What is the similarity between climate change and mind change? According to neuroscientist Baroness Professor Susan Greenfield, ‘mind change’ is an equally useful umbrella term. It covers the idea that, due to the brain’s adaptable nature, the unprecedented digital world is likely to alter the brain in unforeseen ways. Greenfield lists retaining a strong sense of individuality, fulfillment, and usefulness in society as crucial elements for success and happiness in this new, technology-driven world.

The brain is inherently adaptable, especially during the first two years of life when its development is not caused by proliferation of brain cells but by the growth in the number of connections between them. Connections are caused by interactions. This effectively means that each human brain is remarkably unique and that no human brain will ever clone a previous human brain. The human brain is continuously adapting and evolving.

Unlike the invention of the automobile or the printing press, the digital world enables people to perform virtually all daily activities from the comfort of their homes without ever seeing another human being. This alteration of social interactions with the world inevitably changes how the brain understands communication. When human interaction occurs without actual physical contact, body language, voice, and eye contact lose their importance. Connections built by social interactions may occur...
predominantly over the Internet, resulting in devalued interactions with costly effects to identity. Basic principles of human interaction may lose their prominence, while online interactions gain importance and override traditional forms of communication.

Based on this change in social interaction, Greenfield expects resulting degraded identity caused by devalued communication. She foresees consequential bullying, with increased spite, as people lose understanding of the consequences of negative social interactions. She proposes that social media impacts individuality and fulfillment. In an online arena with constant and plentiful feedback, “reassurance from 500 people” is essential for high self-esteem. Suddenly, self-identify is built externally, not internally. Individuals rely on constant online feedback. They systematically share all aspects of their day, whether planning a vacation or merely planning a meal. The brain is built on connections, but people are now connecting primarily with a screen and not with their own thoughts.

In relating to a screen more than to individuals or even to themselves, the population welcomes easily accessible information, obtained without thought or diligence. Without denying the advantageousness of this innovation, Greenfield points out that this interaction dismantles people’s likelihood of thoughtfully processing and reasoning through information. Information is so easily gathered that complex thought and analysis is unnecessary. Although efficient, this form of obtaining information prevents people from gaining perspective. They have heaps of information with no personalized thoughts on the information. Instead of connecting the information they receive into succinct and complete understandings, individuals are thrown countless tidbits of information that do not transform into knowledge.

Greenfield describes that at their worst, digital-age individuals are needy, hostile, emotionally volatile, lacking communication skills, having fragile self-identities, and harnessing short attention spans. Despite these shortcomings, she proposes that individuals tied to a screen can achieve happiness if they develop a strong sense of individuality, feel fulfilled, and contribute to society. She references Isaac Asimov who stated in 1964, “boredom will be the greatest problem in 2014...the true elite of society are those who are creative. Everyone else will merely serve a machine.”

Creativity is achieved by having a unique understanding of something. Not everyone will create world-class paintings, but people can find happiness and creativity in their daily lives. If people think uniquely, they can be creative. Creativity occurs during individual experiences that are purely one’s own. These experiences aid in self-identity.

We need to help people harness technology. Utilizing technology, rather than accepting it in its most shallow form, is crucial in personal development. People must use technology as an aid to their thoughts, not the totality of their thoughts, in order to think creatively. Technology and the digital age can aid society if people employ their tools correctly. Thus, screens can initiate new ideas, but individuals are the only entity that can grant those ideas significance.

Greenfield compares mind change to climate change. They are both global and unprecedented. Both are multifaceted and require discussion. And they are both controversial. The mind is changing, but with understanding of this alteration, Greenfield foresees that quality of life can be high.
Is Advanced Technology a Sign of Progress?

Technology impacts every aspect of our lives. It influences the way we interact with each other, view the world, and engage in our work. While technology has immense power in improving the quality of life for those that have access, connectivity, and can afford it; for those that do not, the gap is vast. Panelists of this session explored the intersection of technology and quality of life: how it affects work performance, transforms our relationships, and changes the human experience.

The Baroness Professor Susan Greenfield, a neuroscientist who specializes in the physiology of the brain and a member of the British House of Lords, facilitated a discussion about how technology can transform and improve life for many, and identified gaps that must be eliminated. Michel Combes, the Chief Executive Officer of Alcatel-Lucent, provided insights into how broadband access affects economic and educational prosperity. From a healthcare perspective, Matthew Holt offered a view into advancements based on his exposure to technologies at Health 2.0’s conferences, developer competitions, and market intelligence unit. Meanwhile, Suneet Singh Tuli shared a very personal story. After moving to Canada as a child, he observed how his friends in India were hindered educationally by the lack of technology. Tuli’s company, DataWind, now seeks to make the Internet more affordable for the masses in India.

Of particular importance is the widespread implementation of broadband technologies; research has shown that access to broadband is correlated to higher levels of GDP, public health, and educational success. In nations with broad access to the Internet, traditional modes of delivering healthcare are being replaced by entirely new forms of communicating with doctors, new low-cost diagnostic technologies, and automated services. However, despite these benefits, a digital divide exists between prosperous nations and developing economies, as well as between older and younger people. To bridge these gaps, access to broadband and other technologies must become more affordable, as well as more usable by people of all ages.

The panelists agreed that digital inclusion increases economic growth and promotes human development. However, challenges still exist that must be tackled in new ways.
Quality of Life: The New Frontier of Performance

TECHNOLOGY

The evidence is clear that telecommunication can have a positive impact on quality of life. However, technological and cultural challenges must be overcome. Michel Combes made the following key observations:

Access to broadband increases GDP, public health, and educational success. Research has found that a 10% increase in broadband penetration can increase the GDP by 1.4% for a typical emerging country. In turn, GDP increases boost countries’ Human Development Index (HDI) scores. A 1% increase in a nation’s HDI score can translate into educational success for 440,000 more children and 15 months longer life expectancy. By 2017, it is estimated that 3.0 billion people worldwide will be connected to the Internet.

As digital inclusion increases, networks must deal with a tsunami of data. Between 2012 and 2017, a 440% increase in cloud and data center traffic is expected, as well as a 720% increase in video traffic. If the right technologies are available to increase network capacity, optimize network use, and minimize costs, there will be a clear return in the long run. For example, Alcatel-Lucent is investing more than €2 billion in R&D each year to build the networks of the future.

Closing the access and skills gap is economically and socially essential. Major investments in technology do not automatically translate into social progress. People and economies must adapt so they are empowered by new technologies instead of being gated by them. Many governments anticipate a shortage of skilled resources to engineer and grow the new digital economy. The vast majority of European jobs in the near future (90%) will require information and communication technology (ICT) skills, yet 39% of the workforce has low or no digital skills. The digital skills gap in the U.S. is estimated to cost roughly $1 trillion in lost productivity per year.

Companies and countries must embrace change and tackle issues in new ways. In a digital world, innovation will happen locally, rather than in a top-down, centralized way. A growing trend is reverse innovation where products and services developed in India or China, for example, are brought back to other markets. In a digital world, companies can reinforce their local presence and simultaneously develop global communities. For example, Alcatel-Lucent works with governments around the world to promote the benefits of ultra-broadband and the Alcatel-Lucent Foundation works with youth in disadvantaged communities in key countries and helps them innovate from the bottom up.

“On average, there are 16% fewer women online compared to men in developing countries, while it’s 2% less in developed nations. When you look at education, health, and all which is related to being a human being, there is still a big divide in terms of gender.”

Michel Combes, CEO, Alcatel-Lucent

In the healthcare space, technology is revolutionizing the traditional institutionalized professional system. In most countries, the relationship between patients and doctors is a paternalistic one. However, this dynamic is starting to change. Matthew Holt sees three ways that technology is revolutionizing healthcare:

New forms of communication are cultivating communities and changing the nature of clinical care. Over the last 10 years, patients have turned to online communities to talk with one another. For many, especially those with rare diseases, this has been a life saver. Real-time video, asynchronous communication, and email are all changing the way patients and healthcare providers interact with one another.

FURTHER READING

WHITE PAPER: Enhancing Employee Productivity and Quality of Life with Big Data

A 2015 Sodexo White Paper discussed Big Data, the current phenomenon of massive accumulation of information. Predictive analytics or other advanced methods are used to extract value from Big Data that has the potential to help organizations make faster, more intelligent decisions. And better decisions can mean greater operational efficiency, enhanced performance, cost reductions and reduced risk, which leads to improved quality of life.

To read the full paper, visit:
Technology is democratizing the diagnosis process.

New innovations, like blood glucose monitoring devices that connect to smartphones, are making diagnostic tests available to the masses at affordable prices. The power of today’s computer chips is making these products and services possible, but they will be challenging to regulate.

Automation of therapy is controversial, but is becoming a reality.

Healthcare is expensive—averaging 20% of GDP in the United States. In addition, there simply aren’t enough trained professionals to deal with the volume of health issues. As the healthcare system transitions to rewards based on outcomes, rather than on volume, automation of therapy will become more common. Geppetto Avatars, for example, has created automated avatars to handle primary care triage.

If the affordability gap can be bridged, billions of people will use the Internet. Several years ago, Suneet Singh Tuli recognized that the Internet could be used to improve the quality of education in India, but Internet adoption rates were low. India has 1.2 billion people. Only 200 million use the Internet and there are 15 million broadband connections.

Yet, there will soon be close to one billion mobile phone connections. Commonly offered explanations for the digital divide in India included lack of electricity or lack of literacy. Tuli believed, however, that the digital divide was caused by affordability issues. With DataWind he set out to close the affordability gap. Tuli shared his lessons learned:

Widespread Internet adoption is dependent on hardware costs.

Research found that in the United States, broad adoption of PCs occurred when hardware prices were less than one week’s salary. In India, that meant that mobile phones and tablets would have to cost 2500 rupees or around $35. DataWind has developed smartphones and tablets for a little under $28 and they are sold for $35.

DataWind has addressed the cost of Internet access by bundling service with its hardware.

Since broadband operators are unwilling to charge consumers $0.20 or less a month for Internet access, DataWind buys data on a wholesale basis and bundles one year of unlimited Internet browsing with its $35 hardware.
“If anyone doubted that affordability matters, we are living proof, having placed around 1.7 million tablets in India over three years. If you bridge the affordability gap, you will get billions of people coming onto the Internet.”

Suneet Singh Tuli, Founder & CEO
DataWind, Inc.
Healthcare is undergoing significant change, but people will always require guidance, advice, and empathetic coaching.

Technology has resulted in access to health-related content by the masses, movement toward the individual power of transactions, and automation which is tied closely to surveillance. Matthew Holt believes medicine will evolve to a point where technology fades to the background and doctors focus on guidance and advice. Many are empowered by technology, but others are still waiting for the benefits.

Suneet Singh Tuli likes the quote from William Gibson: “The future is already here—it’s just not evenly distributed.” Many are so reliant on technology today and they feel empowered by it. However, these benefits still need to be deployed universally.

Widespread adoption of the digital world will only be possible when gaps are closed. The connectivity gap is a major issue in emerging markets, where only 30% of the population has access to the Internet due to affordability issues. With regard to the generational gap, people can be successful in the digital world even if they aren’t digital natives. However, organizations and employees must adapt the ways they work. The gender gap in technology is quite significant. Women represent only 28% of the world’s researchers, less than 10% of the science advisory boards of the top 100 high tech companies, and just 6% of the CEOs of IT companies. In response to the gender gap, Alcatel-Lucent employees created a grassroots movement called StrongHer to unleash women’s potential and magnify their business contributions.

Over three years, the tablet market has grown dramatically in India.
DataWind evangelized the use of tablets for education and got broad endorsement from the government. When they entered the market three years ago, demand for tablets was 250,000 units per year and 80% of tablets sold were either Samsung or Apple. Today, the market has grown to 4.5 million tablets a year. DataWind has 15% to 18% market share overall and in the sub-$80 tablet category, the company enjoys 50% to 55% market share. DataWind has sold around 1.7 million tablets over three years.

While technology is impacting lives in many ways, the benefits are not reaching all. Even as technology becomes more affordable and Internet access seems increasingly ubiquitous, a “digital divide” remains. The digital divide has especially far-reaching consequences when it comes to education. For children in low-income countries, inadequate access to technology can hinder them from learning the tech skills that are crucial to success in today’s economy.

The panelists offered concluding views on how technology is changing people’s lives:

We are entering the third wave of IT transformation, where technology becomes an integral part of every product.
The first wave, in the 1960s, was driven by mainframe computers that optimized tasks. The second wave was triggered by the Internet which integrated tasks, channels, and customers. The third wave will reshape value chains and cause businesses to rethink how they deliver products and services. Michel Combes believes we are entering a “semi-global world” where local matters, as well as global, and technology helps us work in different ways.