Welcome to World 2.0: the new digital ecosystem

Welcome to World 2.0:

The Age of Creativity, Connectivity, Collaboration, Convergence and Community

Dr. Fahri Karakas

Research Fellow

The Open University, Business School

IMPEL (International Management Practice, Education, and Learning) Centre

Walton Hall, Milton Keynes MK7 6AA

United Kingdom

Tel: +44 (0) 1908 655 888 - ext. 58068

Welcome to World 2.0:

The Age of Creativity, Connectivity, Collaboration, Convergence and Community

Abstract:

Purpose – The purpose of this paper is to introduce and describe *World 2.0*; the interactive, hyper-connected, immersive, collaborative online ecosystem.

Design/methodology/approach – The paper reviews paradigm shifts in technology and the Internet that transform the world of business and innovation.

Findings – The author proposes five shifts that characterize and describe World 2.0: a) creativity, b) connectivity, c) collaboration, d) convergence, and e) community. These shifts define the new global landscape of business, technology, and innovation.

Practical implications – The article provides managers and professionals strategies for innovation in the World 2.0 ecosystem.

Originality/value – The concept of World 2.0 provides managers and professionals a fresh perspective and an integrative vision of the 21st century business and innovation landscape.

Key words: Web 2.0, open innovation, global brain, collective intelligence, creativity, connectivity, collaboration, convergence, community.

Paper type: Viewpoint or conceptual.

The world of technology, communications, and business is undergoing extensive transformations. The paradigm shift we witness in the Internet, telecommunications, and mobile technologies deeply influences the business world around us. This paper aims to provide a big picture of the new paradigm through the introduction of the concept of "World 2.0".

I define *World 2.0* as an interactive, hyper-connected, immersive, virtual, digital online ecosystem or mega-platform where users create and share knowledge (e.g. Wikipedia, Delicious), innovate and collaborate together (e.g. Innocentive), have fun and entertainment (e.g. Zango, Second Life), interact, network or connect with each other (e.g. LinkedIn, Facebook, Skype, or Twitter), design new products or buy and sell merchandise (e.g. eBay, Craigslist, or Amazon), connect and communicate globally with mobile devices (e.g. iphone, Blackberry), write reflection blogs (e.g. blogger), share their photos (e.g. flickr), podcast their presentations or make creative films (e.g. YouTube), develop projects (e.g. wikis or Google docs), and express themselves to the world.

World 2.0 is radically different from the world as we know it: The blogosphere is doubling in size every six months. The new generation Internet tools, so-called web 2.0 tools have enabled the growth and popularization of web-based communities, social-networking sites, video sharing sites, wikis, blogs, and folksonomies. These tools have dramatically changed the global landscape, making it possible for professionals from all over the world to collaborate, interact, and participate in the process of innovation and value creation. In our everyday lives, we have all become mobile data users - sending e-

mails, sharing photos, downloading songs, and using social networking sites. Whole libraries and free MIT courses are being placed on the Internet, as they make up the "global commons". The *semantic web* (Web 3.0) will allow applications to "understand" sentences and natural language. More than half of today's teenagers ("The Net Generation") are mobile data users and a great majority of them are using social networking sites or web 2.0 portals. In the P2P Economy, peer-to-peer networks transform the one-to-many model of communication to many-to-many model where consumption and production are merged in a distributed economy of micro-production systems and micro-income streams (Stalnaker, 2008). "Massively multiplayer online games" or "alternate reality games" attract and support thousands of players simultaneously on the Internet, where players interact, communicate, cooperate, and compete with each other on a grand scale. Avatars play, shop, communicate, entertain, travel, and interact with each other on immersive digital environments, highly visual 3D virtual worlds and metaverses. Factors such as 3D graphics, CAD software, graphics hardware acceleration, interactive user input, head mounted displays, and realistic environmental effects like wind, seat vibration and ambient lighting make users feel like they are part of the simulated "universe".

How can companies adapt to cope with these changes? Companies facing world 2.0 have been changing their innovation models. Companies adopt new business models to harness collective intelligence of people outside their boundaries to spur breakthrough innovation (Nambisan and Sawhney, 2007). Instead of relying on internal R&D groups, companies form trust-based long term relationships with external innovators and

customers to build vibrant and innovative business ecosystems (Tapscott and Williams, 2006). They tap into the global brain and benefit from the global talent pool to spur innovation and creativity in the digital ecosystem. For example, P&G increased its R&D productivity by nearly 60% and doubled its innovation success rate using these approaches. A striking example illustrating the open innovation model is the case of InnoCentive, a global community of scientists from diverse disciplines and from 170 countries that helps companies find solutions to their R&D problems. This paper aims to provide managers and professionals an integrative vision of this changing business and innovation landscape through the concept of world 2.0.

Five Shifts of World 2.0

In this paper, I contend that world 2.0 ecosystem can be characterized and described through five C's: a) creativity, b) connectivity, c) collaboration, d) convergence, and e) community (Figure 1). These world 2.0 shifts are described below:

Creativity: The first shift is the increasing importance of creativity and innovativeness in digital platforms and future business platforms. Creativity and integrative thinking are becoming increasingly important in the 21st century to find new ways to bridge some of the global social issues like poverty gaps. Authors such as Pine and Gilmore (1999) have been reflecting on the experience economy where work is theatre and every business is a stage. Some others have been talking about how information is shifting to imagination in *the dream society* (Jensen 1999), or how the rise of *aesthetic value* ("style") is

transforming commerce, culture, and consciousness (Postel, 2003). Organizations have been trying to introduce creative ways of organizing and work, such as building connections through networked organizations, utilizing swarm intelligence or creating collective intelligence in cross-disciplinary work teams. Similarly, Pixar attracts the best creative talent and utilizes a peer-driven process for fostering "*collective creativity*" or "*group genius*" to come up with artistic and technological breakthroughs in the computer animation movies industry (Catmull, 2008). Some business thinkers, such as Merritt and Lavelle (2005) propose that tomorrow's B-schools (business schools) might actually be D-schools (Design Schools). Similarly, Pink (2004) puts forward the visionary idea that the MFA degree (Master of Fine Arts) will be the new MBA (Master of Business Administration) of tomorrow; as business is revolutionized by "design thinking" (Dunne and Martin, 2006; Moldoveanu and Martin, 2008; and Brown, 2008).

Connectivity: The second shift is connectivity; which can be defined as the ability to link or connect to the Internet - the global brain - providing access to world-wide online information resources just by sitting in front of and clicking on your computer, laptop, or mobile device. Connectivity is a technological infrastructure and a mindset which links geographically remote resources to increase access to information resources. Connecting to the wider global network and information society involves the negotiation of many barriers, such as the digital divide (Crenshaw and Robison, 2006). Connectivity also implies other technical factors such as the compatibility of computer systems and network connections. Telecommunications industry has been experiencing tremendous changes and innovations in the last decade that have boosted "connectivity", such as the

huge increases in transmission rates and supercomputer speed as well as radical innovations in wireless communications devices, broadcast digital technologies, organic semiconductor devices, bio-computers, and the Internet. An infinite variety of new and revolutionary services and experiences are introduced to enrich the lives and productivity of individuals and businesses via connectivity. The value proposition for customers is becoming more integrated and innovative as high-speed wireless Internet access, wireless phones, downloadable applications, and short messaging services dominate the landscape (Rao, 2001). Moreover, we are witnessing a blurring of the distinctions between learning, work, fun, and leisure as mobile computing devices are ubiquitous, and an "always on" culture is enabled by broadband Internet connectivity. We are moving from being a fully connected society to a hyper-connected one, where the number of network connections surpasses the number of humans connected to the network. Some authors have also written about the connectivity in a global world where people around the world act and feel as global citizens and participants of a virtual technology and knowledge platform (Stromquist, 2002; Anderson, 2001). The young members of this global platform have been referred to as *Net-Geners, millennials, Generation Y, or digital natives;* who are characterized by having high digital literacy, using online social networks, having multitasking capabilities, operating at *twitch speed*, socializing and learning on the Net, consuming and producing digital information, and imagining and visualizing while communicating online (Prensky, 2001; Twenge, 2007).

Collaboration: The third shift is collaboration; which is best described in the path-breaking work of Tapscott and Williams (2006): Wikinomics. Wikinomics defines as the

new art and science of collaboration (Tapscott and Williams, 2006) where billions of connected people collaborate and participate in innovation, wealth creation, and social development on the virtual global platform of the Internet. According to the authors, this participation "has reached a tipping point where new forms of mass collaboration are changing how goods and services are invented, produced, marketed, and distributed on a global basis" (p. 10). Tapscott and Williams propose four key principles of mass collaboration: a) openness, b) peering, c) sharing, and d) acting globally. Companies such as Twitter, Youtube, Flickr, Delicious, and Facebook synthesize the emerging powers of wikinomics and mass collaboration. The knowledge, brains, resources, and computing power of over one billion people online worldwide are self-organizing into a massive collective force; which is also denoted as the "global brain" (Tapscott and Williams, 2006). Millions of people collaborate in diverse ways on joint projects, write blogs and wikis, communicate with Skype, chat and use e-mail, work concurrently on Google documents, and share songs via Kazaa. Never before has collaboration across time and space been so fast, easy and cheap. These millions of connected individuals can now actively collaborate and participate in innovation to advance arts, culture, science, and education. This has been called mass collaboration, open source, crowdsourcing, or crowd wisdom. This paradigm shift has been the cover story of Time Magazine in 2006, where the person of the year has been announced as "you"- referring to the collaboration revolution on the web and the new digital democracy and citizen activism enabled by the small contributions of millions of people on the Net (Grossman, 2006).

Convergence: The fourth shift is about the convergence of new technologies of information and communications and the global connectivity these technologies enable.

Convergence is the principle that the various media, such as radio, TV, newspapers, CD players, video recorders, telephones, mobile devices, and the Internet, are all coming together to form one global information channel. More than one billion people are connected to the Internet and the VoIP phenomenon is growing exponentially. We are living in global village, a world without borders and boundaries. The new world in the 21st century is becoming more knowledge intensive, global, fast-paced, and dynamic. The collapse of national economic boundaries, the bridging of distances through telecommunications, rapid technological changes, workforce mobility and cultural diversity; the spread of wireless, fiber-optic and broadband technologies, and the increasing convergence of digital technologies pose new challenges and opportunities for professionals and managers throughout the world. These technologies, taken together, are called *Information and Communication Technologies* (ICTs). Advances in technology make it possible to use different media (cable networks, satellite systems, televisions, computer terminals, mobile devices) to carry and process all kinds of information and services, including sound, images and data. This type of convergence is due to a series of revolution and innovations in technology, such as digitisation. One of the implications of this convergence is the shift from e-commerce to m-commerce, illustrating the potential and power of the mobile Internet (Tan and Teo, 2002). Over 45% of people in the world have telephones, and 27% have mobile phones. Global e-commerce is growing about 175% annually. Internet access, tele-education, and tele-medicine are becoming free and available universally, as projects like MIT's "one laptop per child" combat the digital divide. Convergence enables computers, telecommunications devices and networks to work together locally, regionally and globally to share and exchange content or

information. As ubiquitous computing connects people, ideas, resources, and markets; the Internet is becoming the most powerful force for globalization, democratization, and social innovation.

Community: The fifth shift is the usage of Internet platforms and new media for social change and community benefits. The new media, also called "social media" has been used extensively by social movements to educate, organize, communicate, lobby, protest, fundraise, democratize information and increase social awareness. This can also be called online social activism. One recent example is the "Free Hugs Campaign", where websites, blogs, online videos, and social networks were widely used to organize a grass-roots movement that has become wide-spread and captured global attention online. One defining feature of such online movements is the formation of global "online communities" or "virtual communities" where widely dispersed, but like-minded users come together in cyberspace based on similar interests; transcending geographical and social boundaries. As Rheingold (2000) states it; *"People in virtual communities use words on screens to exchange pleasantries and argue, engage in intellectual discourse, conduct commerce, make plans, brainstorm, gossip, feud, fall in love, create a little high art and a lot of idle talk"*. One of the interesting trends in the merging of technology and social responsibility is the emergence and rise of innovative pedagogies such as service-eLearning (Dailey-Hebert, Donnelli-Sallee, and DiPadova-Stocks, 2008). With the advancement of web 2.0 tools, service learning is applied in digital platforms and enables students to navigate in an unscripted future characterized by uncertainty, complexity, interdependency, globalization, and accelerated change.

21st century organizations are faced with more complexities, competition, and change than at any other time in history. To effectively cope, managers and professionals in organizations need to focus on new ways of innovation and value creation. This implies a dramatic shift in the mindsets of managers and professionals regarding the new paradigm; which I have denoted in this paper as *World 2.0*. This paper has presented five shifts characterize and describe the World 2.0 ecosystem: a) creativity, b) connectivity, c) collaboration, d) convergence, and e) community. These five C's characterize the new world 2.0 ecosystem by providing a big picture of the shifts we have been witnessing in the Internet and business world. Taken together, these shifts have a transformative and irreversible impact on the global landscape of business, technology, and innovation. The world 2.0 ecosystem necessitates new innovation strategies for companies operating in the 21st century.

Implications of World 2.0 for Professionals and Managers

The concept of World 2.0 provides managers and professionals a fresh perspective and an integrative vision of the 21st century business and innovation landscape. World 2.0 is a brand-new world: It is an open, flexible, innovative, boundaryless, global mega-platform where people share collaborative, inspirational, interactive, immersive, and multimedia experiences with people from all over the world. The world 2.0 ecosystem has huge implications for the innovation strategies of 21st century companies. Here are the organizational strategies for managers and professionals to cope with the unique innovation challenges of World 2.0:

Expand the innovation ecosystem outside the firm boundaries to tap into the global brain. Collaborative innovation is more crucial than ever - particularly beyond company walls. Since external collaboration is indispensable and so many ideas come from outside, managers need to pay particular attention to strengthening collaborative capabilities outside their organizations. As managers, you have tools now to collaborate and innovate with people from all over the world to shape and develop our ideas faster than ever before. To accomplish this, you should move from traditional management models to network orchestration and open innovation models. Try to find which barriers are preventing collaboration and question their legitimacy. Come up with solutions that bridge the distance, language, culture, company, and department walls or barriers. As scattered specialists and lone researchers link up and collaborate, you can uncover a new big picture full of new opportunities for networked innovation. Collaboration on a massive global scale opens up a world of possibilities for how products, services, processes and business models are designed. To see these possibilities, force an outside look every time and push the organization to work with outsiders more, making external collaboration an integral part of your organizational culture.

Bring together best minds from diverse disciplines and form cross-disciplinary virtual teams. In complex R&D processes, creativity involves a large number of people from diverse disciplines working together effectively to apply design thinking to solve integral problems. Bring together talented and motivated people to work effectively with one another. Try to break down the walls between disciplines and try to maximize inadvertent encounters or serendipities. The resulting chance encounters can be very

stimulating, inspirational, and valuable. Different languages are spoken by different disciplines. Getting people in different disciplines to treat one another as equal peers is important. Try to bridge physical distances as well as psychological boundaries between departments and offices. Design your workspaces so that people from different departments can come together and have conversations.

Find and attract best global talent for your innovation projects. Creative talent is not spread equally among people. Truly innovative and creative people are rare. Offer competitive career opportunities and compensation packages, as well as exciting and challenging working environments to attract and reach the brightest minds and most creative employees in the world; where people can feel they are part of a world class company. Lasting relationships are crucial. Attract and retain the most highly qualified and talented people in the global talent pool and provide them advanced technology and career opportunities. Devote extensive time and effort to identifying innovative, talented, and motivated people, both before and after they are hired. For example, employees are interviewed many times before they are hired, and they are scored on 25 different performance metrics at Google (Iyer and Davenport, 2008). A global talent pool operating in a collaborative and well-connected synergistic environment can revolutionize the industry. Innovation projects take flight when professionals with brightest minds, creative skills, and passion meet in a positive creative atmosphere. When everyone feels that they are part of an extraordinary team, the passion and accomplishments of the team will attract more talented people. The result will be a vibrant community where talented people are supporting each other and using group genius to come up with breakthrough innovations.

Foster a positive climate to nurture group genius and collective creativity. Design flexible, positive, global virtual platforms for people to collaborate. Think on how to build a sustainable creative organizational culture. Try to design flexible virtual platforms to stimulate advances and to adapt to new technologies. Orchestrate positive change to become a better innovator and to create an innovative peer culture. Construct an environment that nurtures trusting and respectful relationships and unleashes creativity. It must be safe for everyone to offer ideas regardless of their positions or backgrounds. People at all levels should be fully dedicated to helping and supporting each other everyone else to excel.

Give your employees time, opportunity, and resources to build their own innovative projects based on their interests and passion. To become successful in innovation, encourage your employees to come up with their own projects and budget these projects into their job descriptions. Let the new ideas and projects be generated by employees, and give them time and resources to implement these projects. Provide support and recognition for these projects. Cultivate the strenghts of your employees. Invest and build on their strengths and passions. Inspire your employees and nurture their creative genius. Foster hope and courage in your employees to enable them to come up with cutting edge ideas. For example, Google requires technical employees and managers to spend 20% of their time on new projects and innovations that they are passionate about (Iyer and Davenport, 2008).

Encourage your colleagues to be involved in lifelong and boundless learning in the digital web 2.0 platforms. Design e-collaboration and e-learning opportunities for your

employees to develop new skills for the 21st century. Utilize Office 2.0 collaborative tools and social networks to harness collective intelligence. Encourage your colleagues to develop, experiment with, and use the new competences for the global digital creative era, such as hypertext reading or non-linear thinking. Invest in intellectual capital and skills of your employees through continuous learning, training, and development programs. Establish on-the-job training and development programs for your employees. Continuously invest in your human resources to increase the quality and employability of your people. Provide an array of optional classes that give people from different disciplines the opportunity to appreciate what everyone does. Reinforce the mind-set that you are all learning and it is fun to learn together. Encourage non-traditional thinking, creative thinking, visualization, metaphors and analogies. Encourage the love of learning and boundless curiosity. Invite top professionals and best minds to your company. Design seminars, webinars, and e-learning modules to enable your employees to brainstorm and learn together.

These strategies will enable 21st century managers and professionals to develop integral solutions and innovations for the new challenges of World 2.0. These strategies represent the innovation capacities and strategies that can be utilized for envisioning integral solutions to the technological and social challenges of the 21st century. This essay has attempted to outline the vision and strategies to create a truly collaborative and innovative company, ready to embrace World 2.0. This is the right time for managers and professionals to boost competitiveness, creativity, and connectivity beyond corporate borders. Best creative minds and talents in the world. Best entrepreneurs driving positive change. Best visionary industry leaders of the 21st century. Best Internet

technologies and infrastructure. Best companies supporting world-class innovation. This can be your company. You can make it happen. You can strive and work until you make it happen.

References:

Anderson, W. T. (2001). *All Connected Now: Life in the First Global Civilization*, Westview, Boulder, CO.

Brown, T. (2008). Design Thinking. *Harvard Business Review*. June 2008.

Catmull, E. (2008). How Pixar fosters collective creativity. *Harvard Business Review.* September 2008.

Crenshaw, E. M. and Robison, K. K. (2006). Globalization and the Digital Divide: The Roles of Structural Conduciveness and Global Connection in Internet Diffusion. *Social Science Quarterly*. Vol. 87 (1), pp.190 – 207.

Dailey-Hebert, A., Donnelli-Sallee, E. and DiPadova-Stocks, L. N. (2008). *Service-eLearning: Educating for Citizenship.* Information Age Pub Inc.

Dunne, D. and Martin, R. (2006). Design thinking and how it will change management education: An interview and discussion. *Academy of Management Learning and Education*, Vol. 5, (4), pp. 512–523.

Grossman, L. (2006). Time's Person of the Year: You. *Time Magazine*. Dec. 25, 2006.

Jensen, R. (1999) *The dream society: How the coming shift from information to imagination will transform your business*. New York: McGraw-Hill.

Iyer, B and Davenport, T. H. (2008). Reverse-engineering Google's innovation machine. *Harvard Business Review.* April 2008, pp. 59-68.

Merritt, J. and Lavelle, L. (2005). Tomorrow's B-school? It might be a D-school. *BusinessWeek*, August 1, pp. 80-81.

Moldoveanu, M.C. and Martin, R. L. (2008). *The Future of the MBA: Designing the Thinker of the Future.* Oxford University Press, USA.

Nambisan, S. and Sawhney, M. (2007). *The Global Brain: Your Roadmap for Innovating Faster and Smarter in a Networked World.* Wharton School Publishing.

Pine, B. J. II and Gilmore, J. H. (1999). *The experience economy: Work is theatre and every business a stage*. Boston: Harvard Business School Press.

Postel, V. (2003) *The substance of style: How the rise of aesthetic value is remaking commerce, culture and consciousness*, New York: HarperCollins Publishers.

Prensky, M. (2001). *Digital natives, digital immigrants*. On the Horizon, 9(5), 1–2.

Rao, B. (2001). Broadband Innovation and the Customer Experience Imperative. *Journal of Media Management*. Vol. 3 (2), pp. 56-65.

Rheingold, H. (2000). *The virtual community: Homesteading on the electronic frontier*. Reading , MA : Addison-Wesley.

Stalnaker, S. (2008). *Here comes the P2P Economy.* Harvard Business Review. February 2008.

Stromquist, N. (2002). *Education in a globalized world: the connectivity of power, technology and knowledge* (New York, Rowman & Littlefield).

Tan, C. N. W. and Teo, T. W. (2002). From E-Commerce to M-Commerce: The power of the Mobile Internet. In Hershey, *Internet Management Science: A Global Perspective*. Idea Group Publishing.

Tapscott, D. & Williams, A.D. (2006). Wikinomics: How mass collaboration changes everything. New York: Penguin Books.

Pink, D. H. (2004). The MFA is the new MBA. *Harvard Business Review*. February 2004.

Twenge, J. M. (2007). *Generation Me: Why Today's Young Americans Are More Confident, Assertive, Entitled--and More Miserable Than Ever Before.* Free Press, 2007.

FIGURE 1: FIVE ELEMENTS OF WORLD 2.0