Stories of people thinking in good ways about organizational excellence.

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Open Source Your Innovation

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Open source has gained popularity due to its versatility. Its roots stem from the computer industry where programmers openly shared code in order to develop, debug, and improve software. The Linux operating system and the Firefox web browser were born from this movement, becoming formidable challengers to the products of the industry leader, Microsoft. While technology enables open source to flourish, open source is not limited to the development of new technology.

The philosophy behind open source is that it is a combination of community building and competency building. The creation of knowledge—and thus the development of new innovations—resides within the variety of social networks that exist around us. Open source innovation might be a virtual network or a literal network of product developers, customers, users, etc. that share information and resources to create breakthrough innovations or to make incremental improvements to existing innovations.

University of Chicago sociologist Ron Burt has written about networks with “structural holes” that have enough inroads from individuals to allow for the sharing of new ideas. Open source innovation is essentially a network relationship among individuals in which the network environment remains open enough (i.e. it contains structural holes) to allow for new ideas to take root, which might yield new innovations. Managing knowledge in open source innovation communities starts with maintaining the networks themselves and keeping track of the flow of knowledge and ideas within them.

In open source innovation communities, value chains are not represented by ‘handoffs’ among mutually exclusive parties, but rather by overlapping communities of users and developers. Known as communities of practice, these are groups of people informally bound together by shared enthusiasm for a joint enterprise. Their purpose is to build and exchange knowledge. Involvement is self-selected and is held together by passion, commitment, and identification with the group’s expertise.

Another and more adaptive model is further defining the qualities of these innovation communities. Communities of competence satisfy the desires for community in a workplace, but they are designed to incorporate and strengthen peoples’ competencies, self-confidence, and performance in the increasingly boundary-free organizations that require a great deal of self-authorizing and ambidextrous behavior. Members of such communities are shown to be more skilled at meeting demands for increased productivity and innovation.

The strengthening of both community and competency drives innovation. Yet many companies are challenged in their abilities to develop these critical areas. The failure to develop both community and competency is, at its heart, a failure to nurture a culture of learning. Maintaining innovation networks and managing the flow of
knowledge within them involves a dedication to fostering community, competency, and, ultimately, learning. Let’s take a closer look.

Imagine innovation without a community

Daimler-Benz and Chrysler Corporation merged in 1998 to form DaimlerChrysler under the premise that it would be a “merger of equals.” The merged company anticipated the sharing of resources and knowledge in order to streamline costs, strengthen quality and engineering, and create product innovations. Nearly a decade later, DaimlerChrysler sold nearly 80% of its stake in Chrysler to the private investment firm Cerberus Capital Management. Today, Chrysler LLC and Daimler AG stand alone as separate companies.

The merger was one of “yin and yang” opportunity for each partner to complement each other’s capabilities. While the “yin and yang” mentality reflects community, such promise was largely absent at DaimlerChrysler. The two halves remained largely separated from one another with little shared costs or innovations, facing quality problems at Mercedes, a lower Chrysler market capitalization, and wary German product developers concerned with the reputation of the Mercedes brand.

Large mergers are often billed with the best intentions to innovate and grow at a sum greater than the two parts could otherwise grow independently (i.e. making 2+2=5), but the lack of effective community building between merged units often results in large scale failures with little innovation or shareholder value to show for it. While the innovation community suffered during the years of the DaimlerChrysler’s entity, the newly separated companies each face the same task of continuing to develop their respective, independent communities. The two companies continue to share resources in the area of drive systems. Ironically, without the burden of forced relationships that are compelled to flourish under the formalities of a merger, the two independent companies might be in a better position than they would have been as a single company to develop an innovation community around the development of drive systems.

Alternatively…

Herman Miller is widely recognized as a producer of some of the most innovative designs in the commercial and home furniture markets. Herman Miller is also known for its community of designers and the way in which this community is nurtured.

In one sense, Herman Miller takes an open source approach to design by tapping into a network of independent designers who are kept at arm’s length from the daily operations of running the business. In another sense, Herman Miller’s designers form a community among themselves such that they collectively learn the ropes of the company and learn how to work collaboratively on projects to create design solutions.

The track record at Herman Miller has been impressive. From the iconic lounge chair, designed by Charles and Ray Eames in 1956, that is still produced today, to the sophisticated Aeron chair designed by Don Chadwick and Bill Stumpf, Herman Miller has produced numerous design innovations while embracing the design community and nurturing its design partners.
The strong Herman Miller community enables the company to nurture a culture of learning. For every design that becomes a legend, several lesser designs are ways for the design community to determine what works and what doesn’t work in order to move toward the next innovation. Even the company at-large has reinvented itself numerous times through learning and self-assessment, most recently when the market for new office furniture declined with the dot-com bust. The company embraced its internal community to determine its strengths and chart a plan for new innovation and growth opportunities. Today, Herman Miller prides itself as an innovative company that happens to sell a lot of furniture. In 2006, Herman Miller launched more new products than at any time in its history. The company also engages eco-metrics such that a “zero environmental footprint” is a major component of its innovation and growth strategy.

Now Imagine Innovation Without Competency

JetBlue turned a profit in the tumultuous airline industry by differentiating itself from both the legacy carriers and the low-cost carriers with some simple innovations such as leather seats and satellite TV with comprehensive in-flight entertainment for every passenger (media marketing partners). The company is also known for its strong sense of community within the workplace giving it a consistent, if nascent, track record of employee and customer satisfaction.

Recently, however, JetBlue suffered a major setback. In February 2007, the company stranded thousands of passengers during winter snow storms by leaving them to sit on airplanes for hours while grounded. Many flights were ultimately cancelled, the company’s phone and reservation systems failed to process information quickly enough, and many airline employees simply did not know what to do. In short, the company showed a lack of competency when pushed to the limit.

The innovations alone will not substitute for a competency failure. Even the most luxurious seats become uncomfortable after sitting in them for several hours and the satellite TV monotonous. JetBlue suffered some deserved criticism immediately following the incident, which ultimately forced the CEO to step down. The new CEO, however, committed to the long term health of the company by learning what worked and what didn’t work during the course of the recent events in order to emerge as an operationally stronger airline. A competency failure can become a learning opportunity, leading to innovative solutions, if embraced correctly.

Alternatively…

Some of Toyota’s most significant product innovations include the hybrid Prius and the Lexus line. Yet for each breakthrough innovation there is a continuous output of smaller innovations. Innovation at Toyota might be as simple as an improved radio control or an improved transmission component. The fact that Toyota innovation can be described as incremental and invisible is a testament to Toyota’s competency building culture. The company embodies the Japanese concept of kaizen, or continuous improvement. Inherent to this is a culture of competency building within its workforce. Toyota builds the competence within its workforce on how to embrace continuous improvement.
Toyota’s community is strong too, as it embraces many traits of an open source development community including self-authorizing behavior. An example that ties Toyota’s competency and community to a learning and innovative outcome is the series of events that occurred after a fire in 1997 that destroyed the factory of a critical part supplier. Immediately after the fire, several of Toyota’s tier one and tier two suppliers collaborated by mobilizing both their knowledge and resources, which ultimately led to the production of a suitable replacement part by a tier two supplier. The tier two supplier achieved an innovation by sharing knowledge and designing a product which was new to them. The original supplier learned from the experience and drafted procedures for potential future catastrophes. Toyota enabled its suppliers to build new competencies, while it effectively managed its supplier community.\textsuperscript{12}

### How to Build Community and Competency—Learning from Small Firms

The nurturing of a community/competency-building learning organization is a task that many large companies face but need help in implementing. Some of the previously discussed example companies enjoy the benefits of either being young, entrepreneurial, and flexible, or well-established with a foundation in these principles. Small firms set an example, both directly and indirectly, on how to build a learning organization around community and competency.

Menlo Innovations is a small software development company based in Ann Arbor, Michigan, whose value proposition goes beyond the software it sells to include some of the pieces of the community/competency-building puzzle. Named after Thomas Edison’s Menlo Park laboratory, the company embraces many of Edison’s principles of community and continuous improvement, and iterative innovation.

The complex hiring process at Menlo is more akin to dating rather than a formal interview. The initial interview is like a speed dating event, and the secondary interview is more akin to ‘going steady.’ Job candidates are evaluated on what they know, willingness to learn, and the extent to which they strengthen the Menlo community.

Menlo works against the cultural norms of the software development world by taking a generally introverted group of programmers and sitting them in an open room at large tables. Two programmers always work at the same computer on the same project in order to learn from one another and build competencies. Once a week, the pairs are reshuffled in order to nurture the work community and maximize the amount of competency-building interactions.

While the internal Menlo community is strong, their relationship with clients is based on the same principles of community, and these principles allow Menlo to provide clients with more than just software. Menlo’s internal structure eliminates the ‘tower of knowledge’ model. The image of the star programmer who creates a ‘killer application’ is replaced with a community driven approach that embraces the fact that only the client knows what’s best for the client. Members from the Menlo team visit the client’s worksite in order to see how the client uses software and other technology, and the client is required to spend time with Menlo in order to learn about their community and practices.
Many of Menlo’s clients are large companies and other organizations that have learned from them about how to build some of these same competencies into their own organizations. Clients don’t learn from Menlo because of a client-consultant relationship (a relationship in which one side has all the answers). Instead, clients learn from Menlo because they are part of a larger community of competence (a relationship in which both sides learn from one another). Menlo’s clients gain competence from Menlo, and Menlo gains competence by learning from the client to produce the most important innovation of all—a product solution that does what the client needs most.

Putting it all together

Imagine a company in which community and competency were so critical to their value proposition that a failure of either one would devastate the company’s reputation. Think eBay. Imagine if eBay failed with respect to community or competency. eBay’s success is attributed in part to the success of its user community. The company has established rules that facilitate the strength of the user community. If rules did not exist, the eBay buying experience would be significantly more difficult. Millions of buyers and sellers would have no way to establish trust among each other.

Another equally important community that eBay manages is its business partners that make the eBay experience possible. eBay has been described as a “network orchestrator” that manages a community of business partners that span the value chain ranging from the search engines that display eBay’s website to the credit agencies that authenticate consumer credit data, to the shipping partners that facilitate the transfer of goods. Community members have a strong incentive to innovate because it strengthens their position within the community. Simple innovations such as the readily available eBay shipping boxes that are co-branded with the U.S. Postal Service and the USPS shipping labels that eBay sellers can print from home stem directly from this orchestrated community.

eBay’s success is also attributable to its technological competencies. The company has built and managed a complex website that must be reliable and facilitate many different types of transactions. eBay’s own corporate processes reflect its commitment to the nurturing of competency and community. In a process similar to the interchanging of work pairs described at Menlo Innovations, the company recently initiated a ‘cubicle swap,’ which is intended to bring the company’s engineers and business people together to work collaboratively on projects.

One of eBay’s most pressing challenges it currently faces is the usability of its website. Online shoppers have countless options for buying and selling goods. eBay must continuously reinvent its technical competencies in order to stay on top of usability issues. The company is engaging its customers by researching how they use eBay in order to improve the eBay experience. Listening to customers and including them in your “community” of product developers is a way that a large company can co-create with customers. Menlo Innovations does this intimately with each client. eBay does this through specialized research teams that work with selected customers.
Conclusion

Innovative companies are organizations that nurture both community building and competency building. Community and competency together yields learning about how to do things better, which is the fundamental purpose of innovation. Open source facilitates knowledge sharing, and it facilitates diversity within those sharing mechanisms. Open source breaks down barriers that were once thought to protect companies from competitors by rewriting the rules of competition and collaboration. Leading the charge to achieve this requires self-authorizing behavior since innovation networks and communities rarely exist within the architecture of formal organizational structures. The checks and balances to maintain their success lie solely within the hands of the participants. It also requires ambidexterity and flexibility. The market is unpredictable. Strategies fail. Talented people move from one company to the next. Innovation can not be planned, but leaders build the capacity to recognize and seize the right opportunities. Community and competency will give you capacity to ask what worked, what didn’t work, learn, and then innovate.

Sidebar: Learning the Rules of Open Source

The open source form of innovation brings knowledge resources together in order to generate new ideas. Being collaborative in nature, open source projects are iterative and ongoing. As leaders look for new growth opportunities, it is increasingly critical to consider the rules of open source and how to use this form of innovation to create value.

Open source is about harnessing the collective creativity within communities in order to generate knowledge and ideas. Open source shifts innovation’s center of gravity and creates diseconomies of scale. It is no longer sufficient to ‘own’ every innovation-producing resource. Instead, companies must also integrate a variety of loosely coupled innovation-producing resources.

Take Herman Miller and Swedish-based Ikea. Like Herman Miller, Ikea manages a network of freelance designers who can focus on what they do best. The company gives them design challenges, which forces the designers to search and reapply what works and what doesn’t work. Ikea also works with a variety of manufacturers to build its products. It has even partnered with a ski manufacturer because of that company’s expertise in molding wood.

Herman Miller and Ikea innovate through integration. Product innovations and value are created by managing a network of innovative designers who are allowed to focus on what they do best. These designers are part of an open source network where they are given the opportunity to learn and perfect their craft.

Silicon Valley is a breeding ground for open source projects. It is also a very competitive environment—companies seek funding while investors are looking for the next breakthrough idea. Yet Silicon Valley wonderfully illustrates how these two forces, collaboration and competition, intersect to produce value.
One example would be Zend Technologies of Cupertino, California. While Zend operates an open source website programming language that competes with Sun Microsystem’s Java and Microsoft’s ASP.net languages, one of Zend’s major sources of venture capital is the funding arm of Intel, and it has collaborative partnerships with IBM, Oracle, and even (despite its competition) with Microsoft. In total, Zend has acquired over $36 million in venture capital funding.

Why is a small start-up so attractive to both investors, as well as larger companies, in the computer industry? Zend’s open source community and its partnerships place the company at the core of a larger innovation network.

Many companies are realizing that co-creating with their customers is a way to find new innovative growth opportunities. Companies decreasingly dictate needs and corresponding solutions to their customers. Instead, companies and their customers are realizing the growth potential in figuring things out together. In this relationship, knowledge-sharing and mutual learning augment innovation.

What are the reasons behind the growing popularity of Wikipedia? Wikipedia is an open source, online encyclopedia whose content evolves and expands as users contribute to its content. Despite criticism from scholars, who question the integrity of Wikipedia content, it gives users the opportunity to see how information and the understanding of any one topic have evolved. The user-generated approach to Wikipedia is a real time window into the social construction of knowledge.

Wikipedia is disruptive. Wikipedia directly challenges what people consider valid knowledge. Traditional encyclopedias are carefully researched and edited by a small group of scholars who judge the worthiness of knowledge and traditional encyclopedias become obsolete the moment they are printed. Assuming that most Wikipedia entries are developed by people who actually have knowledge in the respective subject, Wikipedia is a democratic, open source, real time approach to knowledge development.

In the open source world, anybody can innovate and create value. Think how eBay and Amazon Marketplace work. Small businesses and individuals can sell their goods on either network, and user feedback strengthens the reputation of the network and its participants in a self-reinforcing loop. eBay and Amazon build the value of their respective businesses through this community, and the individual sellers who comprise each network build value for themselves.

By using open source components, someone who is inexperienced at building a website can now build a very functional intranet for a small business by integrating various web-based applications into a single package. Open source levels the playing field in terms of skills and competencies. Components in the open source world are developed by experts and are assembled by expert users.

Endnotes, continued


5. D. Beckwith, “Design’s Strategic Role at Herman Miller (An interview with Don Goe-


16. Ibid.

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