

# The Fourth Wave of Knowledge Exchange

*Ivan Yardley | Feb. 25, 2016*

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Like most complex and volatile environments, events can first appear random, haphazard and unpredictable. However, most are not. If you take a wider perspective, gather enough data and look deeper, it's often possible to identify underlying themes. This doesn't mean you can predict the future, but you can develop plausible limited scenarios that will prove a greater understanding of potential future outcomes. Accessing this capability is a critical success factor for businesspersons today.

Significant change and second- and third-order consequences are often less haphazard than we first believe. In the historical context, a number of factors appear to coincide. The most significant, perhaps, is the liberalisation of knowledge: the ability for organisations or individuals to access knowledge in a way they couldn't previously.

## Technological Disruption

Prior to the invention of the printing press in 1439, information was closely guarded and a precious tool that was only for the preserve of the most powerful individuals in society. A single book would take thousands of hours of careful transcription by individuals with

specialised education, in many cases monks. This knowledge was accessible only through the 'great chain' medieval libraries and only for the select few.

One of the first effects of the new technology was the translation and duplication of the bible. For the first time, ordinary citizens began to read the bible for themselves, leaving them free to interpret the words and meaning as individuals.

This led to the development of a number of religious groups with different interpretations of the bible and varying views on how they should conduct their lives. The knowledge exchange didn't just stop with the interpretation of the scriptures; it also began to provide a vehicle for exchanging information on a wide range of political, economic and social issues. Major cities became hotbeds of gossip and social activism. In England, Parliament emerged as a powerful moderator between the Crown and the people and soon became centre stage for the exchange of knowledge and a jostle for power. This inevitably led to friction between the old world of absolute monarchy and the citizen state, leading to the English Civil War of 1642–1651. Whilst the outcome of the war is well documented, it is interesting to note that the radical change within the state coincided with the agricultural revolution, dated to the invention of the seed drill in 1701, and the dissemination of knowledge related to farming and a subsequent improvement in yields, leading to population growth and greater manpower. The industrial revolution followed in 1750.



The technological developments of eighteenth century England were not random incidents to be seen in isolation, but rather, key events along a strategic theme of

knowledge exchange. As new ways of accessing knowledge are developed and adopted, good ideas are easily spread, replicated and implemented. The second order effect of this is population growth, better access to information, education and a concentration of capabilities. The third order is critical masses, an industrialised, skilled workforce and access to materials that lead to further innovation. It is important to note this limited example of historical events had a deeper social and economic impact than the events themselves. Soon, Britain became the powerhouse of the new world order.

The next great wave of knowledge exchange came with the invention of wired forms of communications, beginning with Morse code in 1837, allowing for rapid real-time exchange of information. No longer did organisations need to concentrate on a single geographical location in order to have effective command and control. Organisational design, specialized skills and resources began to emerge as a direct result of this new information exchange capability. One example is the large railway corporations of the mid-western US that were able to effectively manage enterprises across a vast geographical area. Though they utilised the “rule of three’ -- a military principal limiting direct reports to three -- they managed linear organisations, often remotely, while utilising standard practices and organisational cohesion.

The advent of Morse code, and then wired communications, were followed by the introduction of wireless technology. These technological developments radically transformed many aspects of our lives, including international trade and real time communications, allowing the global network to collaborate and share information in a way that had never been possible.

## Democratization

These three waves of knowledge exchange made a significant contribution to a more accessible, inclusive and equal world, leading to liberal concepts such as universal human rights, free movement of people and international law, to name but a few.

The critical events of the past 400 years led to significant social and political change. Perhaps the most significant innovation, comparatively, only happened within the last two decades with the creation of the World Wide Web and the rapid adoption of innovative methods of collaboration, knowledge exchange and new ways of measuring the related social and economic effects. This is beginning to have a profound impact on traditional concepts of command and control structures.

At a strategic level, the very concept of the Nation State is beginning to be eroded with a retrenching towards tighter and tighter cultural parameters. At the tactical level the way we conduct business transactions such as employment structures, finance and learning, are all evolving rapidly.

A brief review of organisational design would indicate that we are witnessing a fundamental shift from 'M' form organisations, where structures, communications and resource allocation are top down and linear in design, towards an 'N' structure, which is networked, real-time and self-organising.

## Managing Change

This transformation has significant implications for leadership, management structures and predictive stabilisation. Old methods of trend analysis and predictive modelling are increasingly being seen as out-dated and obsolete.

Perhaps the biggest challenge will be meeting the demand for genuine leadership, identifying talent and nurturing capabilities in an increasingly volatile operating environment. Where knowledge is more accessible and talent more self-directed, the growth and success of organisations will no longer rely on traditional models of transaction-based management rewards to attract and retain the necessary skills and remain competitive.

The international business community has long been a proponent of closer cross-border collaboration, but what has this actually meant in real terms? In a world where transactional knowledge is becoming increasingly liberalised, new values need to be created within and around the transaction. A significant movement in world economic power emerged following the global economic crisis of 2007-2008, with new power bases rising. A shift within the geo-political landscape ensued; the old world order based on historically dominant social values sets is being challenged.

## Shifting Power

Conventional international economic, legal and financial standards were developed by nations that have shared global dominance for over 100 years. These are largely Western, Judaic, Christian countries with relatively homogeneous values frameworks. As new

global powers emerge, they are beginning to exact their own influences, bringing a new perspective of values to the established international norms.

Many experienced international businesses have understood the tactical challenges of operating across international boundaries. Until recently, however, the arbitrating authorities, socially, legally and financially, have largely been Western standards. This Western dominance is much less certain henceforth.

Recent events in the Middle East have marked a shift in the utilisation of N form capability, from insurgency through to the development and funding of an international coalition of terrorism, the collapse of states and the rise of new nations, much of it achieved without an apparent centralised command and control structure.

The movement of large numbers of people as refugees and economic migration have forced nations to reconsider their capacities, established alliances, rules and traditions. As in the past, perhaps we are only just starting to see the first-, second- and third-order consequences of the latest innovation transforming how knowledge is exchanged.

Like past revolutions, we understand that new structures and systems will rise to replace the old and the critical thinkers among us will realise that with the right people at the helm, there are opportunities to seize. Identifying people with the character and leadership qualities required to inspire and assemble others from diverse backgrounds is perhaps the most critical challenge in planning for the future.



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Ivan has an MBA, MA and a PhD from Cranfield focused on military and business transference. He has presented at various conferences and published a book Battlefield to Boardroom as well as various research papers in several journals. He is a visiting lecturer at the UKs National Defence Academy, the University of Wolverhampton and a visiting fellow at Cranfield University.

In his spare time Ivan is also a Lieutenant Colonel in the British Army Reserves. After commanding the largest Infantry Battalion in the British Army, he completed a tour as a Directing Member of Staff at the Advance Command and Staff College. Ivan then spent three years as a member of the British Armys Officer Selection Centre at

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