

A New Paradigm Applied: The Information Sector

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We are facing a new paradigm driven by a discontinuity induced by technology change, i.e. the separation of information from physical goods driven by information technology diffusion.

To recap, the new paradigm has the following factors:

1. enables a massive growth in wealth
2. reduces transaction costs
3. requires trusted custodians of information
4. enables new forms of organisations
5. changes the boundaries between organisations and the market
6. creates the self-interest for people to own information defining their person
7. requires maximum storage of data to realise maximum returns

So, what does this mean for the information sector? How will it affect the way people store, transfer and recall information in an age where information becomes the primary source of wealth? For the purposes of this paper, a differentiation is being made between data (being list of facts without context), information (being a collection of data with a context applied) and knowledge (being information applied by an individual using a skill).

The first point is that society will experience a massive increase in wealth. In the context of an information based society, this point equates to a massive increase in available information. However, the difference from the preceding industrial society is not that more information is being created, as the same events may occur in both society forms, but that the data is being captured and stored in the information society compared to almost all data being lost at the point of creation in the industrial society. This capture and storing of data enables information to be derived by applying contexts, with increased data volumes enabling greater variety of contexts, thus leading to increased wealth as increasing returns are applied to the sector – i.e. the more information available, the greater the benefit to society. The change will be partially driven by the diffusion of computerisation achieving dominance over other technologies such as paper (paper currently has a 97% marketshare of stored information), enabling storage primarily of data rather than information as required by paper and thus unlocking the full economic benefits of information as a commodity.

The second point is a reduced transaction cost to access information. The nature of an increasing returns product is an ever decreasing marginal cost of production, thus resulting in greater volumes leading to reduced cost for individual items of information. The reducing transaction cost is derived from information's unusual economic property, that it is valuable, costly to produce but infinitely indivisible. Hence, the greater the number the transactions, the lower the cost per transaction, and as the information society has orders of magnitude more transactions than the late industrial age, then the transaction costs will be significantly reduced.

The third point is the information society requires a trusted custodian to be effective. All parties contributing data need to be confident that the data need to be confident in the validity of the data. The trusted intermediary provides a guarantee of trustworthiness for all parties, in a similar manner as banks with savings and loans.

The fourth point is that the information sector enables new forms of organisations. The information intensity and the elimination of location dependency enable skills to be brought together as required to meet requirements that may be temporary, intermittent or ongoing, in any location or for any purpose, so long as information can be applied to that context. As such, so long as communications infrastructure exists for information to be accessible, the information society eliminates boundaries and thus encourages organisations based upon their ability to use information, i.e. the knowledge of individuals, rather than any other criterion.

The fifth point is that the boundaries between information creators, holders and providers and the market for information consumers are blurred in an information society. Any person could be simultaneously any or all of these functions, leading to an information paradigm where there is little distinction between the actors in the market.

The sixth point is that the emergence of an information society creates the self-interest for all individuals to control any information that uniquely identifies the individual. An individual who does not control their own identification information in an information society becomes completely beholden to the person or organisation owning or controlling that identity, as that person can only operate within society with the other person's permission and within their boundaries, which in effect is a form of slavery. The best form of protection for the individual is the property right over the individual-identification information, thus enabling legal control over one's presence in society, being in effect a free person.

The final point is that it is in society's interest to maximise the amount of data collected, stored and made accessible, in order to maximise the amount of information that can be derived and thus the knowledge that can be applied; as the more knowledge applied, the greater the benefits to society. Thus, the maximum data stored, the greater the returns to society, as a direct consequence of the increasing returns inherent in information as a commodity.

These changes can all be predicted by applying a new paradigm of an Information economy, but probably represent only a portion of the real benefits, many of which will become apparent only in the context of the new paradigm once it is entrenched. These changes can evolve into a fairer society where information is accessible by everyone and a more advanced society as new advances are enabled by the information intensity of the new Information economy.