

**THE FUTURE OF THE VALUATION PROFESSION: SHAPING THE
STRATEGIC DIRECTION OF THE PROFESSION FOR 2030**

SARA WILKINSON¹ DULANI HALVITIGALA² and HERA ANTONIADES¹

University of Technology Sydney and RMIT University

ABSTRACT

Problem/purpose – The valuation profession faces significant challenges as more valuation processes become automated, and the role of the valuer becomes more one of data handling and information processing than a property analyst. With this, the role of the valuer must change in order to respond to the industry's needs. Moreover with the ageing membership, it is vital to attract new talented individuals into the profession. The aim of this study is to explore the future of the property profession and the role of the valuer in particular, and how the profession could maintain and increase its relevance and currency.

Design/methodology/approach – To outline the changing skills profile of valuation profession and business needs in the future, it required a thorough understanding of the issues and challenges currently faced by the valuation profession. The authors have analysed the published literature and identified key main issues and challenges namely changing role of the valuer, market competition, changing technology and technical knowledge and skills, changing membership demographics, and the fragmentation of the profession.

Findings – The findings identify and map the changing skills profile of the valuation profession as well as the skills and qualities that will be needed, as well as emerging future and existing knowledge fields and specialisms. The research identifies practices in decline and those on the rise within property valuers and suggests the ways the profession can link with employers and educators to better understand variables affecting supply and demand for new entrants and the new skills firms are seeking. The research suggests future direction as to how to market the valuation profession to recruit and retain future generations of valuers and how to adapt to the evolving marketplace for valuation services globally.

Originality/value – This study investigates and maps the changing roles, skills, knowledge fields, specialisms, challenges and capacity of Australian valuers in respect of future business needs. This paper presents the findings of the first step of the research which is the literature review. The research will provide a basis for developing a consistent strategic plan with regards to the future of the profession. It will also provide an understanding of how different regional policy regimes impacts on the role, knowledge fields, specialisms and skills needed of valuers in the future. The findings will help inform future professional competency requirements for professional bodies as well as the curriculum of degree programmes nationally.

Research limitations/implications – The research will facilitate knowledge and understanding of the changing skills profile and knowledge fields of valuation professionals across main Australian regions. It will provide suggestions on the ways in which the profession can link with employers and educators to attract the best talent and future proof the profession. Ways of promoting careers within the sector are set out.

Keywords: Valuation profession, Changing skills, Career development, Property education

Paper type: Literature review

¹ Sara J Wilkinson sara.wilkinson@uts.edu.au and Hera Antoniades hera.antoniades@uts.edu.au

² Dulani Halvitigala dulani.halvitigala@rmit.edu.au

INTRODUCTION

It is said we are undergoing a period of immense change in terms of technology and emergence of artificial intelligence (AI) and that this is having a great impact on professionals (RICS, 2015). Other professional groups such as Lawyers have already realised that their members are finding changes in the requirements of the services they provide for clients, with many services being provided by off shore providers at lower costs (Susskind and Susskind, 2015). In a study partly examining the scope and state of education in the legal profession, they concluded that we “are training young lawyers to become 20th century lawyers and not 21st century lawyers” (Susskind and Susskind, 2015), the question is – can the same be said for the property profession?

The valuation profession is facing significant challenges as more valuation processes become automated, and the role of the valuer evolves to become more of data handling and information processing than of economic analysis (Elliott and Warren, 2005). With this reality, it appears the role of the valuer inevitably must change in order to respond to changing technologies and evolving industry needs. In Australia there is, moreover, an ageing membership with the main professional body, the Australian Property Institute (API). As its members retire and subscriptions are lost will lose its ability to lobby, and to promote its members and their services and so it is vital to attract new talented individuals into the profession.

The aim of this study is to explore the future of the Australian property profession and the role of the valuer in particular. It will determine how the profession could maintain and increase relevance and currency, and set an agenda to support employers in attracting and retaining a more diverse talent pool to run the businesses of the future. As part of the study, this paper;

1. explores and maps the changing role of the valuer,
2. explores the issues and challenges faced by the profession,
3. identifies insights and suggestions; and
4. sets out some suggestions on a way forward for the profession.

ISSUES AND CHALLENGES FACED BY THE VALUATION PROFESSION

In the past, the availability of data was a critical aspect of valuation and the valuers' main strength was the data they held, or the contacts they could use, to gather publicly unavailable information required in valuations (Motta and Endsley, 2003). However the globalisation of business, as well as the rapid growth in information and communication technology (ICT), mean that more and more information is available from different sources to more and more people. As a result, the business environment has become more competitive for most knowledge based professional services (Elliot and Warren, 2005). For example, the legal profession is being undermined with large numbers of people seeking and using internet based solutions rather than appointing legal advisers to resolve disputes (Susskind and Susskind, 2015). Similarly, digital technologies and artificial intelligence (AI) pose significant threats to the existing valuation practice. It is no longer the availability of data and market knowledge that differentiate valuers, it is in fact what they do with the data that differentiates them from their counterparts. Therefore, the role of the valuer is increasingly moving towards being an information analyst from being an information gatherer.

In order to understand how the valuation profession should be changed to not only survive, but thrive, in the new century, there is a clear need to understand the main issues and challenges faced by the profession. Then the next step should be to establish an analytical framework upon which these issues can be evaluated in order to plan for its success in the future. This section of the paper focuses on identifying some key challenges likely to affect the profession in the short to medium term.

The changing role of the valuer

The fundamental nature of property markets has changed over the last few decades and this has significant implications on the valuation profession. Client demand for property valuations have moved from providing single valuation opinions and increasingly moving towards providing broad market analysis, accurate value predictions, and risk pricing which require valuers to broaden their knowledge and expertise (Motta and Endsley, 2003). Furthermore, the growth of property trusts, and similar investment opportunities in the property sector, together with changes in the size and complexity of development projects around the globe,

have meant that a valuer needs to have a totally different skill-set in order to undertake valuations on such properties and portfolios (Elliot and Warren, 2005). Changes in the financial market with the emergence of commercial mortgage backed securities (CMBSs), and other securitisation instruments have also put a great pressure on valuers to review their valuation models (Motta and Endsley, 2003). A consequence of any secondary market is that it leads to a standardisation of data available in electronic format with a corresponding increase in the use of automated valuation models (AVMs) (Grover, 2016). With the increased availability of freely available data, the mortgage industry is moving to the ‘science of valuation’ and the valuation profession ‘is caught in the middle’ (Schneider, 2016). Furthermore, as property markets are increasingly internationalising with cross-broader investment and financial activities, valuers need to be familiarised with the internationally agreed valuation standards and guidance (Gilbertson and Preston, 2005).

All practicing valuers should be conscious of the changing business environment and the need to strengthen their skills and must be forward-thinking to survive in this new era of globalisation. However, it is suggested that some Australasian valuers remain parochial and resistant to change in the face of the challenges of internationalisation and doing business in the global economy (Bond, 2003). Particularly, solo practitioners and small valuation firms are at the risk of not being able to adapt to the changes in the business environment. Concerns have been expressed that the pace of change threatens the livelihood of many valuers who are unable to meet the challenges, and as a result, the larger firms will get larger while many smaller firms will be forced out of business (Bond, 2003).

Competition

One of the main challenges to the valuation profession today has been the growth of competition between firms on price rather than quality. There is no room for inefficiency and clients will not pay for services that do not add value to their function (Elliot and Warren, 2005). Furthermore, internationalisation and standardisation of property and financial services will continue to allow other organisations such as financial institutions, banks, management consultants and accountants to make major inroads into the valuation profession (Gibson, 1987). Due to their economies of scale and the expertise in the financial market, these organisations are in a position to provide more complete, cost effective services that meet clients’ objectives in more aggressive manner. In Australia, there is a move for the banks to change the contracts with valuers so that the banks get the intellectual property associated with the valuation which would eventually allow banks to develop their own databases in order to generate their own valuations for mortgage purposes (Blass, 2016). To survive in this competition, valuers need to move away from specialising on particular skill set and develop speciality in different areas in valuation. Even though considered to be minor, other barriers to entry to the valuation profession can be summarised as government policy through regulation and licensing of professionals, the costs of professional indemnity insurance and customer loyalty (Elliot and Warren, 2005). Therefore, it is observed that whilst the fundamental skills of valuers are likely to remain relevant, the nature of the future work that they are likely to undertake will be significantly different (Hefferan and Ross, 2010; Hefferan, 2011).

Changing technology and technical knowledge and skills

Due to the enhancement of technology and increasingly freely available market evidence, many of the steps in the valuation process – data collection, data analysis, and data formatting – are performed by computerised models and the valuation profession is seeing a progressive shift towards automated processes (Grover, 2016). Particularly, automated valuations have become a significant challenge as such computer driven reports without the objective inputs of the valuer are seen as acceptable ‘valuation reports’ by clients (Gilbertson and Preston, 2005). In the Australian context, companies such as CoreLogic, APM Price Finder and Monitor are already offering computer generated valuation reports on a subscription service. Specifically, computer generated automated valuation models (AVMs) which have been developed to allow for rapid, cost-effective valuation outputs are being widely used after the GFC and their potential applications are much wider than simply for mortgage valuations (RICS, 2016). They use one or more mathematical models – such as regression, adaptive estimation, neural networks or an artificial intelligence program – to estimate the value of a property or series of properties (RICS, 2016). Typical valuers may struggle with the use of these models which require sound knowledge in statistics. For example, future mortgage industry needs valuers who are ‘supported by analytics’ (Schneider, 2016).

It is suggested that the challenges that technology bring to the profession must be embraced as strategic partners and thus should be viewed as a positive addition to the profession rather than a threat (Robson and Downey, 2010). However, disruptive innovation – technology that does not support, sustain and enhance the way that professions have worked in the past – will continue to change the way existing industries operate (Susskind and Susskind, 2015). The use of advanced technologies also has a significant effect on current and future employment. Even though they offer major cost, time and efficiency savings, it eliminates the need for young people starting out in the professional world looking for experience and employment opportunities. Also, the varying digital skills and approach to technology between the younger and older valuation professionals at workplaces may create a daily issue for many companies. Therefore, the challenge for the profession will be learning how to embrace new technology into the practice and how to maximise the use of the technology where it is appropriate by maximising the reliability of valuations.

Changing membership demographics

The decreasing number of valuers is a major challenge for the long-term health of the valuation profession. For example, in the US, the number of valuers has steadily declined; as of 2015, there were 78,800 appraisers practicing, down from 98,450 in 2007, or a cumulative decline of 20% (Coyle, 2015). Similarly in Australia, it is well-known that it has an ageing workforce and that a large percentage of labour market growth in the future will come from older workers. There is a demographic time bomb in the valuation profession which means that a large number of property valuers who are members of valuation professional bodies such as Australian Property Institute (API) and Royal Institution of Chartered Surveyors (RICS) will retire in the next ten years causing questions as to where the next generation will come from. This may be softened slightly if members choose to continue working beyond what has been a typical retirement age of 65 years. This has huge implications, both for the way the profession defines, educates and markets itself and also in terms of client perception (Hannah, 2006; Vandell, 2007). This is also a particular problem within academia, where an aging teaching profession is a visible barrier in attracting young people into property valuation programs at the tertiary sector (Baxter, 2007). Furthermore, different age groups at workplaces will have different social and economic needs, therefore long-term planning is imperative in order to create balance and equality at workplaces (RICS, 2015).

Employers need support in attracting and retaining a more diverse talent pool and, coupled an ageing membership, it is vital to attract new talented individuals into the profession. The valuation profession may not attract many young people as higher profile careers as many accredited universities do not offer valuation related degree programs or they are a relatively new phenomenon (Coyle, 2015). Even the universities that offer valuation education are under increased pressure as small, niche programs such as valuation are struggling for their survival since universities have been looking carefully at their own cost management (Baxter, 2007). Currently in Australia, 14 universities offer property degrees (face-to-face and/or online) which are housed in business schools or built environment schools, however some universities are already facing the risk of downgrading of status of those programs within universities or shutting down the program completely. Furthermore, there are no property programs in the Northern Territory, the Australian Capital Territory or Tasmania. Attracting property graduates into valuation has also been a challenge as not all property programs feature valuation concentration degrees and also many graduates opt to work in other areas in property such as property financing and portfolio management. The lack of interest in the field of valuation among graduates may be related to the lack of public profile associated with the valuation profession. Therefore, in order to keep property and valuation as a recognised discipline within the university sector stakeholder groups need to work far more closely with each other, mutually responding to needs as circumstances and situations change (Baxter, 2007). In addition, recruitments need to be more focused and professional associations need to respond by ensuring that the very best students are attracted to professional membership (Coyle, 2015).

Market acceptance issues

The future of the valuation profession has been a subject of discussion, particularly after the global property market crash in 2008. Back in 1994, McHolland expressed fears over the future of the valuation profession suggesting that ‘the appraisal industry is being left with clients who really do not care about what we can do’ (McHolland, 1994: 638). Over the years, it is clear that clients have come to expect little from valuers and are not willing to pay much for valuation services (Elliot and Warren, 2005). Lance Coyle, The President of

the Appraisal Institute (2015) suggests that valuers' income and their business models have been affected by the process of commoditization where valuation advice and reports have ended up becoming simple commodities in the eyes of the clients. As a result, the pricing power of valuers has weakened and the quality of valuation products has decreased. This has happened in the banking and financing industry in the residential mortgage lending valuation space. Therefore, valuers working in the highly-regulated mortgage lending environment must consider how to adapt their business models to the effects of commoditization (Coyle, 2015).

Same concerns were raised in the Australian context by the Australian Property Institute Chief Executive Mike Zissler (2016), who suggests that valuation companies have been "pitted off against each other over pricing, and prices have been forced back to 1980's rates, yet so much more work and prescription is now required". In order to survive in the pricing competition, many valuation firms have opted to cut their margins to sub-cost pricing to be competitive in tender processes. In the long run, many small valuation firms would be forced out of business which might lead to a monopoly in mortgage valuations. It is also suggested that the valuation outcomes produced by valuers are increasingly influenced by the major banks as they have grown much more conservative about their lending positions. Zissler (2016) further emphasises that the valuation industry "must change if the valuation profession is to continue to remain an independent, objective and authoritative provider of valuation services to the Australian banking and financing industry".

Fragmentation of the profession

Given the spread of asset and business types that require valuation, there is a huge diversity in the standards that govern the valuation process (Fernandez, 2014). Particularly, different countries have different rules and regulations set by different financial regulators when it comes to valuations for financing reporting purposes (Gilbertson and Preston, 2005; Shah, 2015). According to International Valuation Standards Council (IVSC), the independent body that sets global standards for valuation, one of the main challenges faced is the fragmentation of the valuation profession globally. As a consequence it is difficult to engage politicians and financial regulators with a single voice to organise the profession more effectively (Thorne, 2012). Particularly, valuers are frustrated with lack of clearly defined professional identity when providing valuations for financial reporting purposes (Zyla, 2015). It is interesting to observe in Australia that legislation affecting the valuation profession is becoming more relaxed and deregulated; for example several States no longer require the banks to use 'State registered' valuers. This will allow other financing and banking professions to make inroads in to the valuation profession. Another major potential challenge is the structural vulnerability issues the banking sector faces from other forms of lenders such as peer-to-peer lenders. They are new-age, internet-based lenders such as Zopa, Ratesetter and Funding Circle which bring individual borrowers and lenders together, bypassing traditional banks. These transactions are almost free from any serious regulatory oversight and if borrowers use these new lenders they have a whole new set of rules and regulations to meet which may not include professional services such as property valuers. Another challenge faced by the profession is that various professional bodies use different criteria to measure the eligibility of valuers to obtain membership in their professional bodies. The need of those organisations to unite behind common standards for education, behaviour, service delivery, monitoring and regulation have been emphasised in order to mitigate the risks arising from a lack of a clear identity for the profession as a whole (Thorne, 2012).

As discussed, the future of the valuation profession is not altogether clear and valuers will have to negotiate their way through these challenges and conflicts. Failing to address these issues will damage the perceptions of the valuation profession and leave valuers under-equipped to deal with changes in their business environment. Table 1 summarises the key characteristics of the past and those of the future.

Table 1: Key characteristics of the past and the future for Valuers

Past characteristics	Future characteristics
Availability of data was critical	more information is available from different sources to more people via web – may seek online solutions

Vast majority of property sold via Real Estate agents	Selling property online via websites such as Gumtree outside of Real Estate
Valuers made an appraisal or judgement of value	AI and AVMs value
Move from providing single valuation opinions	Clients require broad market analysis, accurate value predictions, and risk pricing.
Valuations of single property's	Valuations of portfolios
Focus on the valuations for the present	Focus on the valuations for the present as well as the future
Valuations for primary markets	Commercial mortgage backed securities require robust valuation models
National market and valuations	Trans-national market requires knowledge and development of internationally agreed valuation standards and guidance
National markets dominate	Globalised markets

(Source: Authors).

Table 2 summarises the key challenges and opportunities for valuers that were identified in the literature.

Table 2 summarises the key challenges and opportunities for Valuers

Challenges	Opportunities
Some markets are parochial	<p>Strengthen their profession and have a more global focus by keeping pace with change in the market at national and international level</p> <p>To survive in this competition, valuers need to move away from specialising on particular skill set and develop speciality in different areas in valuation.</p>
Small firms may not be able to adapt to changed business environment and are forced out of business by larger firms	<p>Joint venturing with other firms to explore business opportunities</p> <p>Intervention of government and professional bodies by introducing stricter legislation related to the profession</p>
Competition on fees based on price from larger firms	Valuers develop specialisation in different and emerging areas
Government policy through licensing and regulations	Thorough legislative processes to protect the independent nature of the profession
Costs of professional indemnity insurance	<p>More insurance companies offering professional indemnity for valuers</p> <p>Set legal precedents that allow for similar awards to litigants with other international jurisdictions</p>
Customer loyalty	Offer more specialised services and undertake a range of specialised work for clients
Many valuers are specialised in one main area of valuation	Skills are relevant though future work differs
Knowledge of statistics needed for understanding AVMs	Education provision needs amending
Mismatch between digital skills and knowledge of younger people compared to senior staff	Companies need to embrace new technology to maximise reliability of valuations
Ageing membership	Recruit and attract new entrants with potential to fast track to senior positions

Ageing academia	Major firms offer PhD scholarships to ensure age profile of academia matches practice and also drives forward new approaches, knowledge fields and skills.
Niche programs like valuations struggle in new business riven university sector	Establish more formalised teaching and research agenda to the mutual benefit of universities, the profession and users of valuation services Programs moved to generalist undergraduate programs, with add-on specialist post-graduate programs aimed at valuation professional outcomes
Lack of public profile of valuation professionals	Engage politicians, financial regulators and general public with a single voice to organise the valuation profession more effectively
Market does not value valuers and pricing power has diminished along with quality of valuations	Increase the profession's influence and business potential nationwide with an united approach
Many have cut margins to sub-cost pricing for valuations	Introducing scales of fees to be used by all valuers by professional bodies
Wide diversity in the standards that govern the valuation process and fragmentation of the valuation profession globally	Developing more political clout with an united approach by all property related professional bodies such as Australian Property Institute, Australian Securities Institute, Property Council of Australia, Real Estate Institute of Australia and Royal Institution of Chartered Surveyors
Various professional bodies use different criteria to measure the eligibility of valuers to obtain membership	Potential to unite behind common standards for education, behaviour, service delivery, monitoring and regulation

(Source: Authors).

INSIGHTS AND SUGGESTIONS

In this part of the paper some key skills and qualities that will be needed, as well as emerging future and existing knowledge fields and specialisms are highlighted and discussed. There is a discussion on some ideas for a way forward to plug gaps in knowledge and skills.

From the literature it is clear that most work, including that of valuers, will become more technology dependent and as a profession Valuers need to embrace computer literacy not only to ensure they remain abreast of the changes, but also to pre-empt and influence change (Elliot and Warren, 2005). There is a need to offer more specialised services and undertake more specialised work for clients. Employees, in general, and including Valuers, will need to embrace change and become more entrepreneurial, and there is scope and potential for these entrepreneurial skills to be included in education programmes. Research predicts that the workforce will have more freelancers or contracted staff who work for multiple employers. This means the Valuation professions may need to move from honing one particular narrow skill set and develop a broader, adaptable and flexible skill set (Susskind and Susskind, 2015). In some sectors social entrepreneurship and projects involving social good will become increasingly important and redefine employment opportunities and there may be opportunities there for some Valuers.

So some skills and knowledge are fading in importance and are declining; it is necessary to identify which knowledge fields and skills are in decline. In terms of skills, it is said that today professionals need to be outcomes focused, with good oral and digital communication skills. Furthermore advanced problem solving skills are required, as the problems we face have far greater complexity, and are sometimes known as 'WICKED problems' (Bright et al, 2016), because no simple solution exists. Some of these WICKED problems require value to be determined and there is a role for valuers to play. Problem solving skills should be embedded within our education programmes and but need to be developed to much more advanced levels. The solutions for these complex problems are likely to involve inter-disciplinary working and also trans-disciplinary working. Alongside the inter-disciplinary and trans-disciplinary approaches it will be necessary to develop skills associated with a collaborative approach. Other skills focus on advisory services and being

able to determine the optimum course of action clients should take; this require the ability to evaluate all possible options and to select the best course of action. Finally professionals need to have an advanced understanding of technology and its applications.

As for practices on the rise, it appears that data management capabilities need to be built among the professions, including valuation and this should be done partially in the workplace and through continuing professional development (CPD) offered through the professional bodies such as the Australian Property Institute (API) and the Royal Institution of Chartered Surveyors (RICS). The building of data management skills should also be delivered through the education system at TAFE and University level. Education and industry providers should be mindful to ensure compatibility and awareness of the systems and use of new technology is embedded across the built environment sector. Concurrent with this, there is potential to generate new avenues for value creation from the vast amounts of data now available from real estate.

When we consider the knowledge fields Valuers need in the future, growth areas include sustainability and how it impacts on value. Risk management is another important knowledge area which Valuers need to master. Existing skills of data analysis need developing in the context of digital technologies and artificial intelligence. With up to four generations now in the workforce, professionals need greater leadership skills to ensure optimum productivity and quality of outputs.

Finally there is a need, as professionals to adopt ethical behaviour. Professionals, corporations and professional institutions must embrace ethics and collective social responsibility, admit information gaps, and commit themselves to continuous learning, organisational improvement and pushing the barriers of the body of knowledge. Education has a vital role in the way forward and ‘the relationship between the professional bodies and universities, government and other stakeholders is, therefore critical if the professions are to emerge as reflective as well as responsive to the issues and expectations of the 21st Century’ (Hughes and Hughes, 2013).

CONCLUSION

The period of immense change in terms of technology is underway. Other professional groups have realised that their members are finding change in the services they provide for clients. The property profession has to educate and upskill members of its’ professional bodies to become 21st century professionals. This paper has shown that the valuation profession is facing major challenges as more processes are digitised and automated, and the role of the valuer becomes more of data handling and information processing than of economic analysis (Elliott and Warren, 2005). The role of the valuer must change to respond to changing technologies and evolving industry needs; the question is; *what does it change to?* In Australia the ageing membership with the main professional body, the Australian Property Institute (API) may compound problems as members retire, subscriptions are lost and it will lose its ability to lobby, and to promote its members and their services. Attract talented individuals into the profession is vital.

This study explores the future of the Australian property profession and the role of the valuer in particular. This paper has explored the changing role of the valuer and describes the valuation profession in Australia. It has explored the issues and challenges faced by the profession and presented some insights and suggestions; and finally set out some suggestions on a way forward for the profession. Some of the gaps in knowledge and skills that the profession faces are known, but all of them, and the way forward is to conduct a broad discussion with the membership about the services and knowledge fields they believe are on the rise and also those, in decline so that an agenda for change for the short and long term can be compiled. The next steps in this research begin that dialogue.

REFERENCES

- Baxter, J.S. (2007). Re-engineering a valuation degree: how did we get here and where do we go?, Journal of Property Investment & Finance, 25(5), 444 – 467
- Bond, S. (2003). Challenges confronting property valuation practitioners in Australasia, 9th Pacific-Rim Real Estate Society Conference, Brisbane, Australia 19-22 January
- Bright, S., Patrick, J., Thomas, B., Bailey, E., Janda, K. B., Dixon, T. & Wilkinson, S. *The evolution of green leases: towards inter-organizational environmental governance*. Building Research and Information. Special issue Building governance & climate change: regulation & related polices.
- Cole, L. (2012). The valuation dilemma, Real Estate Business, May,
- Coyle, M. L. (2015). Future of Valuation, Working RE magazine, Editor's note
- Elliott, P. and Warren, C.M. (2005). The valuation profession in Australia: Profile, analysis and future direction, 11th Pacific Rim Real Estate Society Conference, Melbourne 24-27 January.
- Fernandez, E. (2011). Re-defining the valuation profession. Malaysian Business, New Straits Times Press Ltd, June
- Gibson, V. (1987). A management view of valuation and information technology, Journal of Valuation, 5(1), 30 - 40
- Gilbertson, B. and Preston, D. (2005). A vision for valuation, *Journal of Property Investment & Finance*, 23(2), 123-140
- Grover, R. (2016). Mass valuations, *Journal of Property Investment & Finance*, 34(2), 191-204
- Hannah, J. (2006). The Surveying Profession and its Skills Crisis”, Proceedings 5th Trans-Tasman Surveyors Conference, Cairns, Australia
- Hefferan, M. J. & Ross, S. (2010). Forces for change in property education and research in Australia, Property Management, 28(5), 370 – 381
- Hefferan, M.J. (2011). Changing demands for property professional service and its impact on tertiary courses – an Australian study, 17th Pacific Rim Real Estate Conference, Gold Coast, Australia, 16-19 January,
- Hughes, W., and Hughes, C. (2013). Professionalism and professional institutions in times of change. Building Research and Information, 41(1), 28–3
- McHolland, R. (1994). Do appraisers have a future, The Appraisal Journal, 62(4), 638-639
- Motta, A. and Endsley, W. (2003). The Future of the Valuation Profession: Diagnostic tools and prescriptive practices for real estate markets, The Appraisal Journal, 71(4), 345-350.
- RICS (2016). Automated Valuation Models (AVMs) - Opportunity or Threat?
- RICS (2015). Our changing future: Let's be ready.
- Robson, G. & Downie, M.L. (2010). Integrating submarket valuation models with valuation services to meet the needs of Victorian borrowers, lenders and valuers, Royal Institute of Chartered Surveyors
- Shah, N. (2015). Bridging real estate valuation standards to smooth international transactions, Mortgage Banking, Dec, 90-91
- Schneider, H. (2016). Recapturing the art of appraising, Mortgage Banking, April, 30-31
- Susskind, R. and Susskind, D. (2015). *The future of the professions: How technology will transform the work of human experts*. Oxford University Press, USA.
- Thorne, C. (2012). Valuation: the professional challenge, Journal of Property Investment & Finance, 30(4), Editorial
- Vandell, K.D. (2007). Expanding the academic discipline of real estate valuation, Journal of Property Investment & Finance, 25(5), 427 - 443
- Zissler, M. (2016). Things have to change to stop the Valuation industry cannibalising itself, <https://www.api.org.au/news/things-have-to-change-to-stop-the-valuation-industry-cannibalising-itself> (accessed 26/09/2016)
- Zyla, M. L. (2015). Unifying the Valuation Profession, Accounting Today, August, 19-22