The future: Where is the surveying profession heading in a changing world?

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Abstract

“The future depends on what you do today.” – Mahatma Gandhi. RICS has set out not to predict the future but to attempt to understand the diverse range of possibilities that might exist in the coming years and determine how we might, as a profession, prepare for the challenges ahead.

This paper is based upon the RICS Futures report Our Changing World: let’s be ready (Cook and Chatterjee, 2015) and examines some of the futures research undertaken by RICS and concludes with a series of actions that should prepare the professions for the future in a world that seems set to be very different from the one with live in today.

Keywords

futures, built environment, technology, business models

Introduction

In today’s world we are experiencing unprecedented urbanisation, demographic change and the development of revolutionary new business models together with changing global cash flows for real estate transaction and technology in general. Realising that the future would most probably be different from the past and that the pace of change seemed to be ever increasing, in 2011 RICS started its Futures programme by looking at possible future global scenarios: how might the world develop in the years ahead? Our approach was not about seeking to predict the future but to attempt to understanding the range of different possibilities we, as a profession, may face, and therefore prepare for it as best we could. This is not something any one profession can do alone: sharing our experiences is an integral part of the journey.

Our report published in April 2015 “Our Changing World: let’s be ready” is intended to serve a number of purposes:

Firstly, it is a call to action for the next three-to-five-year period. With the pace of change accelerating, our report identifies six key areas for action for those operating in the natural and built environment. We want to foster and encourage greater leadership on these issues across our sector.

Secondly, we have sought to build on the work of our first RICS Futures report, “Just Imagine” (Ratcliffe, 2011) to update some of the major global drivers and trends. Many of these will be familiar to you, though some of the insight will surprise and even challenge current thinking.

Thirdly, we’ve used the latest insight gained to explore in depth the implications that our sector is likely to see. We have also started to build some case studies from around the world.

Finally, our report can be used as a tool to create debate and help strategic planning in your own organisation or firm.

The full report can be downloaded from www.rics.org/futures and you are encouraged to do so. It makes interesting reading.

This paper sets out to describe our methodology, outline the nature of our changing world and paint a picture of what we might need to do to be prepared for a brave new world.

Social and economic changes

The RICS Futures project draws on a well-established foresight model that consists of horizon scanning through a process of information gathering, identifying and analysing relevant socio-economic and business changes and envisaging the implications these will have. As part of our data gathering we included a series of in-depth interviews, round table discussions and online surveys. More than 200 professionals, academics and students across 25 cities in 19 countries contributed to this phase of the project.
We live in a world where the social and economic landscape is changing. Major change will occur in areas that impact our sector of professional activity, including:

**Greater urbanisation and changing demographics**

Today, 54% of the world’s population lives in cities. By 2050, this is expected to rise to 66%. The rapid growth in urbanisation globally will impact on how new infrastructure is delivered, how cities are planned for future growth and what professional skills are required to feed this demand. Ageing of established economies and youth population booms in Africa will also change demands on use of the built environment.

**Shift in economic power**

We are beginning to see clear shifts in economic power, especially with the emergence of the BRICS group of countries that includes Brazil, Russia, India, China and South Africa. In each fast-growing economy there are many new companies and institutions now participating in regional and global economies. Massive infrastructure projects are planned in China and India, with a growing middle class driving demand. The BRICS as a political and economic player, and other rising markets, will continue to grow in impact and influence for the built environment sector and the professionals who advise on asset development and management.

**Growing middle class**

A growing middle class means growth in consumption. This will trigger the need for more housing, and better planning in cities to accommodate more vehicles on the road and infrastructure for retail or business developments. A study by Oxford Economics expects construction output by 2025 to grow by as much as 70% to US$15-trillion. Notably, China and India, with growing middleclass populations, are expected to contribute to one-third of this output.

**Inequality and instability**

Notwithstanding the various global efforts at reducing poverty, the wealth gap remains and is on the rise. The growing wealth gap is without doubt a contributing factor to unrest and volatility around the world. And with almost 70% of the world’s wealth bound up in real assets, our sector has a critical role in ensuring quality housing and infrastructure, as well as strong ethical principles for the profession, especially since the global financial crisis. Building trust and ensuring better outcomes for society are themes we expect to see continue to rise up the economic and social agenda in the period to 2030.

**Greater resource scarcity and growing importance of sustainability**

In many parts of the world, resources that were largely taken for granted have come under increasing pressure. Whether it is water, food, minerals or energy, the issue of resource management is crucial for economic development. Against the rising population and demand for new development, our profession has the ability to lead on addressing the challenge of resource scarcity by promoting better use of land and agricultural management, and advising on the most efficient ways to manage resources in the built environment.

**New business models**

Business models are changing to respond to new advances in technology and social pressure. There are consequences associated with these changes and they impact upon the role and skills required by the land and property professional of the future. Surveying may have a long history, some suggest it might be one of the oldest professions, but roles are continuously changing to adapt to our evolving world. Technological advances will mean major change for many individuals as they replace certain tasks and transform building processes to improve efficiency and productivity. Big data, complex projects and the need for collaboration will drive new sets of skills needs. On top of this change, the cyclical nature of many parts of our sector (especially construction, sale of properties, resource booms and greater global mobility) will raise challenges for employers trying to meet skills needs.

Increasing cost pressures on businesses are leading to a focus on how costs can be reduced without damaging services and products. A report by EY noted pricing pressure and cost cutting to be the top two risks for businesses in 2015. Low-cost competition, online rivals, regulatory requirements, high wages and input costs have contributed to these pressures. These factors are impacting on the real estate and construction sectors internationally.
A noteworthy feature of this new inventiveness has been increasing collaboration across different organisations. The EY report continued that large organisations and small businesses are partnering to benefit from one another’s strengths, with the former taking advantage of innovation and specialist knowledge and the latter accessing capital and mitigating business risk.

Many construction and real estate professionals expect to see further growth in the number of large multidisciplinary firms. Multidisciplinary organisations will fuel the demand for professionals who can work across diverse projects and different phases of the property life cycle. Working in teams comprised of people from varied professional backgrounds means that employees with strong communication skills and a broad appreciation of multiple disciplines and industries will be pivotal to enable the smooth functioning of large organisations.

We expect to see responses from smaller-scale businesses to this industry trend. Firms will innovate in a range of ways to maximise existing professional networks, use of collaboration hubs, or development of deep specialist expertise to be competitive. One small business interviewed in China has created a strategic joint venture with 15 other similar companies across the China market. They are looking at vertical and horizontal integration of services across their supply chain, for instance with engineering and architecture firms. Their goal is to be a one-stop shop for clients, just like their large multidisciplinary competitors are.

There are a few key business trends that continue to encourage new business models many of which are driven by new and innovative technologies:

- **Growth in internet access**: Just short of half the world’s population have access to the internet today. We are seeing this growth continue with innovation looking at solutions to connect rural and remote communities the next growth wave to watch for.

- **The next wave of mobile**: Different generations access the internet differently. The recent growth story is that of greater access through mobile, with younger generations preferring this medium and its impact is set to increase. A futures event held in Ghana showed massive differences in the approach to technology and mindset that exists between younger and older surveyors. This is now a daily issue for many firms and individuals, with many generations in the workplace with varying levels of digital skills. Later retirement will lead to a four-generation workplace with staff aged from 20 to 65-plus, resulting in varied and complex work dynamics. This will need to change quickly for the sector the take advantage of new opportunities.

- **Ease of leapfrogging**: Regions across Africa have leapfrogged existing markets in terms of uptake of the latest digital technology. New technology is emerging at a fast rate.

> “Markets across Africa are adopting technology at an accelerated rate, leapfrogging the rest of the world in terms of innovative application and new business models” – Obi Ejimofo, Managing Director, Lamudi Nigeria.

The impact of technology over the span of a career has been unprecedented and yet across the built and natural environment sectors we are only just starting to see the transformative effects of big data, BIM and automation, to provide just three examples.

**Exciting new technological advances**

We really are just on the start of this journey for the land property and built environment sector. What will the surveying technology of the future look like, interact with? Some areas of surveying such as land and geomatics already use technology extensively, but this may only be the beginning. Just look how geospatial data has become pervasive in everyday life in just a few years. Through our project there we have learnt about a few game changing technologies that are likely to impact our sector enormously and it’s likely to be much quicker than we think.

The Internet of Things is a major area to watch. Already it’s possible for a phone application enabling you to control your home television, but if we apply that thinking to our buildings and infrastructure the possibilities are enormous. Already commercial offerings exist in home heating and cooling, new technology in 2014 enables doors to be unlocked using a smart phone. Applying these on a commercial basis to property and facility management will revolutionise real estate service delivery. Many more systems and process at a larger scale will also transform management of cities and major infrastructure.
New construction methods

Greater use of sensors

Infrastructure and construction methods have barely lifted productivity in recent decades. This is an area where more work is needed. RICS met with Cambridge’s Centre for Smart Infrastructure and Construction (CSIC) who are at the forefront of innovative research. They advised how use of sensors at a really practical level in the Bevan Marks building in London saved over £1-million in building costs mostly by re-use of some existing support structures during a major rebuild on an existing CBD site.

Robotics in building

RICS’ futures study looked at an example of the Landesgartenschau Exhibition Hall, a peanut-shaped pavilion created by the University of Stuttgart. It’s an example of a robotic prefabricated building system. It consists of 243 prefabricated timber plates, created over just 3 weeks.

3D printing

Much research is underway to find optimum materials and processes to enable rapid construction using 3D printing. Already we are seeing some sectors such as aeronautical engineering manufacturing metal jet engine parts using 3D printing. For the built environment we have studied examples in Amsterdam (DUS Architects) through use of plastics and China using a faster setting concrete-like substance to start building understanding of new, faster and cheaper methods of construction that can revolutionise the provision of housing.

It’s going to be all about integration of data and information

As government’s globally look to make their resources go further and to provide more infrastructure with same or lower costs, many are looking to technology to assist be more efficient on that journey.

A number of governments have started to move toward a mandatory capture and use of data through BIM such as United Kingdom, Singapore and some selected examples in China and USA. Practitioners speak of the opportunities to integrate data already captured across land and real estate from land assembly through, design, construction and Linking information through many different software and work processes CAD – BIM – GIS

We are also starting to see built environment professionals use tablets, wearable technology such as prototypes of Google Glass linking into these systems.

New information sources

Just as the rise of digitised finance information in the 1990s enabled the rise of businesses analysing retail and consumer trends, we are now starting to see geospatial information linked to people’s behaviour in the built and natural environment become available for analysis.

Dr. Vassilis Zachariadis of CSIC looked at the intensity of twitter usage in London. This work analysed the number of tweets (capped to one tweet per hour per unique user, collected October-December 2013) in a weekday in London. If you take the intensity of users of twitter within close proximity to surface rail in London – and as you can see the comparison is very close indeed to the most recent Transport Survey (see Fig. 1).
Implications from the digital revolution

Connection to the internet also enables more people to participate in the economy and should help many add value and receive income. We are seeing this transform regions like sub-Saharan Africa. Greater levels of transparency are expected, though a major area for the future will be security of this online space and countering cyber terrorism.

We do expect technology to lead to changes to work practices. Some of the areas likely to be of interest:

- Convergence of people, place and technology.
- Greater complexity for advisers.
- Reduction in transactional roles and administrative tasks.
- New skills needs in mechanical and electrical cost and valuation services.
- Need to work more closely with other professions to boost understanding.
- Firms need to invest more in technology and its applications.
- There will be pressure on procurement to allow for innovation and new methods.
- Our sector will need to discuss data and information whether it be value and returns, quality assurance, intellectual property, privacy and social implications, need for standards.
What will be the next disruptive business model to emerge?

We have all seen the decline of once major brands, such as Kodak. Companies although once strong are not always guaranteed long and bright futures. Today we have Uber battling cab drivers in many major cities of the world including London, Washington DC and New York. Many other sectors could be transformed by new lower cost business models that cut out the middleman or radically change business structures.

Many institutions across the globe were built for last century. Are our institutions, governments and society ready for leading through change? The question to ask is will they be quick enough to change and remain relevant? We are seeing leapfrogging happening for instance in mobile banking Africa had this ahead of many other markets. There is a fast pace and emerging markets won’t follow A-B-C-D-E like western economies. It might be A-B-E completely missing now redundant processes and technology. Professions that are slow to adapt to change and inflexible may find that society, governments and clients find them increasingly irrelevant.

The changing role of the profession

There is a general sense in larger organisations that built environment professionals need to overcome silo thinking and make efforts to work across sectors and disciplines.

A construction advisory professional in Brazil explained: “I want employees who have the flexibility to be put on any given project – not people with deep knowledge of just one or two areas.”

This generalist approach has been further underpinned with the increasing importance of the entire property life cycle, and with mergers of larger real estate and construction companies.

“The skill requirement in future needs to break from the convention and adapt to a new normal defined by adoption of a global mindset, superior customer service and technological advantage and innovation.”
Anshul Jain, CEO, DTZ India

We have seen a broadening of the skills base in the built environment sector, giving rise to more generalists and managers. Many of those consulted expressed the view that mergers and acquisitions will continue at pace across both real estate and construction. Mergers and acquisitions result in significant change to firms’ structures and ownership models. For many professionals this means adapting to more cross-functional teams and new business cultures. As organisations become larger and provide services to a multitude of industries, the trend towards interdisciplinary working and the demand for generalist skills is growing. There will be more awareness of the work processes of fellow professionals, such as architects and engineers, in meeting team goals and client outcomes.

Soft skills, such as the ability to understand and communicate with clients, will be increasingly in demand over the coming five years and will play a more significant role in the way professionals are valued and remunerated. Many senior professionals felt the need to focus on developing such skills among staff at all levels of an organisation and some were looking for these qualities even among entry-level staff. A greater emphasis on the advisory capacity of professionals means they need to be able to offer expertise and exercise judgement, whether that is property management or the best use of natural resources. This requires in-depth technical knowledge, as well as the ability to communicate effectively.

The built environment sector has a poor public image internationally. In the 2011 Bribe Payers Index, real estate, utilities and construction languished at the bottom of the league table. This is a theme that has been raised many times throughout the Futures project. Since the financial crisis, the issue of ethics has been raised on many corporate agendas. Trust and confidence need to be re-established and organisations in the property and financial sectors need to focus on creating more socially responsible cultures. Greater global mobility will mean that companies need to ensure clarity on how ethics are applied, taking into account any local cultural attitudes and differences. RICS regulation requires members to undertake ethical training every three years. There is a real need here for professional bodies to lead in the area of professional and business ethics.

A call for action

Foresight work in the Futures project has identified the principal drivers and trends that will impact surveying and related built environment professions, and the expertise needed to adapt to new social, economic and business environments. Professionals will need to continuously demonstrate the value they are adding to businesses and improve their skills to keep up with the rapid pace of change.
“Experience is not what happens to a man, it is what man does with what happens to him” Aldous Huxley

These six actions should guide the plans and strategic direction of organisations and professional bodies across the land and built environment sector:

- **Winning the war for talent**: Support employers in attracting and retaining a more diverse talent pool to run the businesses of the future.

- **Having ethics at the heart of what we do**: Promote education and standards that foster ethical behaviour within our sector.

- **Embracing technology and data**: Develop strategic alliances with companies and organisations at the forefront of technological innovation, and advise professionals on how to integrate into and benefit from these new ways of working.

- **Creating successful and sustainable cities**: Improve city management by using professional advice to help leverage finance for development and incorporate all aspects of sustainability into land use planning and procurement practices.

- **Take advantage of new opportunities**: Create a more dynamic profession that can respond to changes in the market and the wider society it operates in.

- **Developing stronger leadership**: Build a credible voice with government for the land and built environment sector.

Organisations must also play their part by investing in human resources, technology and workspaces to meet future challenges and take a holistic approach to these elements, acknowledging the influence they have on each other. Professional bodies will also need to work in partnership with firms outside their traditional remits to build the necessary skills capacity for their respective sectors. Higher education providers will be pressed to collaborate more with the industry to produce graduates with the right aptitude and competencies to thrive in these dynamic international workplaces. These actions can start the journey on which the built environment sector will need to embark in the next few years.

We live in an increasingly globalised world, which is only going to become more closely networked in years to come. Some of the trends we are seeing internationally, such as a growth of the middle class in different geographical regions, will have an impact on consumption and place an increased demand on world infrastructure. The Asia-Pacific region will have a growing number of opportunities between now and 2030 and is an area that is attracting an increasing number of construction and real estate firms. From a sector perspective, we see new opportunities.

All of us want to know what the future will hold for us. We cannot hope to predict it, but we can prepare to embrace it and understand the trends that will eventually play a major role shaping our world. Our engagement with organisations across the world is an ongoing activity.

**References**

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