & SUCCESS®.*

This formula permeates many functions of the company from recruitment to sales to community outreach. "The recruitment of diverse talent for our organization is critical to our ability to build our business and drive future growth," said Sumita Banerjee, vice president, talent recruitment at L'Oréal USA. To that end, company executives connect with more than 3,000 students on campus each year via business games, professor partnerships, student organizations, and campus presentations. Additionally, executives maintain a network of strategic partnerships to connect with "experienced" talent. These relationships include Junior Military Officers, outstanding women in science, National Diversity recruitment fairs, and others. "The diversity of thought, industry, and multi-market backgrounds of the candidates that we recruit directly impact our ability to innovate and give us a foundation upon which we are able to help to achieve our business goal of reaching a billion new consumers in the next 10 years," added Banerjee. But it's not enough to build a diverse and inclusive workforce if you don't put that talent to use. L'Oréal USA executives understand the value and insight the company's diverse workforce can provide in building consumer brands and offerings that cater to specific ethnic groups. One case in point is a research project focused on foundation for women of color. Balanda Atis, group leader, research and innovation at L'Oréal USA, worked on a project designed to shed light on the problem that non-Caucasian women face. "As a woman with darker skin, I have always had a difficult time in trying to find a shade of foundation that was appropriate for my skin tone. Furthermore, I know that this is a concern for consumers." Through a series of studies conducted nationally that interviewed women and measured skin tones, Atis and a team of scientists were able to demonstrate scientifically that women of color have specific needs. **"Diversity gives us a competitive**

*advantage,”* added Howard Lewis, vice President of sales and education for Mizani, a L’Oréal brand that targets women of color. “In order to create a sustainable business model, we have to include as many consumers as possible and provide the best products.” One such product is Mizani’s True Texture line. Scientists at L’Oréal spent two years studying 1,000 heads of hair and came up with a “curl key” that defines eight types of hair and how to treat each specific hair type. The True Texture line, for women of color who want to wear their hair naturally curly, was one of the products that arose from the research project.

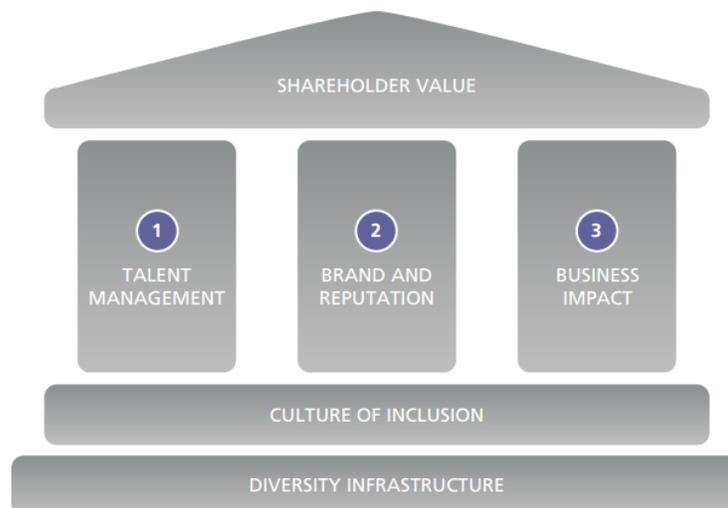
Reference: Forbes Insight, Fostering Innovation through a Diverse Workforce (2011)

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### **Appendix C: Structure of the Diversity Strategy**

At MasterCard, combining their industry expertise with the diverse insights from their global workforce is at the core of our diversity strategy. At the foundation is the dedication to cultivating an environment for all employees that respects their individual strengths, views, and experiences. They aim to promote increased engagement, which naturally leads to greater innovation and productivity. Upon that foundation, they have erected the following *three strategic pillars*:

1. **TALENT MANAGEMENT:** This reflects the commitment to not only hiring employees with diverse backgrounds and global competencies, but also developing their knowledge and skills so all employees are fully prepared to deliver the customized, competitive solutions.
2. **BRAND AND REPUTATION:** This represents the determination to forge partnerships and seek sponsorships that help strengthen MasterCard Worldwide’s commitment to be a global diversity leader.
3. **BUSINESS IMPACT:** This epitomizes the resolve to leverage the company’s diverse talent pool so they can identify innovative products and services to meet the needs of the many varied markets in which the company operates.



The infrastructure includes:

» A *Chief Diversity Officer* position at the company’s senior management level.

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» *A Global Diversity and Inclusion Council* that drives the agenda for change and guides the strategy. The 18-member council, comprised of senior leaders from our business units, meets every six to eight weeks to review progress against their plan.

» *A Global Diversity Office* to provide a framework that supports business processes and procedures by considering, integrating, and leveraging diversity globally.

» *Eight Business Resource Groups (BRGs)* to take advantage of the unique attributes of the employees to create opportunities for growth, innovation, and success. These self-governed groups act as internal business consultants to provide consumer segmentation, research, cultural insights, and access to networks.

» *A Supplier Diversity Program* that enhances opportunities for minority-, women-, veteran-owned, and small businesses that supply goods and services to MasterCard Worldwide globally.

» *An annual Summit* that brings together more than 150 MasterCard Worldwide employees from various business units to gain critical insight and input about the role of diversity outside the company. Participants also share best practices to leverage diversity for better business results.

Reference: MasterCard Worldwide, Global Diversity and Inclusion (2012)

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### **Appendix D: Mattel Employee Resource Groups Drive Innovation**

Mattel knows the value of harnessing the unique insights and experience its employees bring to the table. Two years ago, company executives decided to launch a line of dolls that were going to be marketed to African-American girls. In order to ensure that the dolls were culturally sensitive, senior management enlisted the aid of MAAF, *Mattel's African-American Employee Resource Group*, to advise and guide Mattel's marketing team through the launch of the product. Today, it is one of the company's best-selling, minority-focused brands. During the course of several meetings, MAAF members helped to come up with the name of the line, "So In Style," and weighed in on the overall look and concept of the doll. "They asked us very candid questions about the look of the doll. Did they get the skin tone right? What about the nose and the hair?" said David Simmons, associate manager of account planning and MAAF member. MAAF members also weighed in on the dolls' names in order to make sure they also were culturally sensitive. "They wanted to make sure we were comfortable with the names they'd chosen," said Simmons.

Reference: Forbes Insight, Fostering Innovation through a Diverse Workforce (2011)