American Journal of Engineering Research (AJER)
e-ISSN: 2320-0847 p-ISSN : 2320-0936
Volume-5, Issue-11, pp-145-149
www.ajer.org
Research Paper Open Access

The Benefits of Engineering and Technical Communication for International Markets

Fran Apprich, PhD

ABSTRACT: *Using technology as a distribution of communication is among the most effective developments of today's communication world. Technology has facilitated to immediately spread information, to outsource to international markets and bring us together as a whole. Technology interacts with its content via multiple channels. Technology offers today's audience a portal for 'international collaborations' without any delay or great costs, in short; for a celebration of international business. Now theseinternational collaborations are not something new but the need for travel has declined exponentially in recent years and therefore profited our environment and saved expenses. For this reason, it is important that researchers, engineers and business owners become aware of the nature of technology as an international tool and its great impact not only on the environment and for businesses but tolerance among humanity. Researchers are in a unique position to help engineers and businesses to understand the impact of technology within the communication arena. How can we effectively work together, what new innovations are needed, how can they maximize our profits while keeping in mind potential local facilities and workforce? The emergence and practice of technology and its innovations are not only a tool of capitalism. Technology is the backbone of a healthy and profitable environment – for all and not only for a few business owners.*

I. INTRODUCTION

Technology, which is often described as part of the 'dehumanization' and its impact on people and businesses in the global market environment, is not simply another tool that can be overlooked. The interaction between technology and nowadays generation defines the progress and downfalls of technology and need for 'emotionalization' especially within global markets and international collaborations; being present means to be somehow tangible, three-dimensional and not to exist only virtually and get robbed of ones dimensions.

The key to any successful collaboration is to concentrate, focus, work together, somehow socialize together and to let your imagination and innovation take you to places that you yourself are surprised by. This very close and personal need of interaction is the basis of any good collaboration between humans. Nowadays population are all about making virtual connections but at the end of the day real and tangible exchanges still dominate our business world. The link between technology, communication and business deals as a tool of globalization of ideas and innovations, a relaxed and convenient communication that can be achieved via the click of a button, should be regarded as one of the most exciting communication exchanges of our time. What Rock and Roll was for the 50s is the World Wide Web for today's generation; from the liberation of conventions of the 50s to the relaxed and convenient utilization of global talent.That' s why we all tune in and want to be part of this extraordinary communication tool called the Internet. Nevertheless new methods and practices have to be adopted to maintain a human way of communication and interaction. The use of holograms is one way of simulating the actual presence of a speaker, video conference calls have become very popular and online mailing has replaced the tidies wait for postal service.International business travel has been replaced byconference calls, physical shops replaced by online shops, gaming has been replaced by the global interface and interaction with other international gamers. Both, business and entertainment have become more virtual. Obviously physical presence still has a place in our community (in particular when it comes to personal business and private relationships) but our world has become less tangible and more virtual.

In this paper I will argue that an analysis of technology and engineering, understood as a new, convenient and innovative tool in combination with communication, can bring us closer to a more tolerant, environmentally friendly and collaborative society. Technical engineering established itself as a platform, which, from the outset, stimulated and inspired its users by making them connect and interact with others to strive for a better and more convenient world. Ideally, people should be encouraged to interact with others via technology to overcome distances, cultures and accessibility. Technology was being used and is being used to connect, warn for epidemic outbreaks or natural disasters, striveto gain new knowledge, to curiously discover new things and

to collaborate internationally. However, unfortunately the real face-to-face contact has been underestimated. We as humans still like to 'perceive' our opposite. We like to hear, see, talk, smell and touch our collaborators. "To touch is to give life" (Michelangelo). Trust is only manifested when all senses are satisfied.When our instinct has been satisfied. The ever-rising pressure of environmental sustainability (by governments, businesses and not to forget climate change) turns technology into a global solution rather than accessory of the modern way of life. This impact can be perceived when enterprises have replaced business trips by video conference calls, post replaced by e-mails and local outsourcing been replaced by international outsourcing. Nevertheless, many big business deals still demand the physical presence of the representatives, many politicians still need to physically campaign, shake hands and kiss babies and many musicians still have to play concerts to sell records. Our physical presence is still very much in demand in this virtual world and maybe it always will be.

Many people suffer under depression, lack of true eye contact with a person rather than with a virtual TV presenter and many failed relationships. Virtual technology can (to some extend) replace contact but it can never truly fulfill our needs of physicality. Virtual only goes that fare. At some stage most humans need to have a three dimensional interaction. Obviously this lack of three-dimensional character of the virtual causes frustration, depression, and the mutilation of our instincts.Nevertheless, technology and its communication is becoming more and more three-dimensional. If engineers could extend the idea of holograms to physical time and space travel, only then our virtual reality could be turned into our physical reality. Once again our reality would be readjusted to our true reality. We would see the virtual reality as part of our entertainment but not our instinct. History and technology repeat themselves over and over again. Both aim to harmonize our lives and society but both seem often to take the human out of history or technology…which often ends up in disastrous outcomes (Dorf, 2001).

There was a study that innovative technology in form of robots, which could replace for example nurses, doctors and soldiers, would overcome obstacles of an aging society and wars (Huston, 2013). Nevertheless, robots have to imitate human behavior and features to not alienate (obviously in case of war this does not apply). It is crucial that we as communication researchers explore in tandem with engineers how machines and humans can interact successfully…in a human way. Fact is that when kids are introduced to robots or robot pets (Tettegah& Noble, 2016) they are more likely to form emotional relationships with their 'new friends'. The love between humans and technology is a crucial part of our future. Only if we accept machines and robots as part of our every-day life…one would say even family…do we stand a chance to deal with the pressures of low resources, environmental disasters and aging population. Technology can and has shown to benefit our every-day life rather than destroying it. I remember times in which the usage of robots in for example medicine was greeted with skepticism and ridicule. Well, it shows that nowadays doctors can utilize robots for very precise operations (which were impossible in the past). Only if we look beyond what is possible can we innovate.

We as researchers have to find solutions for rising problems. I can see the benefits of technology in engineering in all sectors. Technology is no more the outcast of some unsociable computer geeks…technology has become us. Mobile phones are like mini computers, yes even like a 'mini-me', whichmirrors our preferences, hobbies and interests andwhichaccompany us wherever we go. Mobile phones provide easy accessibility of a vast amount of information. Mobile phones and its usage of the general public as well as the excessive usage of the social media generation is an indication that technology has become mainstream. The amount of female students interested in engineering has increased dramatically thanks to mobile phone technology. The gap between technology and humans (including young girls) has been overcome and there is an increasing excitement towards knowledge and new technology. Some excessive 'techies' even queue for hours to buy the latest IPhone. Technology has become a representation of ourselves and where we stand in society; being connected means feeling alive.

Furthermore technology can also be embedded in education. It can be used as another educational tool - if done innovatively. The right information in combination with latest innovations of technology can result in great student stimulation. Technology can bring the wow-factor to education that it so desperately needs. It is like the amplification of the latest pop music song– it is the platform for any experience and effortless learning.

We as educators have been entrusted with the education of a new generation and we need to adapt to the low attention span and technical know-how of our students. Personally, I love to embed technology in my lectures. It brings facts alive via videos, music, and I am sure in the future holograms. Nevertheless, this approach has often been questioned by institutions…it seems as when education is too much fun it gets questioned and looked down upon. I also believe that sometimes we expect too much in a short amount of time. History takes time in the making. Embedding technology fully in our every-day life has begun but needs time and a generation that is ready and open for it. I have witnessed some people who are very scared of technology. Who do not believe in its benefits.Once again the fear of the new is nothing new to human kind. Disbelief and skepticism are innovation blockers. We need to give people time to grow one with technology and not to immediately expect a tech-euphoria. It would be the same to ask your grandmother to give up her way of

making coffee replaced by a new trendy coffee machine. The likelihood of a meltdown rather than euphoria is quite predictable.Furthermore, technology and engineering have to make their own mistakes and miscalculations. We as a society need to shape technology (and not the other way round) (Bijker& Law, 1992). What is good for us is good technology. Communication researchers and psychologists can give insights into the human mind and in collaboration with engineers can improve the humanization of technology. Nothing is more powerful than collaboration; and nothing more toxicthan isolation. It is our responsibility to shape technology for maximum output and sustainability of our human capital and environment. The true potential of our intellect is to advance, contribute, innovate and push boundaries.

Technology and engineering seem a great way to motivatepeople from all over the world to collaborate with each other, to overcome prejudices and become one. Some critics might argue that outsourcing (of for example call centers to countries with lower salaries)are causing unemployment in the home country. Nevertheless, is it not our responsibility to equip students with skills to build their own companies and create their own jobs? If a society is THAT wealthy should they not innovate rather than lean back? Technology isnot to be consumed passively but actively extended. Technology provides enough space to extend knowledge and come up with new ideas. For example repetitive games are losing on appeal the more often you play them. It is about different levels and the usage of your intellect to beat the system.Boredom is death. Innovation is everything (Sawyer, 2012; Nussbaum, 2013; Miller &Wedellsborg, 2013; Boyd &Goldenberg, 2014).

If one was to allow students to build their own programs, design their own games, create their own business institutions they would become places of worth ship and excitement.Academic critics reinforce the sense of technology being a distraction rather than part of the educational artistic palette. The social media generation has a bad reputation nevertheless social media also represents a terrific introduction and platform for young students to innovate their favorite social network, apps and programs.Nowadays, even infants are interacting with technology. IPads have replaced books, mobile phones have replaced computers and board games have been replaced by video games. Some parents are anxious about their kid's addiction to technology. On top of that most parents are less advanced technical wise than their youngsters. In my opinion children learning via technology is great but 'unplugged moments' of physical exercise and the education of the face-to-face conversation as an art-form should be practiced. Humans have always been innovating their lives. Why should they not continue to do so?

This article will explore the complexity of technology in our every-day life and business through the analysis of a number of observations and communication practiceswherein technology's unique expressive potential may be observed. I use the terminology of communication in technology since I believe it to be important to reflect on the symbiosis of technology with communication practices. Critics are familiar with the basic principles of technology and communication but very little analysis has been given to the psychological reality of nowadays technological users.Technology as well as communication uses its own grammar and expressive potential. Technology and its online popularity raises crucial questions about communication. We must ask ourselves weather technology is the answer to our communication. Whereas many attempts have been made to analyze technology, surprisingly few psychologists nor communication specialists have paid much attention to the rise of technology's expressive forms and meanings. When talking to some of my colleagues at international conferences some were very excited about the potential benefits of technology whereas others were more skeptical and mentioned the very complexity of human communication. But should the complexity of technology and its communication stop us from exploring it? Just because we do not understand the full complexity of our brain yet - should we not work even harder to find out more? Especially when it comes to technology and communication?

I believe that this liberation of technology and its proven benefits can bring us closer to a state of tolerance and international communication– and what better research is there to concentrate on? The introduction of technology as a respected and scientifically proven platform for communication could be just the internationalization that technology needs. This is what technology is all about – bringing people together.We as communicators should become technology ambassadors, document its benefits, collect data, explore it and celebrate it. The fact that technology was temporary motivated only by destructive and espionage content to gain military and political power should not overshadow its greatpotential and usefulness.

My scientific research is seeking to explore the relationship between communication, technology and users. I argue that we must acknowledge that technology has its unique expressive form and that the effective use of it will lead us to a great new world rather than '*Brave New World*' (Huxley, 1931) or '*1984*' (Orwell, 1949) Big Brother is watching you mentality.I asked my students to research a certain topic exclusively via books and another topic via online facilities such as online magazines and YouTube videos.What I found out was extraordinary – even the students themselves were amazed…something that rarely happens. To summarize: thanks to technology around eighty percent of all students learned better via the technical platforms. They were more conscious about the content they had seen, heard and researched more successfully. In fact, students with low attention span reported back that they were more involved and particularly inspired by the YouTube videos.

Education became more entertaining.The challenge is to see technology and communication as what it is;a never-ending cycle of curiosity and development. For us to provide the best communication between humans and technology is to explore all aspects of interaction and outcomes.How about we recognize and reward technological communication that feels good rather than practice inhuman communication? We can shape this exchange between technology and communication and we can embed communication so that with time and care we become part of entertaining education and interact successfully with technology (rather than against it).

II. CONCLUSION

Innovative technology has often been dismissed as nothing more than 'the end of the world'rather than a tool to free international communication. It is often accused rather than celebrated as being a sort of a platform for the young with low attention span and a new found code language. Very little supporting evidence has been condemned without a fair trial to the footnotes of any academic study of the impact of communication and how it could be embedded into technology. It is true that when technologyfirst popped up that it was guilty of questionable methods but I believe that it has outgrown its bad reputation. Whereas technology is only in its early years, communication gets constantly updated to remain relevant and make use of new discoveries that might be beneficial to its core of distribution of knowledge.The increasing amount of students who suffer under dyslexia and short attention span highlights the communication pressure these students are under and which we need to tackle.

Many new technological and communication methods have been faced with ridicule and very little data collection. From experience, I know that if I ask my students to research via Internet portals rather than books in the library they will perform better if they can use the Internet platforms. Communication is not rocket-science. It is the representation of our thoughts and progress. It is the basis of gaining, extending and distributing new knowledge.It is our duty to turn our communication into codes and perception which can be digested by nowadays audience. Time to communicate.Time to embed communication in technology.Time to perceive. Low attention spam is not a disease but it is part of our lives. We are getting trained to perceive, consume, digest information in shorter and shorter amounts of time. More insights should get discovered, more data collected in regards to technical communication, how it is perceived and its effects on this new generation. Our world is characterized by an overwhelming amount of information, pressure and expectations. Innovative engineers continue to allow an entire generation to communicate with one another.Communication technology has creatively challenged content and revealed its unique expressive potential (Kaiserfeld, 2015).

Communication is part of technology; in fact what can educate us better than communication technology? Communicators know technologies' strengths and weaknesses, they are aware of its downfalls and they know how to learn best. It is a very delicate and a very unique relationship that needs to be respected, cherished, protected, enjoyed and championed. I'm not sure why technology has such a bad reputation. All it does is to interact with a new world. But like all new innovations the majority of people need to embed some of it into their known way of lifebefore they can fully embrace it; the same happened to all groundbreaking inventions such as the light bulb, photography, cinema, the car, the plane, the Internet…the list is endless. It seems that our greatest accomplishment have to be put to the test before accepted by all and become an everyday life reality. People are afraid of the new (Ford, 2015). They have always been.

I wonder what the future will bring to technical communication. I wonder if communication as we know it today (face to face) will disappear or if it will be embedded into technology. Well, I have faith. Educators seem to ignore the students' newly gained technological knowledge as well as challenges.Never before in history were we as exposed to technology as we are now. Communication technology is a learned language. If communication wants to be up-to-date it has to move with the time just like popular music, fashion or (space) travel.Similar to all communication tools, mainstream technology needs to continually reinvent itself; embodying contemporary cultural and technical developments and advancements. In my belief communication has to remain indefinable, unpredictable so that it can be experienced and enjoyed. It has to remain flexible. Our brains are still very much unexplored. So there is not an exact recipe how to communicate most effectively. The communication of different generations vary but if we find a common shared and enjoyed technical experience, should we not make use of it? Fact is, good communication is appreciated by all – so let's make it work for us – no matter through which platform.

In contrast to many theorists I would strongly argue that technology is valid to be considered as acommunication tool. I believe that we have to embrace the newborn technology and allow it to stimulate our generations. If we want to be sophisticated communicators we ourselves have to be sophisticated and curious ourselves. It is this innovative approach that allows us to be good communicators. Communication technology is a new development of our time. It is a tool and we are still the communicators of content.Communication as well as technology are in a constant state of evolution and the informed critical and practical response to this evolution will, I believe, result in an extension of the artistic palette of communicators and bring us closer to the essence of how communication can be used not only as a disruptive but also giving platform.

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