

Learning, Unlearning and Relearning with Cutting Edge Technologies

Minakshi Lahiri and James L. Moseley
Wayne State University

Abstract. Tim Berners Lee (1998), the inventor of World Wide Web said, "The concept of the Web is of universal readership"... "The dream behind the Web is of a common information space in which we communicate by sharing information." As consumers of the World Wide Web - an open, free, non-proprietary product, we cannot ignore the immense value and impact of the global system that Lee had created. Very few people in the world today can imagine a life without accessing the web for information or communication purposes. Several organizations heavily rely on the use of the Web and the Internet for their existence. This professional knowledge and skill discussion has changed contexts and circumstances under which organizations and businesses function in the era of media and web based technologies. It advocates innovation, creativity, and collaboration as a community - as the mantra for a successful enterprise. The discussion takes a closer look at some traditional media giants; some new successful web based media that have emerged during the past decade, by disrupting the foundations of the traditional media; and lastly, some very *new*, recent and fresh innovations in the media world for the Workforce Learning Professional (WLP). The discussion ends by addressing the various ways in which the potential of the Web enabled "Universal University" and the emerging social media can be used by organizations to achieve a shared purpose and add value to the global society.

Keywords. Media, Technology, Organizational Performance, Training, New Media

The Evolution of the World Wide Web 1.0, 2.0, 3.0....

We are living in a technology driven world. With the increasing use of the World Wide Web, Web 2.0 and, recently, the Web 3.0 in the workplace, organization work culture has undergone a major cultural shift during the last two decades. Availability and access to affordable and fast broadband Internet from workplace, home, or on the move (airports, on the flight, hospitals, malls, etc.) have opened up new opportunities to work, interact, socialize, cooperate, collaborate and communicate. Web 2.0 and Web 3.0 have changed the way in which the users interact with the World Wide Web. Unlike Web 1.0, users now,

are not only passive consumers or receivers of the information on the web, but they also are active participants in the creation of media and content. Web 2.0 enables practice of “sociocracy” in organizations where “employees and participants participate in decision making by consent” (Marks, 2010) and help to accelerate business performance.

Innovation is another buzzword in our technology driven era. Koetzier and Alon (2010) have encouraged organizations to embrace and internalize innovations within their regular business processes. According to them, “Organizations need to regard innovation as a business discipline...manage and execute it as an end to end process moving from inside development to idea generation to...marketplace launch.” With increasing dominance of Web 2.0, Web 3.0 and cloud computing, traditional businesses and organizations are compelled to think about innovative ways to compete and survive. Cloud technology offers attractive alternatives to data storage and retrieval for many organizations with benefits such as cost savings and flexibility among many others (Lahiri & Moseley, 2013). It is predicted that proactive organizations that are embracing this paradigm shift, opening up to external global communities and Crowdsourcing platforms to accelerate business and open innovation attempts, will emerge successfully and outperform competitors who are still tied up with developing digital assets via traditional procedures (Bonner, 2011). Organizations need to encourage innovation, creative ideas, collaboration, interest and continued learning and provide opportunities to their employees to interact with technology and communicate with technology professionals in order to keep up with the changing trends and operations. Innovations in business processes help organizations gain competitive advantage, and strengthen market positioning. In the current economic and dynamic technological scenario, innovation in business is critical for success and survival (Toker and Moseley, 2012).

Toker and Moseley (2012) also suggest tools like the Cultural Readiness Scale (CuReS) and "Measuring Innovation and Adoption for Web 3.0" (Toker and Moseley, 2013), that can provide helpful insight to decision makers in organizations, assist in assessing the needs, monitoring and evaluating the desired cultural characteristics, or cultural change of a workplace before initiating or after implementing an organization wide Web 2.0 or Web 3.0 project. Hall and London (2012) have explained how the evolving Web based technologies facilitate user driven learning and help in increasing productivity for work teams and businesses by merging work and learning. Since more and more workplace training and learning are shifting to a web based, “anytime anywhere” model, and also with the evolution of the web based media and functions, Hall and London (2012) predict a shift in organizational learning and changing roles of HR professionals in any organization.

The Web and the Media Revolution

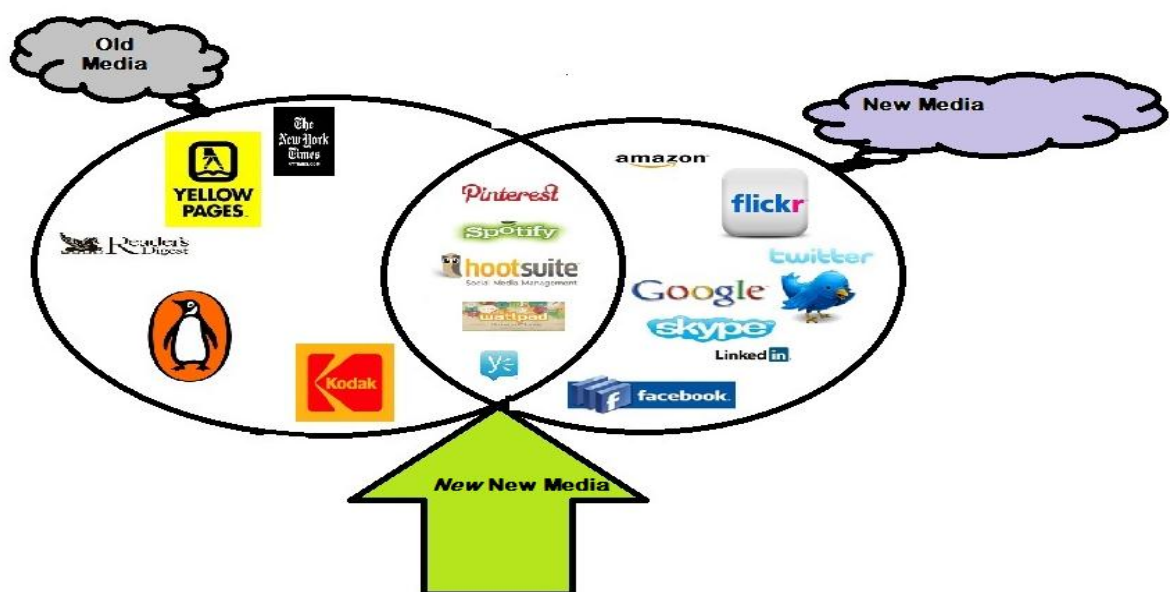
Technology and technological innovations have resulted in establishment and fresh start ups of several media enterprises that can be used to enhance

communication and interaction within the organization, create connections between different stakeholders, encourage collaborative work, accelerate business processes, increase productivity and provide effective platforms for management of information. The existing media, which traditionally dominated the world, had been struck deep at the heart by the emergence and increased popularity of newer media enterprises during the last decade. Innovations like Amazon, flickr, twitter, LinkedIn, Facebook, Google and such, have, in just over a decade, outperformed the popularity and consumer base of the then prestigious and ruling traditional "transmission" media (we will call them "old" or "traditional" media) like *The New York Times*, *Reader's Digest*, Yellow Pages, Kodak and Penguin Group publications to mention a few. The newer media that emerged during the last decade have rapidly established themselves as the world's most important and valuable businesses in the world today, and the mantra that evolves from each of their success stories: adapt, innovate and deliver or disappear and die.

During the past few years, with the emergence of cloud computing technologies and Web 3.0, and increased opportunities of innovation and creative thinking, there has been a surge of new media on the Web; we will refer to these as the "new new media". In these, we will include creative and fresh start ups, like Pinterest, Spotify, Hootsuite, Wattpad, Yammer to mention a few. Each of these new media address the needs of the global consumer market and reflect the present technological, collaborative and social context in which the organizations have to perform and deliver in order to exist and be successful.

The graphic represented in Figure 1 depicts the different media categories as the web has evolved.

Figure# 1. OLD MEDIA, NEW MEDIA AND NEW NEW MEDIA



Old Media, New Media and *New New Media*

The Tables below provide a brief peek into the different categories of Web based media enterprises that we have identified in the article. Table 1 lists the traditional or the old media, Table 2 lists the New Media and Table 3 lists the fresh startups or the *new new media* that were founded on fresh and creative ideas. The websites of each of the media are listed to assist the interested reader in further research.

Traditional or Old Media

During the last decade, the traditional media businesses have been hit hard. Newspaper publishers, book publishers, music companies and television networks are all struggling and trying to figure out a strategy to survive and hold on to market-share. The traditional process of doing business is not as guaranteed and these businesses have not been able to find new strategies that would be profitable in our digital era of communication. Many traditional media now have digital versions to which customers can subscribe. Experts hold the view that the traditional media need to innovate ways to stay in business, and incorporate strategies like engaging the audience and general readers in conversation, delivering real time news accessible from mobile devices, forming overseas alliances, permitting clients to customize their preferences, following readers' needs and delivering information that is relevant to the customer, and as a necessity, forming collaborations and mergers by embracing the competing company in order to survive as a species in the digital world (Smith, 2005; Feldman, 2012).

Table 1. Traditional or Old Media

Name	Brief description
 <p>The New York Times NYTIMES.COM</p>	<p><i>The New York Times</i> is a daily newspaper in the USA that was founded and published in New York City since 1851. <i>The New York Times</i> has a strong web presence and can also be accessed from certain mobile devices, like iPhones, iPods and iPads as well as Android devices.</p> <p>Founder: Henry Jarvis Raymond George Jones</p> <p>Website: www.nytimes.com</p>

	<p><i>Reader's Digest</i> is a general interest family magazine that was founded in 1922. It has a large global circulation base. It is also published in Braille, digital, audio and a large print format.</p> <p>Founder: DeWitt and Lila Bell Wallace Website: www.rd.com</p>
	<p>Yellow pages is a telephone directory of businesses, organized by category. These were initially printed on paper; now online directories of businesses are referred to as Internet yellow pages. The first yellow page was printed in 1886. Yellow pages are usually published annually, and distributed free of charge to all residences and businesses within a given area.</p>
	<p>Kodak is an American multinational imaging and photographic equipment, materials and services company that was founded in 1889. It is best known for photographic film products.</p> <p>Founder: George Eastman</p>
	<p>The Penguin Group is the one of the largest publishing companies in the world. It was founded in 1935 (Penguin Books Ltd.) and is owned by Pearson PLC, the global media company who also owns the world's largest educational publishing Pearson.</p> <p>Founder: George Palmer Putnam & John Wiley Website: www.penguin.com</p>

New Media

The new media refers to the on- demand access to digital content anytime anywhere with a two way communication channel, interactive user feedback, and solid participation in building a community of participants. The new media, most of which are cloud based web applications, provide flexibility and ease of

access to the user, as well as giving the customers and users a platform to share feedback and personalize their experiences. The customers and users of the new media as participants have a sense of ownership towards the media and are actively engaged in contributing to its growth and success. The new media also affords its users opportunities for social networking and informal learning.

Table 2. New Media





Name	Description
	<p>Amazon is an American multinational e-commerce company headquartered in Seattle, Washington. It is the world's largest online retailer. Amazon also produces consumer electronics and also is one of the major cloud service provider. The company was founded in 1994.</p> <p>Founder: Jeff Bezos</p> <p>Website: Amazon.com</p>
	<p>Flickr is an image and video hosting application, and an online community that was created by Ludicorp in 2004 and acquired by Yahoo in 2005. It is widely used by users to share and embed personal photographs. Flickr has apps for iOS, Android and Windows OS and hence can be accessed from mobile devices.</p> <p>Founder : Ludicorp (now owned by Yahoo Inc.)</p> <p>Website: flickr.com</p>
	<p>Twitter is a social networking and micro-blogging service which enables users to send and receive e- messages that are called <i>tweets</i>. It was launched in July 2006 and it is based in San Francisco. Users can access Twitter from mobile devices.</p> <p>Founder: Jack Dorsey Noah Glass, Evan Williams, Biz Stone</p> <p>Website: Twitter.com</p>
	<p>LinkedIn is a professional social networking website. It was founded in December 2002 and then launched in May 2003. It is headquartered in Mountain View, California.</p> <p>Founder: Reid Hoffman</p>




	Website: www.linkedin.com
	<p>Facebook is a popular social networking service that is operated by Facebook Inc. It was launched in 2004.</p> <p>Founder: Mark Zuckerberg, Eduardo Saverin, Dustin Moskovitz, Chris Hughes</p> <p>Website: facebook.com</p>
	<p>Google is an American multinational corporation which provides Internet related products and services including Internet search, cloud computing, software, e-shopping, etc. It was founded in 1996 and the company is based in California.</p> <p>Founder: Larry Page and Sergery Brin</p> <p>Website: google.com</p>
	<p>Skype is a VOIP (voice over Internet Protocol) software application created in 2003 and now acquired by Microsoft in 2011. Users Skype to communicate with peers via audio, video, instant messaging over the Internet. Skype can also be accessed from various mobile devices.</p> <p>Founder: Janus Friis and Niklas Zennstrom</p> <p>Website: Skype.com</p>

New new media

In the *new new media* we have included the very recent, fresh media start-up innovations that encourage all consumers to become producers of content on the web. The *new new media* have a global user base, and similar to the new media are interactive, easy to use and learn and accessible anytime-anywhere. The *new new media* also provide opportunities for informal learning. Users feel empowered with the *new new media* which result in its rapidly increasing user base and popularity.

Table 3. *New new media*

Names	Description
	<p>Pinterest is a pinboard style social networking service. It is a platform of inspiration and idea sharing. It was launched in 2012. It can be accessed from various mobile devices.</p> <p>Founders: Paul Sciarra, Evan Sharp and Ben Silbermann</p> <p>Website: Pinterest.com</p>
	<p>Spotify is a music streaming service. The company was started in 2006, at Stockholm, Sweden. Now the parent company Spotify Ltd is in London. Spotify services can be accessed from various mobile devices.</p> <p>Founder: Daniel Ek</p> <p>Website: Spotify.com</p>
	<p>HootSuite is a social media management system to effectively manage a multiple number of social media networks. It was first launched in 2008, and is based at Vancouver, Canada.</p> <p>Founder: Ryan Holmes, Dario Meli and David Tedman</p> <p>Website: hootsuite.com</p>
	<p>Wattpad is a repository for user uploaded electronic texts. Wattpad content includes science fiction, poetry, stories and other kinds of creative writings by undiscovered and unpublished writers from all over the globe which they can share and connect with readers from all over the world. It originated in 2006, and can be accessed from mobile devices.</p> <p>Founder: Allen Lau</p> <p>Website: wattpad.com</p>

	<p>Yammer is a freemium (a business model in which a product or service in its very basic form is provided free of charge and a premium fee is charged for additional or advanced functionality) social network that is intended to enhance enterprise collaboration. Yammer is used for communication within organizations and groups. The company was launched in 2008 and was sold to Microsoft in 2012, and is headquartered in California.</p> <p>Founder: David Sacks, Adam Pisoni</p> <p>Website: yammer.com</p>
	<p>Tumblr is a social network application and allows microblogging. Users can create blogs and follow blogs of other users; users can also create private blogs that are shared within a community. Tumblr was acquired by Yahoo! Inc. in 2013.</p> <p>Founder: David Karp</p> <p>Website: tumblr.com</p>
	<p>Instagram is a popular social media for photo and video sharing. Users are able to take pictures and videos and create collages, and share with their community over other social media like Facebook, Twitter, Tumblr, or Flickr.</p> <p>Instagram was launched in 2010, as a mobile application, and was bought by Facebook in April 2012.</p> <p>Founder: Kevin Systrom and Mike Krieger</p> <p>Website: Instagram.com</p>

New Media, Web 3.0 and “Social Organizations”

According to experts, research data suggest that Web 3.0 and the emerging technology are going to transform the way organizations work within the next decade, and businesses and organizations should start restructuring their business or service models to take advantage of the immense potential of Web 3.0. Web 3.0 offers businesses and organizations unprecedented capabilities to connect and communicate with customers and users. The semantic web enables complex and sophisticated searches, as well as a network of web connected devices and artificial intelligence technology. As a result, customers and users receive personalized browsing opportunities currently experienced in YouTube and Amazon which business organizations can use for product development, improving performance in sales and marketing, expanding customer base and several other business operations. (Goodwin, 2011).

Recent research on corporate leadership has indicated that the organizational leaders are realizing the potential of social media in businesses, and are encouraging use of social technologies to engage with customers, suppliers, and even with their own employees within the various departments to be more adaptive and agile. Many organizations are providing a Facebook page for their customers that enable them to praise, send feedback on products, and suggest ideas, post complaints, and make requests for new products through a forum that is open to the entire world. The social media is being used as a "Universal University", a communication channel that allows everyone to learn from each other through comments, feedback, and debates (Williams & Scott, 2012).

Edwards and Amos (2011) claim that well managed customer feedback experience and recommendations on social media forums like Facebook, Twitter, Yelp, etc. can be utilized to improve service quality and operational performance, increase traffic and create a contented and happy customer base which in turn might result in increasing the customer numbers by transforming their friends into new customers. This has led to the emergence of a new industry called Customer Experience Management or CEM which provides customer feedback to the organizations through social CEM. Information is gleaned from customer surveys conducted online and the respondents are linked to the organization's social network through a link in the survey. Many businesses are already gathering the responses from customers via online surveys on social media by providing incentives like coupons or generous discounts for next purchases. This process helps organizations expand customer base, engage in a real time customer relationship process and also work through a timely "customer rescue" process to help solve problems of a "not so satisfied" customer and mend relationships and finally provide feedback on problems for the organization's operations department to solve.

Bradley and McDonald (2011) emphasize that those organizations that wish to be successful during the present era need to exploit the power of social technology - which lies in its ability to build communities, foster new ways of collaboration and utilize the collective efforts to add value to society and achieve a purpose. The significant ways in which this social era has impacted businesses

can be realized if we think about the current successful business models like the *freemium* model ("freemium" combines two aspects within a model: free and premium- the model makes a product or service available free of charge for basic features and a premium fee is charged for customers subscribing to advanced features and functionalities); and *crowdsourcing* model (a business model that combines services, contributor to ideas or content from a large group of people, where, not all are employees of a same company but from an online community or pool of volunteers), online communities, social networks and so on. Businesses and organizations today need to observe, listen to and react to the community concerns, as well as adapt, deliver and support community values. Shared vision and purpose make all stakeholders work collaboratively as a team and co-create a successful "Social Organization". The new media can be employed to build a social organization.

Recent research has indicated that social media technologies have the potential to become one of the most powerful tools to improve performance and effectiveness of high skill knowledge workers, who help drive innovation and growth across the globe. Many organizations are already advertising and creating their social sites and engaging customers and utilizing the data on customer behavior to fine tune their products or services and improve performance. Research by McKinsey Global Institute found that the social technologies have more potential to create value when they are effectively implemented to improve collaboration and communication across and within the organization. (Manyika, Chui & Sarrazin, 2012). These authors predict that to capture this "value", organizations need to do much more than simply acquiring and investing in some enterprise social technology. They prescribe participation of all employees and inclusion of social technology, by adapting social technology in the daily workflow and by adjusting the current workflow design. Secondly, they recommend that total employee participation on a social platform can only be ensured if the organization and its leaders maintain an environment of openness, information sharing, and trust. They advocate that the leaders of the organizations have to drive the initiative in creating the congenial environment and demonstrate how to use social media to drive value through sharing similar success stories.

New Media, Web 3.0 and Social Learning Communities

Communication is one of the most basic activities of human beings that impact education, human behavior, human performance and, broadly, the society. We are living in an era of media information and communication revolution. What are the impacts of this emerging media revolution on human behavior, education, learning experiences, organizational performance and society in general?

As discussed earlier, the new media has empowered individuals to become active producers of content, rather than being just passive recipients. This surge in media innovations has resulted in a plethora of information that is easily accessible and available on the web. Educational potential of social media and micro blogging experiences (with Facebook and Twitter for example) are being

researched in higher educational contexts by enthusiastic educators and researchers. Many studies have found that social media has a positive impact on nurturing a learning community and in supporting informal learning beyond the classroom. (Bosch, 2009; Ebner, Lienhardt, Rohs & Meyer, 2010). Dunlap & Lowenthal (2009) described the instructional benefits and guidelines for use of Twitter in online courses, to encourage just-in-time social connections and interactions. Challenges to the educational use of web based new media in higher education such as ICT (Information and Communication Technologies) literacy, uneven access, privacy risks were also identified in certain studies (Bosch, 2009; Hew, 2011).

Boulos & Wheeler (2007) suggest careful thinking, testing, evaluation and research in healthcare education and the emerging media, in order to establish 'best practice models' to boost teaching and learning productivity, foster stronger 'communities of practice', and support continuing medical education. A recent study by Fisher and Clayton (2012) found patients wanted providers to use some kind of social media for appointment setting and reminders, and as a forum/community for asking general questions.

In their article "Connecting Informal and Formal Learning Experiences in the Age of Participatory Media", Bull, et. al.(2008) suggest that the "World Wide Web is generating multiple formats and channels of communication and creativity" and "The rise of social media reflects new opportunities and outlets for creativity". Klamma, et. al. (2007), in their article suggest social software systems, available to any life-long learner for informal learning. According to Klamma et. al. (2007), with the new social media several learners, outside learning institutions have access to powerful social communities of experts and peers.

The emerging media and the web are definitely impacting our lives, values, education and society. Customers, users, and individuals have been empowered by the new media; emerging new media have provided a platform for many individuals to engage in lifelong learning and become active content creators. The new media have presented opportunities for varied forms of communication, collaborative problem solving, creativity and innovation. If carefully incorporated within pedagogy, the new media also supports learning as a social process in all educational contexts and helps in building effective learning communities, where collective knowledge is created and advanced while supporting the growth of individual knowledge (Bielaczyc & Collins, 1999).

Cutting Edge Emerging Technology in Human Performance Improvement and Organizational Performance

Davenport, Thomas and Cantrell (2002) identify management and organization, information technology and workplace design as the three factors that influence work performance of employees and the organization's performance. They encountered several studies in their research that confirmed that newer

technologies help workers accomplish more complex tasks than they could have done previously. Web and the new media promote organizational learning which in turn helps to improve organizational performance. Social networks form a tool for collaborative knowledge management (Jones, 2001) which includes creation, exchange and transformation of knowledge; that are essentials for any organizational learning. Mansour and Monavari (2008) in their research found that using wikis iteratively in an organization as a shared platform for knowledge creation led to generation of new ideas and improved innovation by leveraging collective intelligence. Vieregge and Moseley (2012) from their survey results mention *technology* as one of the important issues to consider for the future of HPI (Human Performance Improvement). They call for leveraging mobile devices for smart job aids, embracing virtual technology and focusing on taking advantage of cutting edge technologies for delivering Performance Improvement interventions. The emerging group of HPI participants in the survey viewed Web 2.0 as one of the most important and potentially positive tools to reenergize HPI professionals. Cutting edge technologies and media will definitely influence the evolving HPI field, since it definitely impacts critical business issues and how organizations function. The future of HPI will be defined by incorporating emerging technologies, newer approaches, fresh ideas and understanding as tools for human and organizational performance improvement. Schwaner, Harter & Palla (2013) discussed technological innovation as one of the factors that transformed the nature of workplace culture with respect to inter-personal conduct and trust. Their research discusses the growth of virtual groups or teams (enabled by the growth of World Wide Web since 1990s in workplace) and the impact of virtual team culture on leadership and productivity of organizations.

As we look ahead....

Quinn, (2009) states in his article, "What we need, going forward, is the ability to take a continuous read on the environment and to adapt quickly. The nimble organization will be the one that thrives." We are living in a most exciting, dynamic, socially connected and technology driven era. Learning in this digital technology era does not follow the traditional rules. It does not depend on "individual knowledge acquisition, storage, and retrieval; rather, it relies on the connected learning that occurs through interaction with various sources of knowledge including the Internet and the learning management systems and participation in communities of common interest, social networks and group tasks."(Siemens, 2004). The evolution of the Internet, and the World Wide Web, have disrupted the foundations on which organizations have traditionally functioned, performed, and thrived. With the evolution of the Web, the growth in the technology and the emerging media, organizations are being forced to adapt, innovate and look for creative ideas in order to survive and flourish. Today, successful organizations are more than ever engaging with their consumers, tapping the potential of web based social media to create networks and remain connected to all stakeholders, opening up business systems to the Web, gleaning information from customer feedback on the web to improve performance, adding value and fine tuning their products and services, and

involving customers in all phases of the business process through social media, building communities with shared goals and values collaborating and co-creating.

According to Alvin Toffler (n.d.), "The illiterate of the 21st Century will not be those who cannot read and write, but those who cannot learn, unlearn and relearn". If we don't learn to unlearn and relearn, we do not survive long and can be easily replaced by someone who can.

No one knows, what the future holds for the technologies noted here. By the time this discussion is published new technologies will be known. We can only build and improve on what we currently have.

We offer these guidelines as we prepare for cutting edge technologies:

1. *Embrace change* - In this technology driven era, we need to embrace change in a positive way, to succeed and survive and make our presence worthwhile.

2. *Remain flexible* - Remaining flexible to changes and innovations around us can help us accept and embrace change and use the change in our environment as opportunities for success.

3. *Become intellectually curious* - Genuine curiosity, reflection and openness of mind help in embracing change and in transforming change to a recipe for success.

4. *Keep current* - We are living in a dynamic period. The total environment around our system is constantly being influenced and reshaped by changes in other systems. It is important for us to remain current in factors and influences that may affect us or our system's survival. We need to keep current as well as adapt to our dynamic supra-system and our environment to be a vital player in the whole system.

5. *Maintain an open mind* - We need to value expertise in others, learn from each other, share information and knowledge, encourage others and ourselves to think differently, pay attention to feedback from the system in which we work and live - keeping an open mind and helping in implementing system wide best practices.

6. *Boost and build cultural agility* - When organizational leaders operate with limited cultural openness, the result is missed opportunities and poor performance. Being culturally agile is a necessity in this technology driven global economy, to engage a diversity of perspectives, foster strong collaboration and learn and practice new strategies.

7. *Collaborate and form partnerships* - Collaboration and forming strategic alliances and partnerships help organizations learn from each other and accomplish goals that are not possible otherwise. Similarly, collaborative and transformative leadership within an organization fosters shared vision and commitments, forms relationships, helps to resolve conflicts, and encourages team approaches to problem solving and building a collective knowledge bank for a successful organization.

8. *Believe in yourself and the magic will happen!*

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