The Synergy Between Business and Global Drivers in Futures Planning for Construction Enterprises

Roger Flanagan, School of Construction Management and Engineering, The University of Reading, Reading, UK

Abstract

Construction enterprises are driven by short-term business pressures yet they need to plan for the future. The global drivers are much more medium to long term and have a greater impact on the markets, rather than the enterprise itself. There are different time perceptions for different size enterprises which are heavily influenced by the strength of the balance sheet and the growth opportunities in the markets in which they work. Enterprises cannot afford to ignore the drivers that will impact upon their markets if they want to achieve sustained competitiveness.

Keywords: construction business drivers, global drivers, competitiveness, futures

1. Introduction

All construction enterprises plan for the future. “Although we cannot know what will happen in the future, we can still have expectations and make preparations.” (Cottle, 1976). There are enterprises that make things happen, there are enterprises that see things happen and there are those that wonder what happened! Enterprises in the construction sector are frequently criticised for taking a short-term approach, furthermore, they are criticised for failing to invest sufficiently in research and development. The implication of the criticism is that enterprises do not take sufficient account of the long-term future.

Internationally, there is no shortage of foresight studies and reports forecasting the future for the construction sector. Very few consider the business case within their visions. Enterprises are driven, in part, by the business agenda; they need a way of looking to the future that incorporates the business case, thus making futures studies more relevant to construction enterprises.

All enterprises have a corporate strategy and a business plan looking 1-3 years into the future; some even look 5 years into the future. A competitive industry or organisation must be innovative and forward-thinking, without a long term approach sustained competitiveness will be difficult to attain. Construction is predominantly project-based with project teams basing decisions on short-term alternatives, because they have more information regarding the present and immediate future than the long-term future, whereas future studies are much more long term. The major criticism of future studies is that they often fail to take account of the business case.
This paper considers two research questions:

1. What is the relationship between the global drivers and the business drivers that are likely to influence construction enterprises when looking to the future?

2. The future involves a time dimension, how does the perception of time and the planning time horizon impact business strategy and competitiveness?

2. The sector

It is convenient to treat the construction industry as one sector. In reality, the sector comprises four parts: 1) the consultants (architectural, engineering and cost), 2) the construction enterprises who focus on production (including the specialist trade contractors), 3) the manufacturers and suppliers of components, equipment, plant and raw materials, and 4) the service providers to the sector (lawyers, accountants, insurers, bankers, financiers). Even within these groups there will be sector-specific enterprises that will specialise in one part of the sector, such as repair and maintenance.

Globalisation has changed the way business is conducted, with the mobility of labour, capital and goods. Increasingly, shareholders can be from overseas, and goods are sourced from suppliers in low cost economies. Capital has become transnational. Even within enterprises there is a range of stakeholders win the sector, each with different motives and goals. For example, the shareholders of the company will have financial performance as their main goal, whereas the clients will be seeking lowest costs.

3. Looking to the future - the global and business drivers

3.1 The global drivers

The nine global drivers used in this research came out of an extensive literature review fro which the following drivers were chosen as having the greatest impact on the construction sector:

1. Demographics and ageing
2. Climate change, sustainability and environmental pressures
3. Urbanisation, growth of cities, and transportation
4. People, safety and health
5. Rapid technological and organisational change
6. Vulnerability, security, terrorism, corruption and crime
7. Globalisation of economies and business
Global drivers do not recognise national boundaries. They are connected by a complex web with some connections that are obvious, and others not. For example, demographics and ageing will have an impact on urbanisation and transportation because of people’s changing lifestyles, the greater mobility of labour and an ageing population. Other connections may not be so obvious; such as, rapid technological change may increase the demand for energy and other natural resources and so become interlinked with the climate change, sustainability and environmental pressures driver. Drivers may mutate, changing their nature, their impact and connections of the driver.

Enterprises cannot ignore the global drivers, but their focus is on the business drivers and how they can maintain profitability, and customer and shareholder satisfaction, whilst at the same time facing, managing and implementing change. The business drivers tend to be short-term whilst many of the global drivers are of a long-term nature. A further complication is that the sector is made up of a range of enterprises of different sizes and types, each with different time horizons according to their size, type and market.

**Demographics and ageing**

Demographic changes are impacting the world with age distribution having significant effects on economic growth. The majority of the world's older persons reside in Asia (53%) while Europe has the next largest share (25%). One in every 10 people is now aged 60 years or older; by 2050, the United Nations projects that it will be 1 person in every 5 and, by 2150, 1 in every 3 will be aged 60 years or older. Figure 1 shows the ratios of the working-age population (15-64) to those 65 and over, in 2000 and 2050.

Ageing populations in the developed world are having considerable impact on the construction sector workforce, with a number of challenges to be faced as the workforce is increasingly made up of older people, and fewer young people are available for employment. The sector already faces problems of recruitment, retention, and retraining and so cannot ignore the challenge of an ageing workforce. An ageing population as customers of the industry will also have an impact.
Climate change, sustainability and environmental pressures

“Climate change represents an unprecedented and highly complex threat to long-term economic interests across the spectrum of finance and insurance industry activities.” (UNEP, 2002, p4). Global environmental problems are high on political agendas with more environmental legislation at a national, supranational and international level. Ozone depletion, pollution, depletion of resources, and global warming are common topics of concern.

Sustainability and its associated environmental pressures is changing construction. There are push-pull elements with legislation and taxation providing the push, and the pull in the form of business motivation to achieve less waste and greater energy efficiency, thus reducing costs.

Urbanisation, growth of cities and transportation

Growing urbanisation is creating congestion and a decaying infrastructure is not meeting increased demand. In the UK, the demand needs to be met by increased density and use of brownfield sites. People are more mobile, using roads, rail and air more frequently. The current stock of infrastructure cannot cope and modification, modernisation and refurbishment will be required to the existing infrastructure, with particular emphasis on environmental impact.

There has been a change in the financing over the last few decades with a shift from public to private sector financing. The number of BOT, BOOT, BOO, and public/private partnership projects has increased (World Bank, 2003). The ‘public good’ nature of infrastructure projects makes them sensitive to social and political pressure. The mechanisms to attract private finance into infrastructure provision are becoming more complex and the length of the concessionary period means that enterprises have to adopt a whole-life, long-term strategy.
People, safety and health

Human capital is an increasingly important asset; the tacit knowledge of a business rests within its workers. Therefore, the health and work environment of construction workers is important. The overall 'cost' of accidents and near misses on a construction site can amount to some 8.5% of the contract price (Minister of State for Work, Department for Work and Pensions 13 September 2003). A UK Health and Safety Executive report calculated that one third of all work fatalities happen in construction and construction workers are six times more likely to be killed at work than employees in other sectors (HSE, 2003).

In the developed world, new construction processes will lead to greater mechanical assistance for construction workers and the elimination of dirty, dangerous and debilitating activities through the provision of advanced mechanisation. They will benefit by having safer sites and better worker health due to better ways of working and job satisfaction due to changes in the nature of the work accompanied by new rules for site management procedures. In the developing world, labour is much cheaper and the pressures to mechanise are not so great.

Rapid technological and organisational change

Technology impacts upon all people, products and processes in an economy; its application is one of the drivers of change for the next wave of economic growth. Information and communications technology (ICT) enable more efficient processes such as e-business, auto-ID, information management. Wireless technology and telecommunications is advancing at a very rapid rate. Increased bandwidth is allowing faster and a wider range of access to internet-based processes.

There is a trend towards more small businesses, outsourcing specialist activities and changing management methods (European Agency, 2002). Rapid technological innovation often leads to changes in demand and consumer expectations and so requires organisational change to meet those demands (Singh and Shoura, 1999).

Construction organisations are faced with information that is increasing and becoming more complex; project managers can spend up to 70% of their time dealing with data - generating, managing, sending, collecting and analysing it (Fisher and Yin, 1992). Solutions are being sought to cope with the level of paperwork associated with projects (Thorpe and Mead, 2001). Research has shown that construction costs can be reduced by as much as 25% if information is transferred effectively (Baldwin, 1996; Davidson 1990).

Vulnerability, security, terrorism, corruption and crime

A growing concern about the threat of terrorism, particularly since 9/11, has led to changes in construction, such as better and stronger structures, and personal safety measures. Different designs are being studied that minimise the impact of bomb-related threats. Structures are being designed such that a column collapse would only result in the collapse of a single floor or area without causing the collapse of the floors below it. Reinforcement of the columns in existing
buildings by the use of fibre glass or carbon fibre materials is being researched and also how to
minimise the impact of shattered glass. Experts are investigating the effects of the introduction of
an aerosol agent into the heating, ventilation, and air-conditioning (HVAC) system through the
development and installation of devices that are designed to kill micro organisms or filter harmful
chemicals.

Corruption increases the uncertainty of doing business because it erodes the rule of law and is
associated with high levels of bureaucratic red tape. Some describe corruption as a “tax that adds
to the cost of doing business”. Various business surveys have concerned themselves with the
prevalence of corruption in everyday business operations. An empirical analysis of transition
economies in Eastern Europe and Central Asia showed that investment levels in countries with
high levels of corruption were 6% lower on average than in countries with medium levels of
corruption (21% and 27% respectively) (The World Bank, 2000).

Globalisation of economies and business

Globalisation has increased the importance of competitiveness. It has shrunk the world, with
transactions undertaken electronically around the world 24 hours a day, every day of the year.
This greater connectivity is evident in the mobility of goods, services, labour and capital. Goods
are increasingly being sourced from around the world, often from low-wage economies; for
example, materials from China and design being undertaken in offices in India, Pakistan and
China. This will lead to a rationalisation and consolidation in construction materials and
components supply. Globalisation has brought new ways of working as overseas firms continue
to acquire/collaborate on projects, introducing changes to the design and construction; the
creation of economies and businesses that are interdependent.

Greater transparency in reporting business results is being required by investors. There is an
increasing need for companies to maintain public confidence in the legitimacy of their operations
and business conduct - a licence to operate. Corporate social responsibility is becoming more
important, particularly to major companies.

Information, knowledge and communication

The growing importance of technology, knowledge, and skills is crucial with the move towards
knowledge-based business and knowledge technology becoming central to all business. Therefore
knowledge management is of equal importance with the ‘information overload’ that exists. The
level of performance of the world’s best is constantly being raised as a result of innovation in
communications, technology and learning. The centre of gravity in business success is shifting
from the exploitation of physical assets to the realisation of the creativity and learning potential of
people. More than ever, people and relationships are the key to sustainable success.

The future is where all electronic devices are ubiquitous and so are networked and every object,
whether it is physical or electronic, is electronically tagged with information pertinent to that
object. The use of physical tags will allow remote, contactless interrogation of their contents; thus, enabling all physical objects to act as nodes in a networked physical world.

**Governance and legislation**

Construction is faced with increasingly complex regulations and greater government intervention through legislation, taxes and tariffs. Standards and codes are very important as they directly affect the future public safety and affordability of every public building. They afford protection from substandard housing, poor sanitation, and unnecessary risk of fire or loss of life from natural (or man-made) disasters.

Codes and codes enforcement can either facilitate or restrict the introduction and use of safe, durable, and innovative building products, technologies, and processes. In that regard, codes and codes enforcement also can either enable or make it virtually impossible for building products manufacturers to aggregate their markets, which could reduce the cost of their products through volume production. Market aggregation thus enables product manufacturers to more readily compete in the international marketplace. The adoption of uniform codes with few (if any) technical amendments across Europe allows greater international competitiveness. The USA has placed a high priority on the internationalisation of the American standards in order to maximise their global competitiveness.

### 3.2 The business drivers

The views of the sector business leaders were sought in identifying the main business drivers over the next five years:

1. **Stakeholder pressure**
   - Need to increase alignment between the desires of executives and shareholders - if the shareholders do well, the executives do well.
   - Executive remuneration packages need to be based on a total reward basis, with strong incentivisation
   - Demand for more transparency and openness
   - Shareholders do not like excessive risk, the share price reflects the organisation’s level of risk
   - Share ownership has shifted with more overseas involvement (see Figure 2). The figure shows a more diverse ownership, with an increasing overseas involvement.

2. **Human resources/people**
   - Ageing workforce with the challenge of the skills gap and shortage of labour
   - Health and safety with a zero tolerance towards accidents
   - Recruitment and succession planning
• New collaborative role of unions
• Incentivisation of the workforce

3 Profitability
• Reduction in EBITDA across the major firms – EBITDA has fallen from around 3% in 1990 for the top 38 international construction organisations to 1.6% in 2004
• Pressure on CEO to deliver more for less in a shorter time frame. CEO life in post is decreasing
• Profits must reflect risk – the industry average should be 4-5% to have a sustainable Profit/Earnings Ratio

4 Merger and acquisition pressures
• More mergers and acquisitions creating consolidation in the sector
• Importance of a strong balance sheet and expertise for PPP/BOT/PFI

5 Improving performance (design/production/productivity)
• Need for improved productivity on site
• Design liability has become a major issue. Consultants have weak balance sheets
• Fee levels have become too low for the level of design work expected leaving detail design to be undertaken by contractor/specialist

6 More risk being managed
• Unreasonable contract conditions with standard contracts being modified
• Safety legislation being increased to place responsibility on designers, owners, as well as construction organisations
• Everyone is getting smarter at risk allocation
• Insurances and Bonds getting more expensive

7 Competition from low-wage economies
• A new wave of construction firms - the real threats are from material supply in China and design in offices in India, Pakistan, China
• Growth of the Informal sector workforce

8 Competitiveness
• We need to compete by exploiting technology
• Better productivity and performance will drive down cost
• Performance and its measurement – with so much benchmarking we have forgotten how to measure performance
• Safety and finance are a real competitive advantages
9 Markets

- New methods of procurement with PPP/BOT/BOOT/PFI
- Procuring on value rather than price
- New importance of the housing sector
- A focus on local markets and being a local player in Europe

10 More bureaucracy

- Corporate governance and reporting – there are around 60,000 pages of corporate governance legislation
- Adoption of IFRS standards for accounting
- US Sarbanes-Oxley legislation is coming to Europe
- Pension legislation with pension fund provisions on the profit and loss account
- Environmental legislation
- Codes of ethical behaviour
- Tax legislation on payments

Figure 2: Total equity owned by institution (%) – UK share ownership (Source: Office for National Statistics, 1975, 1990 and 2003)

The business drivers will change over time. A key question is “How do the business drivers relate to the global drivers?”
4. Mapping the business drivers against the global drivers

Figure 3 shows the business drivers mapped against the global drivers, that are primarily seen as a market opportunities, they are not seen as core to the business drivers. However, some have more influence on the business than others. The ‘time’ column is a description of the global driver’s time horizon i.e. short, medium or long term. The matrix reveals two interesting points:

- The highest ‘scores’ when matching the business drivers to the global drivers are for rapid technological and organisation change, globalisation of economies and business and governance and legislation.

- None of the long-term global drivers such as demographics and ageing, climate change, and urbanisation ‘score’ highly against the business drivers.

Why should a construction enterprise be concerned with both business and global drivers? The answer is sustained competitiveness. If an enterprise is only concerned with the business drivers, taking them into account in any strategic planning may well increase or establish their competitiveness. However, to achieve sustained competitiveness, the impact of the global drivers needs to be considered as they will ultimately impact the organisation and its environment. The difference between the business and global drivers is their time horizon.
**Global drivers** | **Time**
--- | ---
Demographics and ageing | L
Climate change, sustain. and environ pressures | L
Urbanisation, growth of cities, and transportation | L
People, safety and health | L-M
Rapid technological and organisational change | S-M
Vulnerability, security, terrorism & corruption | S-M
Globalisation of economies and business | S
Information, knowledge and communication | S-L
Governance & legislation | S-M

<table>
<thead>
<tr>
<th>Shareholder pressure</th>
<th>Human resources</th>
<th>Profitability</th>
<th>M&amp;A pressures</th>
<th>Improving performance (design/production/productivity)</th>
<th>Managing risk</th>
<th>Competition from low-wage economies</th>
<th>Competitiveness</th>
<th>Markets</th>
<th>More bureaucracy</th>
</tr>
</thead>
</table>

**Business drivers**

*Figure 3: The business drivers mapped against the global drivers*
5. Time horizons and the perception of time

Figure 4: A business strategy timeline

Figure 4 shows the different ways of looking towards the future undertaken by businesses and the time horizon of these plans.

As we have seen from the mapping exercise, the business drivers impact the short-term plans, whilst the global drivers impact the longer term planning. Each of the stakeholders associated with the business also have their own perceptions of time - see Figure 5.

Figure 5: The timeline of some of the stakeholders

The perception of time when considering the future is strongly influenced by the size of the enterprise, the strength of the balance sheet and the growth opportunities in the markets in which
it works. There is a range of futures, not just one. Enterprises’ perception of time are different, some put more emphasis on the past and the present, others see the future as being more important. This is illustrated in Cottle’s (1976) circle test which ascertained how people relate to the past, present and future. Figure 6 shows the different ‘circles’ for a large and medium-sized construction enterprise.

![Figure 6: The timeline of some of the stakeholders (Source: Based on Cottle, 1976)](image)

The size if the circle is a function of the importance the enterprise places on the past, present or future. The connectivity of the circles shows the relationship between the three. Our research suggests that most SMEs relate more to the past and present than they do to the future. This short-term view reflects the financial position and the need to maintain cash flow. In futures research the temporal relatedness is very different to the enterprises with a larger future circle that is disconnected form a small present circle and even smaller past circle.

An organisation’s knowledge is all about the past, yet its decisions are about the future. Therefore, deciding how far away that future is and planning towards it is important. Corporate planning needs to take account of the different time horizons and to move away from a culture that is heavily biased towards single-point forecasting.

### 6. Conclusions

One of the main differences between business drivers and global drivers is their time horizon. Business drivers tend towards the medium and short term, they revolve around shareholder and client satisfaction underpinned by the need for the business to be profitable and grow. They have changed little over the past twenty years. Global drivers are short to long term and they change over time, mutating and creating a complex web of interactions that have broad consequences. The long-term nature of some of the global drivers means that many organisations do not take them into account in their forward planning, yet in order to sustain competitiveness, these drivers must be recognised in the organisation’s planning process.
The need to sustain competitiveness means adapting faster to the increasing pace of the business world. The ability to change quickly is affected by a) the ability to predict change, and b) the ability to quickly respond to change with effective strategy and execution. Predicting change means looking to the future and recognising the synergy between business and global drivers and their temporal dimensions.

Our recommendation is that enterprises must incorporate futures thinking into their plans and understand the complex interactivity that will ultimately influence their business.

References


UN (2004) World population trends on web site:


