

SUSTAINABILITY – THE CRUCIAL CHALLENGE FOR THE VALUATION PROFESSION

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ABSTRACT

Valuation has a pivotal role in increasing the level of sustainability in the built environment. To date, sustainability has received limited attention in valuation practice, and as a result the relationship between sustainability and market value has not been clearly defined. As a consequence, the commercial investment community are hesitant to invest in sustainability beyond best practice management techniques. Valuers' lack of acknowledgement of sustainability in valuation practice and its changing role in property investment in the built environment, has had a potentially detrimental impact by limiting investment in sustainability in commercial property. Consequently, this lack of acknowledgment and incorporation of sustainability in practice has the potential to cause chaos within the market in the future.

It was found that valuers, per se, are inexperienced and have limited knowledge of sustainability in commercial property. Due to differences between generations of valuers, this paper examines whether 'younger' valuers'¹ knowledge of sustainability, as a concept, measurement and any possible relationship with market value is more extensive than senior valuers. Or whether senior valuers experiences in the market are more sensitive to the change sustainability is having in the commercial property market. A key issue for the profession concerning sustainability and its effect on the market is the limited channels for knowledge development. The implications of this research are the need for increased curriculum in university education, so knowledge dissemination across the profession can be achieved. The development of knowledge of sustainability and its relationship in commercial property will progress the incorporation of sustainability in valuation practice. As a consequence, this will increase the investment in sustainability in the commercial property market.

Keywords: Sustainability, strategic knowledge development, valuation practice.

¹ Up to 5 years of experience as a Certified Practising Valuer or Registered Valuer

INTRODUCTION

The importance of increasing the level of sustainability in the commercial property stock is paramount to reducing the impact of the built environment on the earth. However, without financial justification and viability of sustainability investment, it is likely that the advancement of sustainability in commercial property, being office-based use, will be limited. Rational owners make decisions in the commercial property market based on the present worth of future income streams of the office properties (Emary, 1997). In Australia, similar to other countries, the emphasis on life-cycle costs and operating costs of a property are not high on the priority list when developing or investing in commercial properties (Robinson, 2005). Owners are in the business to maximise the return on capital outlay based on economic theory. Currently, however, in the investment, development or refurbishment of sustainable property, there is a lack of empirical evidence, appropriate knowledge and use of assessment tools to justify the financial viability of investment and the market for these assets. As a result, there is an unknown link between whether a return on the capital outlay for increased sustainability will increase the market value of a property.

Warren-Myers (2010) found valuers are currently not well adept and equipped with appropriate means to identify any relationship between sustainability and market value in general valuation practice because:

- Limited knowledge of sustainability and its role within the property market;
- Analysis of evidence and historical trends is restricted due to limited knowledge of sustainability and sustainability assessment;
- Valuers' disparate observation and interpretation of the role of sustainability in the commercial property market is preventing accurate heuristics being formed.
- There is a lack of current heuristics in valuation practice pertaining to sustainability; and
- Inadequate development of strategic intuition to create new heuristics in order to incorporate sustainability in valuation practice.

The implication of these findings for the property market, when an important component such as sustainability is misunderstood and/or ignored, is the restriction of the markets' investment in sustainability. Presently, sustainability investment by owners and investors in Australia and New Zealand is limited to initiatives based on economic paybacks, for example investing in energy efficiency (Warren-Myers, 2011). Larger scale investment in sustainability is presently limited in this sector as a result of a lack of validation of the value sustainability in commercial property as reported by valuers. If valuers continue to ignore the changes within the market in regard to sustainability and only finally realise in ten years that value is affected by

sustainability, this will result in a massive recalculation of values at some point in the future.

The increasing need for sustainability has prompted educators to embed sustainability into property and other disciplines. This may alter the spectrum of valuers, whereby the more recent graduates, valuers with up to 5 years of experience, may in fact be better informed about sustainability in the property market. Possibly it maybe the more experienced valuers preventing the transference of knowledge into practice. Or the more experienced valuers may be viewing the change sustainability is having within the market and adopting a 'wait and see' approach, which is not reflective of the market sentiments as provided by key actors within the market. This paper reanalyses results of a study conducted in 2007/2008 (Warren-Myers, 2010) to extrapolate whether there is any significant difference between 'younger' valuers and more experienced 'senior' valuers in Australia and New Zealand in terms of their knowledge of sustainability.

THE ROLE OF THE VALUER

Valuers have a pivotal role in the property market, and as a consequence have a crucial role in the adoption of sustainability in commercial property. Owners and occupiers need to know the extent sustainability is affecting property value, if they are to respond effectively to sustainability issues (Anonymous, 2005; Sayce and Ellison, 2003). As a result, valuers need to be able to ascertain the relationship between sustainability and market value, because valuers' opinions and reporting of market values are relied on by the market, as there are vast sums of debt and equity capital committed each year to real estate investments and mortgage loans (Reed, 2007). Valuers have been criticised for not identifying a relationship between sustainability and market value, and it is apparent the inclusion of sustainability in valuation practice is limited (Boughey, 2000; Lorenz, 2007; Robinson and Lawther, 2005). However, research suggests a relationship exists, yet valuers still seem unable to justify and identify any relationship between sustainability and market value in valuation practice. Consequently, placing a restriction on investment in sustainability that owners and investors are willing to undertake in their properties.

There has been a rapidly developing body of research into sustainability and value, and sustainability and valuation. However, little research has been undertaken into the ability of valuers to incorporate sustainability into valuation practice. Existing research has focused on rating tools and the benefits of sustainability from environmental, social and economic perspectives. However, the acceptance of this information and effect on property prices has been difficult to decipher. The relationship between sustainability and market value has been identified in theory and from normative research, case studies and advanced valuation models (Warren-Myers,

2011a). However, from a valuation practice perspective, the relationship between sustainability and market value is still inconclusive.

Valuation has a structured and globally recognized code of practice and standardised set of methodologies for the valuation of property, necessary because of property's role in the global financial system. Valuation practice relies on a unique combination of algorithms and heuristics based on economic theory. However, valuation theory is essentially different from economic theory as a result of the heterogenous nature of property assets. Property is a unique asset, unlike stocks and bonds, properties' heterogeneity complicates the examination of market trends, and the effects and comparability challenges sustainability presents. The market value concepts of supply and demand have shaped and developed the theory and construct of property valuation and the role of the valuer. The changing nature of real estate interests and the form of real estate, has had a fundamental role in the evolution of the theory of valuation practice. Consequently, the International Valuation Standards Committee, local committees and other industry bodies provide a strict framework in order to ensure a standardised approach and reporting of property values for valuers in practice (API, 2007).

Market value is driven by the market. World economies rely on the reporting concept and international definition of market value. Valuers have a fundamental role in providing advice and assessments of market value for investment and lending decisions for the broader financial markets (Levy and Schuck, 2005). This advice is often perceived as conservative, based on the measures used by valuers in examining historic performance (API, 2007). In order to establish the investment performance of property, which would otherwise be achieved by selling the property, valuers are relied on to analyse the property on the basis of a hypothetical transaction in the current market based on the future potential of the asset to maintain a steady income stream and benefit from capital growth (Havard, 1996; RICS, 2009). Valuers also provide a third-party reporting cycle for owners, investors, lenders and other stakeholders. The responsibility of valuers' financial reporting structures and accounting requirements is such that valuers are held legally accountable for their assessment of value for a property (API, 2007).

Valuers' generally hold a degree of education and training, and are registered or certified by an Institute or official body, making the valuer the person best qualified to provide a reliable assessment or estimate of the value of a property and consequently has a duty to the client (Whipple, 1995). Therefore, as set down by international and national valuation standards, particular procedures and methodologies are required in the reporting of values of all property assets. Despite these standards, the assessment by valuers of a property's value is subject to opinion. This opinion and rationale requires the fortitude and ability of the valuer to stand up and defend their assessment of market value in a court of law. However, even between countries, like the UK, US

and Australia, there are differences in the margins of error in valuation in each country suggesting there are differing levels of accuracy dependent on the local culture of valuation (Crosby, 2000). Consequently, there are various local standardisation of valuation processes and an often rigorous certification or registration of valuers which ensures the integrity, knowledge and ability of valuers to perform as dictated by statute, legislation and law, for example Valuation of Land Act 1960 (Victoria), Valuers Act 1948 (New Zealand) and the Australia and New Zealand Valuation and Property Standards (2009). The manner of certification and registration as a valuer requires a period of exposure to professional practice, which is important in the creation of professional judgment required in valuation practice.

Valuers are required to examine the activities of stakeholders within the property market in order to form and develop their professional judgement. The actions of stakeholders will ultimately affect the identification of any relationship between sustainability and market value. For many years, the property market was considered to be limited in its adoption of sustainability, and Cadman (2000), in consultation with various stakeholder groups, identified key relationships between the stakeholders and causes for the lack of adoption and development of sustainability in the property market (Figure 1). The lack of sustainability adoption was a result of each of the stakeholders blaming one another as to why they could not act on their desire for sustainability.

Figure 1: The vicious circle of blame

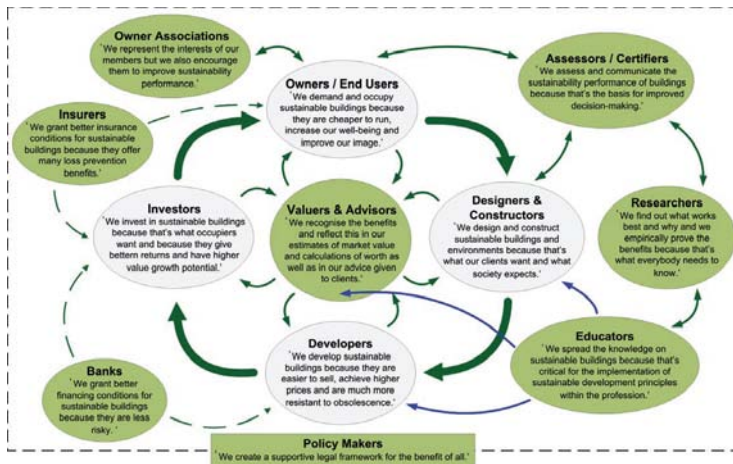


After: Cadman (2000)

There was, however, a missing factor in the original Circle of Blame developed by Cadman (2000), being the role of valuers, and their role as advisors to the different stakeholders of the market. Therefore, the valuation profession has a crucial role in the adoption of sustainability in the commercial property market, because decisions made by property owners, investors, financiers and other stakeholders are based on the

opinions and advice from valuers. The importance of financial justification and verification of the effect of sustainability on the asset value by the financial sector is paramount (RICS, 2005), otherwise there will only be limited, or no investment, in sustainability. Consequently, the role valuers' have is vitally important in terms of reporting whether sustainability has any relationship with market value, and if this does not demonstrate a positive effect on asset values in a free market where sustainability is not mandated, this will result in limited adoption of sustainability. As a consequence, Lorenz (2008) adapted Cadman's theories and relayed it in a positive perspective, and the involvement and pivotal role valuers' play within the market as shown in Figure 2. However, as yet valuers' are not yet recognising the benefits of sustainability and reflecting this in their estimates of market value, as their knowledge and understanding of sustainability in property is limited (Warren-Myers, 2010).

Figure 2: The virtuous circle of blame and feedback loops

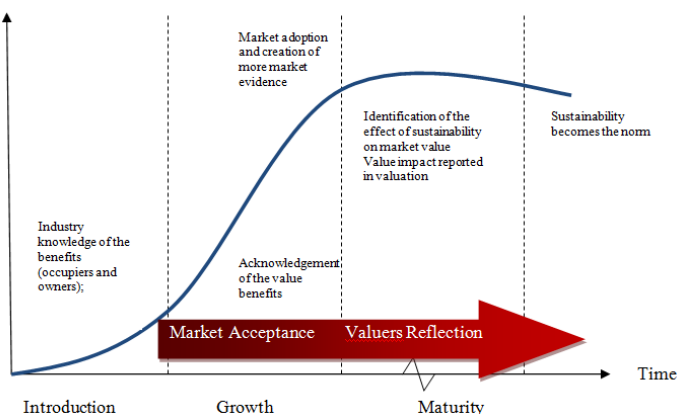


After: Lorenz (2008)

The rapid evolution of sustainability in commercial property has been accompanied by a plethora of research advocating the benefits of sustainability to owners and occupiers. Encouraging stakeholders, namely owners and occupiers, to buy into sustainability based on the value, either through investment or occupation. As aforementioned, stakeholders are awaiting financial justification, which they are expecting from the valuation profession. However, limited acknowledgement of any relationship between sustainability and market value by valuers means limited investment. It is the same circle of blame where valuers require evidence to report the change, but change will not occur if valuers do not present a positive relationship between sustainability and market value.

Valuation praxis is commonly referred to as ‘an Art and a Science’ and it is well-known that valuation is just an opinion of probable price (Mackmin and Emery, 2000) expressed by a suitably qualified valuer based on their mathematical assessment techniques, professional experiences and imperfect information (Havard, 1999). The science is provided by the use of economic theory and mathematical models which provides the framework of valuation, which is standardised and governed by international standards, national and state professional institutes and bodies, texts and journals on valuation. However, valuers are not reliant on these models alone, their experience as a valuer and their knowledge of markets, market dynamics and nuances provides a heuristic basis on which valuers rely in assessing market values. The reliance on heuristics in valuation practice, in addressing an issue, such as sustainability in commercial property valuation is a major issue. This is because valuers’ lack a strong knowledge base, about sustainability and its relationship with market value, from which to form heuristics and knowledge to be applied in valuation practice. The limited information and knowledge to develop heuristics limits the valuation professionals’ judgement and/or assessment of market value for commercial property with any level of sustainability. Warren-Myers (2010) suggests that for valuers to identify any relationship between sustainability and market value that certain factors of evolution need to be reached within the property market and this will then provide a foundation for the development on valuers’ knowledge and heuristics.

Figure 3: Market adoption of sustainability and the development of valuers’ knowledge



After: Warren-Myers (2010)

Lorenz (2008) in Figure 2 indicates valuers ‘recognise the benefits and reflect this in estimates of market value’. However, Warren-Myers (2010) found that valuers currently have limited knowledge and are hesitant to recognise the benefits of sustainability, let alone actually reflecting this in practice. It is important valuers undertake the assessment of sustainability accurately, especially if they are planning to incorporate within assessments, because valuers have legal responsibilities to report accurately. However, the plethora of research on sustainability, rating tools and the multi-dimensional and evolving nature of sustainability makes this inherently difficult when taking all the other traditional factors into account. This reluctance to develop knowledge of sustainability restricts valuers’ development of knowledge and heuristics and consequently sustainability’s relationship with market value. If graduate valuers are being equipped with knowledge of sustainability, assessment in addition to traditional property valuation techniques, possibly the development of strategic knowledge on sustainability may have a more streamlined adoption. It was found by Warren-Myers (2010) that valuers had limited knowledge of sustainability, sustainability assessment and the reflection of sustainability within the marketplace and relationship on market value. This paper re-examines this data in order to ascertain whether there are any differences in sustainability knowledge between younger valuers and more experienced senior valuers which may be a result of generational differences and education.

RESEARCH APPROACH

Limited research has been conducted into sustainability and valuation practice and the ability of valuers to assess and analyse any relationship between sustainability and market value. Although the results found by Warren-Myers (2010) suggests valuers are limited in their understanding of sustainability and are not incorporating sustainability within valuation practice. It was questioned whether there would be polarisation between the younger valuers and the more senior valuers within the study undertaken by Warren-Myers (2010). Therefore a reanalysis of the data was undertaken for this paper in order to ascertain whether any significant differences occurred between the knowledge and understanding of sustainability, sustainability assessment and market dynamics relating to sustainability. The research hypothesis is:

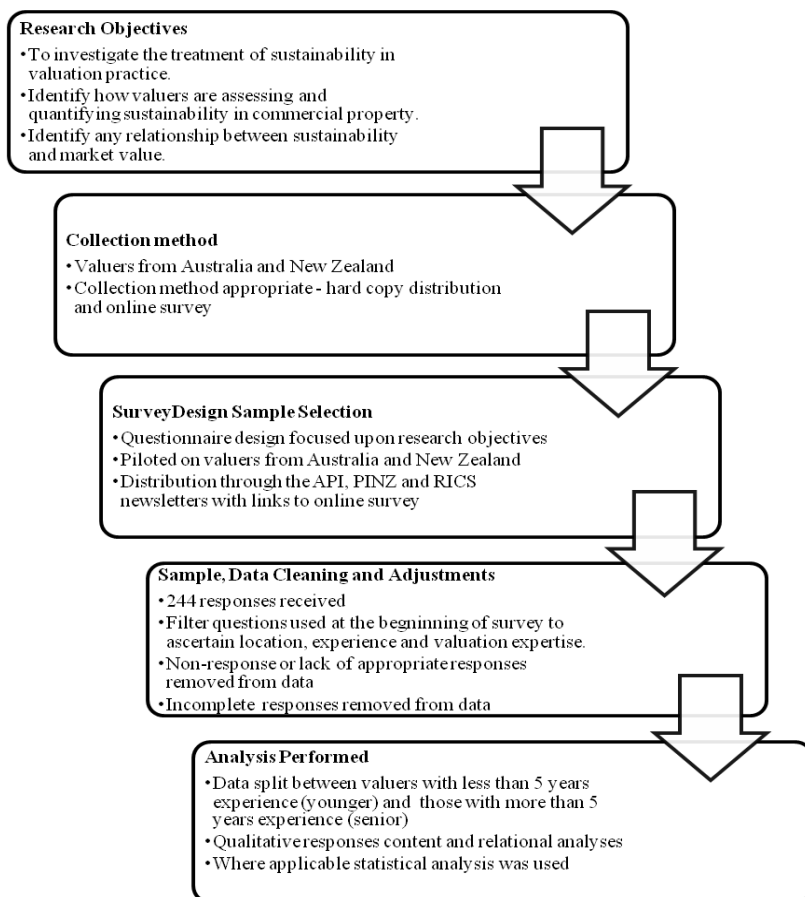
Younger valuers will be more knowledgeable of sustainability, sustainability assessment and market dynamics due to their more recent education at university

The broader valuation profession have been reluctant to develop their knowledge of sustainability, however, if younger valuers are bringing sustainability knowledge into practice, the challenges of educating the profession and engendering change may not be as difficult if younger valuers are given the opportunity to share and expand their knowledge. However, it needs to be ascertained whether younger valuers have a

greater knowledge of sustainability as a result of their educational and generational differences.

The research approach is shown in Figure 4, taken from Warren-Myers (2010), with the key difference being in the analysis process, where the data is separated and then compared. The data adjustments required the separation of younger valuers with less than 5 years experience and more experienced senior valuers with more than 5 years experience in commercial valuation. This then allowed for comparative analysis of the data between these categories.

Figure 4: Research approach



RESULTS AND DISCUSSION

The research examined the differences between the younger valuers and the senior valuers in terms of their experience, knowledge and interpretation of sustainability in the commercial property market. A number of correlated findings have been found between the younger and senior valuer perceptions in response to the research questions. In addition, there were a series of conflicting perceptions as to particular assessment methodologies and interpretations of the relationship between sustainability and market value in the commercial property market. These perceptions often parallel much of the normative research that has been released in recent years. When examined against Warren-Myers (2010) Table 2 of comparisons between valuer and owner perception, there is clearly an apparent disconnect between valuers' knowledge and understanding of sustainability and their perception of the influence of sustainability in the property market.

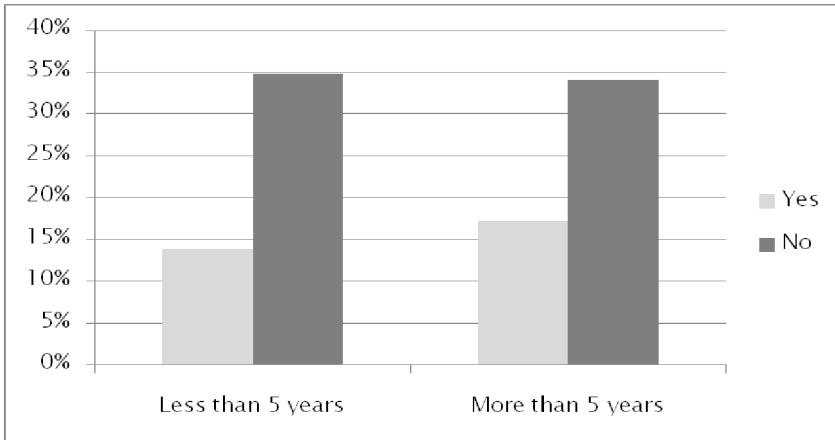
The results examine the differences between younger and senior valuers in their:

- Experience in valuing a property with sustainable attributes;
- Their knowledge of sustainability assessment;
- Their familiarity with the industry rating tools; and
- Their perceptions of market participants willingness-to-pay more for sustainable property.

Experience in valuing a property with sustainable attributes

The experience of valuers was examined by whether they had in fact had the opportunity to value a property with sustainable attributes. It is evident in Figure 5 that there appears to be little difference between the experience levels. However, there is a marginal difference, although not deemed significant, between younger and senior valuers who have valued sustainable properties. This is a likely indication that due to the complexities that sustainability presents in commercial property, generally, senior valuers are undertaking those valuations.

Figure 5: Distribution of valuers who have valued property with sustainable attributes



Sustainability assessment

Sustainability assessment in commercial property can be quite broad in terms of how valuers would assess sustainability levels within a property. Traditional methods of property assessment, in addition to more recent assessment methods of sustainability were included in the questionnaire. In particular the inclusion of industry rating tools, namely a Design based assessment and Operational based assessment, which are essentially understood that design is indicative of the Green Building Council's 'Green Star' assessment tool, and operational based tool to be the NABERS assessment tool.

The results indicate a similar preference for valuers' proposed methods of sustainability assessment as shown in Table 1. However, there is a greater disparity when examining the distribution across the categories on how valuers, younger and senior valuers examine sustainability in commercial property. There is a strong propensity for valuers overall to use a design rating to assess sustainability in commercial property. This has a variety of issues relating to the focus of design tools as discussed in Warren-Myers et al. (2010), which includes the focus only on new builds, arbitrary rating where points and certifications can be achieved in various ways and inconsistencies across versions to name but a few. In addition, to the limited number of design rated properties in comparison to the broader stock (Warren-Myers et al., 2009). Other assessment methods preferred by the senior valuers included performance ratings, operating expenses, analysis of attributes and inspection.

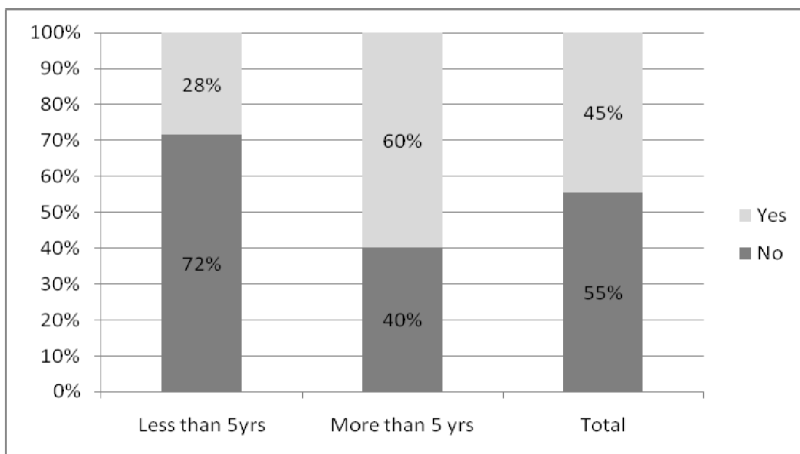
Indicating various techniques would be employed to examine sustainability levels in property, however these methods are still overwhelmed by the propensity for design rating as the primary form of assessment. Younger valuers had a different approach in that they placed a strong emphasis on using design ratings and an examination of operating expenses. Interestingly, younger valuers identified operating expenses over a performance rating suggesting they may not have knowledge of the performance ratings available; however, have obviously had exposure to the design ratings. It is concerning that valuers overall, when considering assessing sustainability propose to use design ratings, which have a variety of issues when used in a valuation context, as discussed by Warren-Myers (2010). Valuers reliance on a design tool to examine sustainability levels is fundamentally flawed due restriction on the comparative analysis of building attributes and characteristics required in valuation practice.

Table 1: Valuers proposed assessment method for examining sustainability in commercial property

	Design rating	Performance rating	Operating expenses	Inspection	Analysis of attributes	Appeal	Total
Valuers less than 5 years experience	51%	7%	16%	9%	8%	9%	100%
Valuers more than 5 years experience	33%	15%	18%	4%	14%	16%	100%

Valuers propensity to use design ratings, or use other ratings is further clouded by their lack of knowledge of these rating tools, where overall only 45% of valuers have any familiarity with any of the industry rating tools. Figure 6 depicts the significant difference in knowledge of these rating tools between younger and senior valuers. It is apparent that senior valuers have more familiarity with industry rating tools compared to the younger valuers.

Figure 6: Distribution of valuers' familiarity with industry rating tools

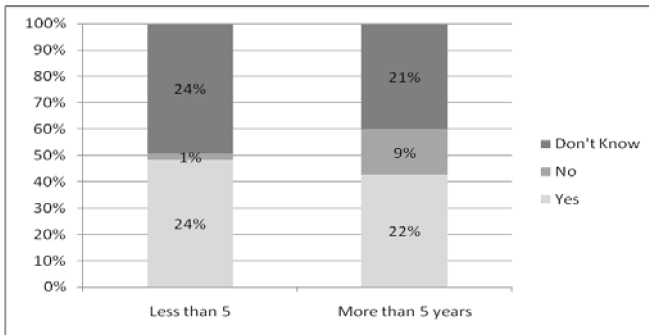


Analysis of market dynamics in relation to sustainability

An important element of valuation is the understanding and experience within the market place to be able to make appropriate judgments and adjustments in valuation, where valuers are required to simulate a transaction whereby there is a willing buyer and willing seller in an arm's length transaction. The requirement of market knowledge and experience is fundamental to valuation, and younger valuers are at a disadvantage as their development of strategic knowledge and heuristics is less than senior valuers. Consequently, valuers' perception of the market is vitally important, because their opinions and knowledge will flow through into valuations through their judgements and adjustments in practice.

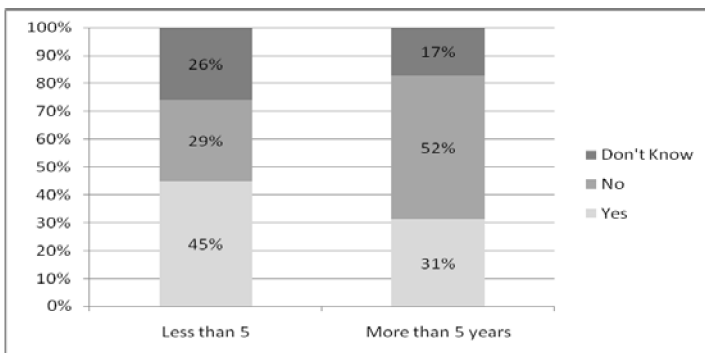
Valuers' perception of whether occupiers (tenants) of commercial property were paying more to occupy sustainable office space was considerably mixed, as shown in Figure 7. Where valuers overall perceived that 45% of occupiers would pay more, 10% wouldn't and 45% did not know. When examined from a younger and senior valuer perspective, similar patterns emerged as shown in Figure 8, where 24% of younger valuers and 21% of senior valuers did not know whether occupiers were paying more for sustainable office space. Only 1% of younger valuers and 9% of senior valuers believed that occupiers would not pay more for sustainable office space, and 24% and 22% respectively thought that occupiers would pay more for sustainable office space.

Figure 7: Valuers' perception of occupiers paying more for sustainable office space



When examining valuers' perceptions of owners actions in the market in Figure 8, the diversification between younger and senior valuers was greater. It was apparent there are still a proportion of valuers who are uncertain about the market, and their willingness to pay more for sustainability, with younger valuers (26%) and senior valuers (17%) not knowing whether sustainability affected sale prices. There was a stronger expression by younger valuers (45%) that owners would pay more for sustainability compared to senior valuers (31%). However, the greatest difference was in the perception that owners would not pay more for sustainable property, where the majority of senior valuers (52%) compared to 29% of younger valuers believe owners would not pay more for sustainability.

Figure 8: Valuers' perception of owners' willingness to pay more



There is considerable variation in the expression of opinions surrounding sustainability assessment, knowledge of sustainability rating systems, and perceptions of the market. All of which question the general valuation professions ability to accurately assess sustainability, as discussed in Warren-Myers (2010) which examined the valuation professions' knowledge of sustainability, sustainability assessment and understanding of any relationship between sustainability and market value. However, the disparity discussed by Warren-Myers (2010) and an excerpt is shown in Table 2 is between valuers' perception of the market versus what the owners (a key stakeholder in the market) believe to be the case. This poses the question how can valuers presently assess sustainability and reflect market dynamics in valuation practice, when it appears their knowledge of assessment and market analysis are limited in regards to sustainability in commercial real estate. Warren-Myers (2010) suggests valuers are presently relying on theory and normative research rather than examining the dynamics within the market, and consequently this could lead to erroneous valuations.

The objective of this research was to investigate whether the disparity was lesser in one of the categories of valuers. The hypothesis posed younger valuers would be more knowledgeable about sustainability due to the likelihood of younger valuers receiving recent education that may have incorporated sustainability within their degrees. There appeared to be similarities in responses in terms of the number of sustainable properties assessed by the sample of valuers and their views on assessing sustainability was similar between younger and senior valuers. However, when examining the differences between the samples regarding market dynamics, there was a mixed representation. A fair proportion (21%-24%) as shown in Figure 7 of both samples believed that occupiers would pay more for sustainability, whilst a similar percentage (22% - 24%) did not know. When examining against owners' perceptions (Table 2), owners indicated occupiers were not paying more for sustainability, so it would seem the whole sample, both younger and senior valuers, are at odds with market perceptions. However, when examining owners' willingness-to-pay more (Figure 8) in which they would not pay more for sustainability, it appears senior valuers (52%) may be more in touch with owners' opinions (Table 2), compared to younger valuers (29%). This research suggests there is a strong indication that valuers need to increase their knowledge of sustainability, assessment techniques and market dynamics; however, senior valuers appear to have an increased understanding of market dynamics over younger valuers. Consequently, the hypothesis was found not to be true; younger valuers' are not more knowledgeable of sustainability than senior valuers.

Table 2: Disparity between owners' and valuers' opinions on sustainability

	Owners	Valuers	Theory
Knowledge	Generally high although market differences between Australia and New Zealand noted.	Varying – overall limited knowledge of rating tool assessment technicalities.	Expectation of industry knowledge of sustainability
Sustainability assessment	Performance based	Rating tool based	Rating tool focused (Bowman and Wills, 2008; RICS, 2009)
Occupiers willingness-to-pay	No. Examples illustrating occupiers' initial requirements for sustainability dissolving when costs or premiums were added to rents.	Yes. Valuers identified limited evidence of occupiers' paying increased rent	Yes – occupiers are willing-to-pay more for sustainable space (JLL 2007, 2008)
Owners willingness-to-pay	Nil. Adamant that sustainability or not, investment returns required from a property would remain the same,	Sustainability may affect a capitalisation rate up to a 100 basis points.	Yes – owners are willing-to-pay more for sustainable property (Edgerton, 2007)
Perception of value	Devaluing of property for non-sustainability	Added value as a result of sustainability	Added value as a result of sustainability (JLL, 2004, 2006; NZMFE, 2006, 2007)
Value relationships	Minimisation in loss of value. Based on reduction of risk and obsolescence, and cost minimisation (through resource use).	Value added by sustainability. Identified relationship between energy, water, indoor environment quality and management; and letting up, vacancy, risk premium, rental growth, saleability and outgoings.	Various relationships: see JLL (2007b), Kats (2003), Madew (2006), NZMFE (2006, 2007) and Paumgarten (2003).

INSIGHTS AND SUGGESTIONS

It is apparent that senior valuers appear to be more knowledgeable about sustainability, sustainability assessment and market dynamics in commercial property. Contrary to the hypothesis, younger valuers due to their generational experience and more recent education at university are not more knowledgeable of sustainability and sustainability measurement in commercial property. It may be that university curriculum is not adequately addressing this particular issue or examining industry rating tools. Yet senior valuers' have recognised to some extent the need to examine and understand the developing trend of sustainability in the commercial property sector; however the accuracy of this knowledge could be questioned considering the findings from Warren-Myers (2010). In particular where the research found valuers' perceptions and knowledge of the market greatly differed to that of the actors within the market, namely the institutional grade property owners. In spite of the increasing awareness and levels of sustainability education in recent years, it is apparent the knowledge across the valuation profession is still lacking, and younger valuers have not developed knowledge within this area. Educational institutions need to ensure they are equipping graduates with applicable knowledge for the industry.

The findings of this research highlight the requirement for an increased focus on sustainability throughout property curriculums, in not only specific sustainability subjects but also embedded within traditional property and valuation subjects. This requires educators to be more aware of the impacts of sustainability and the changes happening within their subject areas in the realm of sustainability if real change is to be achieved. However, educators also need to be knowledgeable of sustainability, and this is still a challenge across all sectors of higher education (Holdsworth et al., 2008). The flow-on of knowledge from educators through students will provide a foundation for graduates to help lead and guide industry into the domain of increasing sustainability awareness and adoption. However, there also needs to be the opportunities for those already in industry to up-skill their knowledge and understanding of sustainability. This will then lead the way forward for a more knowledgeable industry and increasing understanding of the relationship between sustainability and value in the property market. Consequently, increased sustainability knowledge and adoption of new heuristics in valuation practice will provide foundation for Lorenz's (2008) virtuous circle to occur and increasingly provide for a more sustainable future in the property industry.

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