

Chapter 14

Social Knowledge: The Technology Behind

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ABSTRACT

Every now and then a technology appears that changes or speeds up the development of civilization in a new direction. It started with agriculture, spread through the Industrial Revolution and to the electronic age and now moved on to a state of technology that people would have laughed at a few decades ago. Social networks have changed the way people connect, redefining the knowledge value system that is being shared without borders or limits. The multitude of science and technology that go behind building the social networks spans across mathematics to engineering to software and ultimately to the realms of psychology and sociology once thought as distantly removed from any application of technology. In this write up, we explore the convergence of many ideas and innovations and the technology that is building these networks.

INTRODUCTION

When a civil war broke out in the island of Mindanao, at the southern tip of the Philippines, as in any civil war, the sufferers were the citizens and in this case around 18 million remained without recourse to justice or human rights. Then came a technology solution to human rescue in the form of Martus (Benetech, 2009), a social network that helps watchdog groups compile, analyze, and

securely transmit data on human-rights abuse. Named after the Greek word for witness, Martus allows anyone to report human rights violations through its network. Today this model has been successfully replicated in countries like Burma, Columbia, and Srilanka, Guatemala etc.

Social networks are an integral part of our lives today and it is something that we have taken for granted. I spoke to my son, thousands of kilometers away in a different country and time zone and chatted about what he had for dinner while I was having my breakfast. I shared a few jokes

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and banalities with my 10 year old niece living in another city with equal ease. While mobile phones brought in the communication revolution, social networks brought in another paradigm to our connectivity and relationships. Social networks are everywhere, used by people of every age.

It was not so long ago that science or technology was considered poles apart from sociology or arts. This year is the 50th anniversary of C.P. Snow's (Robert Whelan, 2009) famous 'Two Culture' essay where he has pondered over the great cultural divide between science and arts. I am sure he would be greatly amused when he finds out that social networks are built with complex mathematical algorithms and technology. One main reason is the belief that thinking is irrational and cannot be manipulated using science. No one would believe that it was possible to predict the election results with sufficient accuracy until psephology became commonplace. If you are an Asimov (Wikipedia, 2010) fan like me, you may remember Hari Seldon's theory in the 'The Foundation' series of books, where he postulates that while an individual's future is difficult to predict, you can predict the future of a group or a crowd. Are we there already? (Chaoming Song, 2010) While a mathematical formula for Hari Seldon's theory is still far away, the law of Regressions to the Mean is equally fantastic. Multiple studies and research works are underway to define the mathematical formulae for 'flock mentality' and how a single person's opinion could start a butterfly effect and create a tornado. Not long ago even Science and Technology were considered two distinct worlds. Science was seen as an individual pursuit and education was not considered as a necessary pre-condition for a career in Science. We have all read about Faraday or Einstein, who worked in non-scientific institutions before they hit on a big idea. The man who built the longest rail road in the US was an illiterate for all practical purposes. It was Rutherford who has been credited with having built the first research team of scientists. The chemical industry was again the first to catch onto the connection between science and technology

and build commercially viable ventures. Soon, other branches of science followed. The Pharma industry took to it very recently, about 50 years back, to harness the research activity and thereby create an industry.

By definition, social networks connect individuals or groups over a common platform. Once connected, the human tendency to share information or chat (talk?) trivia becomes the driving force, creating a mind-boggling amount of information and traffic. This calls for technology that can provide a sufficient, scalable and secure bandwidth. Evolving technology such as cloud computing can only help to expand the horizon to reach out faster and in a safer way.

SOCIAL TECHNOLOGY

One of the pioneering works was conducted by Travers and Milgram in the late 1960s when they wanted to find out, how randomly selected individuals from one city could reach someone unknown to them in another city. To their surprise they found that within six steps or hops anyone could reach anyone else totally unconnected. This theory, which is now popularly known as six degrees of separation (Wikipedia, Six degrees of separation, 2010), became the basis for a social search to get connected to someone with the same interest. The advent of computer networks and the internet have pushed this evolution along dramatically. Thousands of tools such as email, instant messenger, blogs etc., have pushed social technology to what it is today. LinkedIn started with the premise that recommendations work better when they are given by someone who is one or two steps removed from your direct contact as otherwise the recommendation may be viewed as biased.

According to Jagadish Vashista Managing Director, Injoos, the realization that collaboration has taken another fundamental shift with the advent of social media tools (web2.0) led them to create the Injoos Teamware platform.

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