

# **PERSPECTIVES ON OUR GLOBAL FUTURE**

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## **Global shift – the changing balance of world economic power**

- We are being carried along by what I describe as The Great Transition – the biggest shift in global economic realities since the Industrial Revolution
- A matrix of convergent ‘tipping points’ that is re-shaping our world
- The shift in economic power to the emerging world - the e-World – not just to the giant BRICs nations but also to a second cohort of smaller economies like Indonesia, Vietnam, Mexico and South Africa
- Emerging global demographic realities a) a population explosion over coming decades where 95 % of future world population growth will be in this e-World b) rapidly ageing population profiles in older economies [EU, Japan etc] but also in high-growth countries like China with associated challenges
- Crossover to an increasingly urban world – today more people live in cities and towns than in the countryside ... 200,000 people a day moving from rural areas into urban centres – again, big challenges being posed
- Future rise of huge ‘mega-cities’ of 20 million-plus inhabitants – mainly in the e-World : Shanghai, Manila, Jakarta, Mexico City, Sao Paulo, Mumbai, Cairo etc .. these will be major magnets for employment, including professionals, new financial centres etc
- As a result of all these trends, new patterns of global trade, investment and financial flows, new e-World brands coming into the marketplace ...
- Meanwhile, ‘old economic bloc’ of EU, Japan etc will see falling populations, generally lower economic growth compared to long-term trend ...

## **Impact of emerging technologies and a wireless world**

- Maturing technologies like mobile devices, Near Field Communications and Telepresence are creating what I call ‘The Anywhere Economy’.
- In the global, wirelessly connected, digital universe of tomorrow the tyranny of geography will no longer rule
- People will increasingly be able to work how, where and when they choose
- Companies and other organisations will be able to locate with greater freedom of choice than at any time in history
- Other human activities, from socialising to shopping will be overtaken by virtual possibilities ...
- A central driver of this shift to an Anywhere Economy is the emerging ‘Internet of Things’ – an Internet that functions through billions of connected devices, from cars and cameras to phones, smart homes and smart cities
- One key technology shift over the coming decade will be the migration from an Internet run via Internet Protocol version 4 – or IPv4 – to a vastly bigger system centred around version 6, or IPv6. In simple terms, IPv4, which has been in place since the early 1980s, has run out space and can no longer offer new Internet addresses. IPv6 is vast by comparison and means, in effect, we can replace an ageing

and congested country B-road with a 20-lane superhighway that can carry infinitely greater volumes of online traffic.

- Another key technology of The Anywhere Economy is radio frequency identification [RFID]. This is also now known as Near Field Communication [NFC] – giving the ability to transmit valuable data to devices close by. For example, the Oyster card relies on this technology; so does an ‘electronic wallet’ created by giving a mobile phone the capability of passing over payment for a purchase.
- Over the coming years technologies like RFID / NFC will transform the way we run our lives, from payments systems to logistics, warehouse management, even libraries – indeed any activity that relies on knowing where things are and communicating with them.
- Other emerging technologies, such as holograms and augmented reality, will make it possible to do many things remotely, from seeing a virtual person speaking at your conference, to trying on garments in an online virtual store.

### **New business eco-systems**

- If you want to understand the business and commercial environment of the future you should look not at the lessons of mechanics but at the lessons of biology
- As an overarching view of business evolution we are making the fundamental transition from the Industrial Model company to the extended networked enterprise – from the pyramid to the pancake ...
- Although commentators say this transition has long been complete, in reality a huge legacy of ‘industrial model mindset’ remains to be swept away
- For ever a century corporate entities were designed and managed like military organisations, with assets deployed around a central ‘command-and-control’ capability ... even the language was militaristic, with talk of ‘capturing market share’ and an emphasis on zero-sum concepts where a rival’s gains were your losses and where strategic information was guarded jealously
- Increasingly, we are seeing the emergence of supply chains and collaboration-based working relationships that are real business eco-systems
- This trend will increase as organisations push more and more activities outside the traditional boundaries of the enterprise. Typically, the future enterprise will no longer be an ‘organisational chart’ but instead a succession of flexible relationships embracing many suppliers and external professionals or ‘contingent specialists’ who are called upon as and when needed.
- A good example of an eco-system approach is the Hong Kong apparel industry, where a number of manufacturers deploy Quick Response techniques across a wide network of suppliers to meet demand from what is called the ‘fast fashion’ sector, using sophisticated technologies such as RFID and 3D body scanning techniques

### **Future of work and the workplace**

- We are in the midst of fundamental changes in our working habits – where, when, how and why we choose to contribute to the wealth-creating machine

- In essence the ‘Age of the Job’ is giving way to a new culture of work. There are several important drivers of this shift:
  - Maturing technologies are creating a mobile, connected, global information environment that is changing the rules about location, time and space
  - Corporate attitudes increasingly favour more flexible working practices with growing reliance on non-permanent, free-agent workforce relationships
  - New entrants to the working population – essentially young members of the ‘digital population’ – favour less hierarchical and more networked business models – again, the move ‘from pyramid to pancake’
  - Over coming years we are going to see the continuing decline of the fixed-place office and the rise of geographically dispersed working practices
- In addition, the future will see continuing strong growth of the ‘free agent workforce’. UK government figures indicate there are now around 4 million adult workers in Britain who are ‘neither employers nor employees’. They range across the entire spectrum from IT consultants and lawyers to creative types and construction industry tradesmen. This number is set to grow in the years ahead.
- By 2020 its estimated some 80 per cent of the UK workforce will be of this ‘free agent’ type – either working for a company on a flexible, geographically free basis or as external ‘contingent’ workers selling their professional skills on day-by-day or even hour-by-hour terms.
- The US economy offers important pointers about the possible shape of things to come in working practices:
  - Over 40 million US adults classify themselves as ‘free agent’ or ‘contingent’
  - Over 50 per cent of all new jobs being created in the US economy are such ‘free agent’ professionals
  - It’s reckoned that by 2020 such free agent workers will be the dominant category in the US workforce
  - US commentators have coined the term ‘gigonomics’ to describe this shift – instead of traditional full-time work in fixed place offices, people will sell their talent for a succession of ‘gigs’, or one-off engagements
- These changes in working practices will have significant impact on key aspects of our working culture:
  - Commuting times will be heavily reduced – currently Britons spend around 4.6 million hours every working day commuting to / from their place of work
  - Old-style office buildings will become obsolete – smaller, more efficient work hubs will take their place
  - The ‘map of work’ will change dramatically, with growing numbers of people locating themselves where they choose on grounds of family, friends or an attractive environment
- To provide essential ‘face-to-face’ contact between working teams and also with customers, clients, suppliers and other partners, new systems providing visually-driven ‘unified communications’ – with technologies such as ‘telepresence’ – will replace traditional physical contact in office meetings or over the photo-copier ...

### **A post-carbon future – what impact on our lifestyle?**

- One of the two or three major challenges of the 21<sup>st</sup> century is the development of a new energy equation that takes us away from our dependence on fossil fuels and instead builds a post-carbon economy based on planet-friendly renewable energy

- Meeting this enormous challenge – building a completely new economic culture – will require ingenuity, vast resources and a fundamental change in lifestyle
- The scale of this challenge must not be underestimated – especially with huge future demand from China/India. Challenge is immense -- of revolutionary dimensions. To put it into perspective, creating a post-carbon future means we will have to find a way of replacing the energy equivalent of a cubic mile of oil every year.
- A cubic mile of oil does not sound too onerous – but here is another perspective on the scale of the challenge. A cubic mile of oil is equal to:
  - 200 Three Gorges Dams – the immense Chinese energy project
  - 2600 new nuclear power plants
  - 5200 new coal fired plants – not exactly post-carbon!
  - 1.6 million wind turbines
  - 4.5 billion solar panels
- Mining helium-3 from the moon, where there are abundant deposits? Helium-3 could theoretically transform the world's energy supply – and it's clean. Watch this space – the Chinese have ambitious plans to do just that over the next decade or so...
- So we are a long way off making the cross-over from dirty fossil fuels to low carbon alternatives. A major contribution to this transition will come not from developing new energy sources but becoming far more efficient in our usage of existing ones.
- This pursuit of efficiency has had a positive effect. In the US, for instance, the amount of energy used to produce an extra dollar of GDP has more than halved since World War Two. More generally, developed economies did become far more energy efficient after the oil shock of 1973 sent prices soaring. But still a long way to go ...
- By far the largest consumer of oil in advanced economies is transportation – in the US, for instance, transportation accounts for 70 per cent of total oil consumption.
- So transportation has got to be a major target. Efforts are being made – for example the US Air Force has modified its entire fleet of aircraft so they can run on a mixture using bio-fuels ... many London buses now run on ... then there are hybrid and electric cars .. hydrogen engines ... increasing use of solar energy .. but progress is slow ...
- In the long run, the only viable solution is to change the way we live:
  - Our homes need to become smarter in how they use energy
  - We have to cut down on transportation – commute far less, stop carting vast amounts of food around in huge containers and cut down on supermarket energy consumption – in other words we'll have to be more 'local'
  - We'll have to change a lot of habits – in the UK today fewer than half all young kids actually walk to school, while grown-ups spend over four and a half million hours a day travelling to and from work ...
  - Become a more energy-aware culture – domestic electricity consumption in the UK has almost doubled since 1970 ...
- One vision of future energy we might one day copy is Masdar – a sustainable city being built south east of Abu Dhabi in the oil-rich Gulf ... it's run entirely on solar energy ...with a zero-carbon, zero-waste ecology

## **The Future of Cities**

- In the long run of history the 21<sup>st</sup> century will go down as the 'Century of the City'
- For the first time in our history more people on this planet live in towns and cities than in rural areas

- The world's urban population is growing by 65 million annually – the equivalent of 7 'new Chicagos' every year
- On current trends by the end of this century the world will be almost entirely urban
- Many of these 'urban migrants' end up on the margins of urban life, unemployed and living in shanty towns or slums – a far cry from the urban dream, they imagined
- But the city will be the driving force of global economic growth and social change
- We can foresee the rise of huge mega-cities of 20 million people or more across the emerging world – Shanghai, Jakarta, Mumbai, Cairo, San Paulo, Mexico City ...
- These mega-cities will face major challenges of congestion, pollution and infrastructure – but they will also be powerfully attractive magnets for business, employment and professional networks – some will be the financial and corporate capitals of the future
- Then there are 'instant cities' like Songdo, in South Korea. In 2005 it barely existed. When completed in 2015 it will be, according to developers, 'the Atlantis of the Far East with 80,000 apartments, 50 million square feet of office space and 10 million square feet of retail ...
- The power of the 21<sup>st</sup> city is plain to see:
  - Cities generate over 80 per cent of global GDP
  - They are dominated by City 600 – by 2025 some 600 cities will account for 60 per cent of global GDP
  - Reflecting the power of City 600 – the next 400 cities below this group will only account for an additional 6 per cent over this same time frame
  - 230 of the City 600 of 2025 do not even rank as important today – cities that are set to take off over the next decade or so – little known emerging cities like Huambo, Fushun, Medan and Vina del Mar
  - But this city phenomenon is not only in the emerging world: in North America 98 rapidly growing cities will generate 10 per cent of global growth up to 2025
- Thus the 21<sup>st</sup> century will see the world cross a critical tipping point – becoming an urban planet, perhaps looking beyond Earth to the space colonies of tomorrow ...

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