

THE ECONOMY, COMMERCE, VALUE AND DIGITAL MANAGEMENT

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The Industrial, Technical and Communications/Connectivity Revolutions

Recent social history of the world is marked by change points evidencing the bifurcation of social eras. The Industrial Revolution was the first, followed by the Technical Revolution and now by the Connectivity or Communications Revolution.

As with previous Revolutions, the Connectivity or Communications Revolution is impacting the social fabric of society. These impacts will be more severe, global and will happen at higher speeds and frequency, affecting, primarily, the current dominant social institutions and political power blocks that developed out of previous eras. Without responsive change these institutions will not maintain their relevance to the communities they serve.

The Industrial and Technology Revolutions have shaped our institutions as we know them today. Our education, healthcare, legal, and governance institutions and activities developed and were organised mainly to support the needs of commerce and the multinational corporation (MNC) entities of the times.

As we enter the twenty-first century we are now experiencing a different Revolution. It is the age of the knowledge worker, of global data access and instantaneous transactions, the empowerment of the individual, the blurring of technical enterprise boundaries and democratisation of the MNC. The power of MNC dictatorial control over global trade and domination of mass markets is waning¹. This is due to the Communications or Connectivity Revolution consolidating the increasingly valuable global digital economy.

The growing commercial power of individuals, and small and medium enterprises (SME) able to operate globally, enable them to compete with MNCs. As transaction costs fall, more sophisticated processes can be better performed by smaller specialised entities and individuals than MNCs. This is the age of cooperation and integration.²

This Revolution is changing world concepts of value. It is generating a growing awareness of environmental costs, the health and well-being of participants and the environmental sustainability of commercial activities. These are becoming vital components that have to be accounted for, together with traditional financial metrics for more appropriate, fuller,

measurement of value in the future. This Revolution is demanding the collation of yet more information from commercial systems.

The driving force of the Communications or Connectivity Revolution is the Internet. This anarchy of networks is connecting the globe. Its primary affect is on the size of effective commercial entities; corporation size is related to transaction costs.³ Before now corporations grew to their present size in order to optimise their ability to minimise transaction costs. Smaller entities and individuals are now able to handle complex transactions. Serious competition to MNCs is being provided by smaller, swifter, integrated, SMEs and individuals working together, more quickly and cheaply.

To take advantage of the new opportunities created by the global reach of the Internet, Governments have an important role to ensure that their communities are appropriately educated and have access to the necessary infrastructure, information and intellectual property rights (IPR) to enable them to accumulate knowledge locally, so they can participate in the increasingly connected world economy.

Communications, Connectivity, Law, Government, and the Economy

To be relevant, Governments of the future need to be fully supportive of their communities' commercial digital activities. This requires intense communication and understanding in the areas of communities' educational, legal, commercial and environmental needs to fully develop adequate interfaces with the digital economy. Any failure to ensure their communities' competitiveness in the global economic and commercial trading environment undermines Government's relevance and, ultimately, threatens its existence.⁴

Connectivity is the central agent of this change. Today, even Australia is considered to be lagging behind the rest of the world with only 70 percent of its population being somewhat connected to the Internet. Sweden, Iceland, Japan, Korea, and many other countries outstrip Australia in both actual connectivity and data volume access capacity, with Australia and the United States dropping to 19th and 10th in the ranks of the world's OECD's communication infrastructure environments, respectively.⁵ With communications and connectivity now prime requirements for economic

competitiveness, these issues become a real cause for concern.

The Role of IPR, Digital products and the Economy

Digital product and electronic commerce is an increasingly significant sector of the global economy.

...intangibles account for 70 percent of the current value of equities in the United States.

The Federal Reserve study found (...) that 47 percent of all intangible investment lies in computerized information (software and databases).⁶

The growing value of the knowledge economy makes access and protection of knowledge crucial. The Government's role in IPR governance is vital. Communities need to be assured of fair and strict enforcement of IPR law to protect their own and others' intellectual property. Without secure ownership rights a community has no incentive to generate value or attract externally owned IPR.

The value of good IPR governance in the digital arena is undisputed. Countries with bad IPR reputations, especially with regard to digitally-based products, and underdeveloped or weak legal institutions, poor legal governance and enforcement, are now severely disadvantaged.

Unless these countries make serious attempts to improve their IPR systems and the global perceptions of their IPR governance, they will be permitting a huge disservice to their citizens. In failing their community they threaten their own existence.⁷

The Problem with Digital Product and the Internet

There are many perceived problems with value and identity of the Internet. It is viewed simultaneously and alternatively as a new medium of communication, entertainment, sales, and education; as the new way of business, from worship to terrorism.

The Internet, however, is simply a global network of computers. Approached at its most basic level, like all business problems, the problems of digital product and Internet are about value.

Digital product value is directly associated with exchange of utility. The increasing ubiquity of the Internet and connectivity convergence towards the Internet is having increasing impacts on all value concepts concerning use and ownership of digital product and digital assets.

People's needs are met, and value generated, by trading wants and surpluses. At its root, trading is based on the fundamental concept of "fair exchange". A fair exchange is one where a party gives up possession of a good or service in reciprocation of another taking possession of an equivalent value, good or service and vice versa.

Commercial trade results in balanced transactions recording and measuring people's perceptions of value exchanged by the parties involved. In short, the primary nature of trade is its consensual agreement of value based on perceptions of fairness and equal dealing.

The digital age has introduced new products, extended the geographical reach of traders, and increased the speed and volume of trade transactions, thus, creating new value and information never before available. The impacts on the economy are significant.

The Internet and Digital Intellectual Property Rights

Digital trading, the very system responsible for creating value now becomes the system that can instantly destroy the value created, if effective IPR governance is not built into the digital economic environment. Unless the ability to replicate data is kept in the hands of the supplier, the value of a surplus data commodity vanishes once trading commences.

In the digital environment new complexities are introduced to the trading process. Without adequate IPR protection, the most obvious is the almost costless capacity to replicate valuable digital product. Other complexities relate to; the high speed degradation of data's value; instantaneous transactions; global transactions; transaction volumes; and logistical technical problems attributed to the incorporeal intrinsic nature, transmission, storage and retrieval of digital product.

The Impact of the Internet on the Value of Digital Property

The scale of the IPR governance problem grows as the Internet expands and connectivity increases. This is creating demand for effective implementation of proper Digital Management (DM) practices over IPR by both users and owners of digital content.

The scale of the problem is evidenced by the current debates:

- File sharing – "who owns the music"
- Open source code licensing – "free or open code licensing versus proprietary code licensing"
- Patenting software code – "ownership of ideas and application of copyright law"
- On Demand Software, Software as a Service, Pay-As-You-Use – "price of access to software"
- Copyright of data and content ownership – "stopping piracy without destroying distribution channels"

An example of the importance and relevance of the digital IPR governance phenomenon is most clearly illustrated today by the struggle of the MNC establishment to prevent the collapse of their traditional music and movie industries in the face of digitisation.

A solution to trading and exchange of value in the digital market is urgently required.

Digital Product Administration and Digital IPR Governance

Any solution must recognise that the utility value of data cannot be efficiently traded at the “point of physical exchange”. It has to recognise value at the “point of utility exchange”. This is where and when data or information is accessed or used by the buyer.

The originating source of Internet discontent is attributed to the lack of an Internet-based commercial layer required to measure this “point of utility exchange” value. Without a commercial layer there is no inherent security and no business metrics to administer the ownership of digital product and, thus, no ability to control use at the owner's direction.

A system for trading digital product and administering the “value produced” or “utility value” of a digital product (Pay-As-You-Use), rather than the traditional “media transfer” types of exchange, is fundamental to the future of digital IPR governance and proper integration of the Internet with business.

This requires future digital trading platforms to; secure data and information continuously; authenticate access at a digital product's point-of-use; use accurate and flexible measurement metrics to measure and report all, and any, value exchanges; enforce trading rules over access to uniquely identified digital product value events governed by auditable legal agreements between suppliers and consumers; and to provide evidence of agreement terms and conditions of values traded. The system has to work in real-time, or near real-time, on a global basis in order to support proper trading of digital product now and into the future.

Dynamic digital IPR and dynamic DM systems are central to the future success of the digital economy. DM will support the market's fast growing realisation that the future is SaaS (Software as a Service), ODS (Software On Demand Software), and PAYU (Pay-As-You-Use).

DM of IPR revolutionises accounting and administration of all the economic and commercial aspects of digitally-stored intellectual property. The implementation of DM will demand new specialist para-legal/accounting services to support IPR governance requirements of communities and Governments, such as:

- Meeting improved digital product deployment goals
- Development and analysis of sales models
- Optimum pricing levels and selling strategies
- Treasury and accounting administration
- Global tax compliance and statutory obligations
- Billing and collection services via payment and banking portals
- Automatic integration of ecommerce and electronic banking transactions with financial accounting systems

For the Information Technology industry itself, DM will be of significant and direct benefit, since the software sector is by far the largest producer and seller of digital products.

Conclusion

The future of the traditional software industry, based largely around boxed software product, the enterprise software industry of big deals, and concentrated corporate and local computing, is untenable. The next generation of digital product value-builders is going to be serviced-based. Hardware value is becoming dependent on the services that it supports.

The move to trading digital product and data at its point-of-use is inevitable. The technology to support point-of-use data exchange and to administer IPR metadata already exists, and the market is increasingly demanding it. On Demand Software, Software as a service, and Pay-As-You-Use are terms that were unknown a few years ago but are now common terms and concepts in the digital product marketplace.

The centre of this digital product trading revolution will be the development, implementation and use of a commercial billing layer on the Internet. This is the “Digital Land Titles Administration” aspect of the cyberworld that has yet to crystallise, in order to enable proper ownership of digital property with supporting efficient and effective business metrics required to account for the “digital rent” that underpins the accumulation of ultimate digital capital and economic growth. Above all, economic value is all about measurement. Government, accounting and consulting professions must also take notice and be actively involved.

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