

CONTACT Australasia

CIOB signs Agreements with Australian Professional Bodies

As part of their visit to Australia in August, CIOB President Professor Li Shirong and CEO Chris Blythe were accompanied by our Regional President, Varoujan Bedrossian, to meetings where Memorandums of Understanding were signed with The Institute of Arbitrators and Mediators Australia (IAMA), The Construction Law Society Australia (CLS), Sydney, Canberra and Melbourne Chapters of the Australian Project Management Institute (PMI) and the Australian Institute of Project Management (AIPM). Further details of these agreements can be found on our website:

<http://www.ciob.org.au/about/alliances>

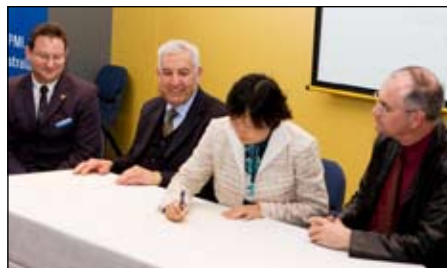
These Memorandum of Understanding agreements will strengthen the spirit of cooperation that exists between the CIOB and these institutes enabling us to offer respective members more CPD opportunities at discounted rates, broaden our local presence and provide local organisations greater access to CIOB's international best practice knowledge base. By working together we will seek to promote best practice awareness relating to construction project management and construction law issues that affect the industry and society at large.



L-R: Dr Bill Young (President AIPM), Varoujan Bedrossian, Prof Li Shirong and Chris Blythe.



Representatives of IAMA, CLS and CIOB attended a luncheon to commemorate the MOU signings.



L-R: Steve Meintjes (Chairman PMI Australia), Varoujan Bedrossian, Prof Li Shirong and Ian Wolfe (President PMI Sydney Chapter).



Prof Li Shirong and Hon. Michael Kirby (President IAMA).



L-R: Ian Bailey (Chair Construction Law Society) and Prof Li Shirong.

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President's Column

I am fortunate to be the president in this region as after many years of hard work with other presidents, today I have the opportunity to promote the CIOB Australasian region branch which includes all states and territories in Australia and both the north and south islands of New Zealand to a higher level in the industry and in the educational institutes namely TAFE colleges and Universities.

My role in life has been encouraging education in the construction industry which I believe is the only way we, as a society, will advance our way of living and try to resolve the problems at hand by lateral thinking and putting everything in perspective keeping in mind the present realities.

Today every leader talks about the global economic crisis, and to that I say let us work together to find ways to make the best of it, and yes, we may have to cut our budgets but we will manage like the rest of the world.

We have been working most recently on an idea that I thought of several years ago, that of establishing a networking atmosphere with many other organisations, and, to that end we have already signed Memorandum of Understanding agreements with the following organisations Australian Institute of Project Managers (AIPM), Institute of Arbitrators and Mediators Australia (IAMA), Australian Construction Law Society (CLS) and chapters of the Australian Project Management Institute (PMI). In addition, we are in discussion with several other institutes and Associations to establish a networking group of the industry leaders so that we could advance the knowledge from each group to the industry at large. For example, CIOB has representation on the boards of the following organisations:



Australian Sustainable Built Environment Council (ASBEC) and the Victorian Bushfire Roundtable Working Group.

CIOB International has a large role to play in the building and construction management industry in the Australasian region including Australia and New Zealand. CIOB International is promoting education at all levels in the industry by promoting excellence in building and construction including educational institutes by making available accreditation programs for the international recognition of courses and faculties. Just to name some of the areas which we are all working towards they include health and safety and new infrastructure initiatives in international operations.

It is important for me to recognise the individuals who put so much effort in making projects successful and for this reason I have to say that we have been fortunate to have a very competent manager in Elizabeth Thomas, whose dedication and enthusiasm towards achieving optimum performance in her role of managing not only the CIOB office but in addition managing the committees in a professional manner.

This year we have also been privileged to

have a visit from our international CEO, Chris Blythe and the first woman president in CIOB's 150 years of establishment, Professor Li Shirong who is also the Deputy Director General of China's Chongqing Foreign Trade and Economic Relations Commission where she is responsible for the promotion of foreign trade and investment.

CIOB specialises internationally in research and shares its knowledge with the industry and I would like to take this opportunity to invite the leaders in the industry to join CIOB to assist and encourage the promotion of excellence in the construction industry and in the fields of health and safety and try to promote the technologies to make the industry better built and environmentally friendly to people.

In the past we have faced many challenges and no doubt we will again in the future, however, we hope that by encouraging students to reach their goals by CIOB offering awards including monetary prizes to students who are chosen by their superiors to be the best in their field.

Today I would like to take the next step in our networking program to lead to future improvement in the building and construction industry at large by inviting all those building and construction leaders to establish some preliminary communications with CIOB and see if we could work together to promote education in every organisation which would benefit all parties making companies more profitable by having that additional knowledge to develop into and maintain their position as successful leaders in this competitive market arena.

Varoujan Bedrossian M DesSc, FCIOB, FAIB, MAIPM, MIAMA, AAIQS, JP

Your 2010 CIOB Subscription Renewal

You will shortly receive your CIOB subscription renewal pack and we are pleased to advise that there is no increase to the CIOB subscription rates and fees set for 2010.

Concessionary Rates of annual subscription are available on request to members who are retiring, suffering financial hardship or who are in full time education. If you fit this description then please contact our Sydney office as you may be entitled

to the Concessionary Rate of \$60 annual subscription.

A reminder too that your 2010 CIOB Membership Subscription needs to be paid absolutely by the last working day of February 2010.

There have been instances where members pay on the last few days (which can fall over a weekend) but as payment has not appeared in our account until after the deadline they become lapsed members. So please don't leave it to the last minute!!

Notice

Facts and opinions expressed in this publication are those of the authors of the articles. They may not be the official position of CIOB on any given matter.

Newmarket Viaduct Replacement Project

The Newmarket Connection project is being delivered for the NZTA by NGA Newmarket: the same Alliance of companies that has successfully completed the Northern Gateway Toll Road north of Auckland, ahead of schedule. During September NGA Newmarket and Leighton Contractors kindly arranged site visits for members of the Chartered Institute of Building (CIOB) and the Institution of Civil Engineers (ICE).

The NZTA's plan for the project, known as the Newmarket Connection project, sees the old viaduct replaced in stages so that traffic flow is maintained on the Southern Motorway. The decision to replace, rather than retrofit, was taken after detailed analysis revealed significant opportunities regarding environmental sustainability, seismic capacity, construction impacts, timeframes and likely benefits to both the road user and local community.

The project is scheduled to take four years at a total cost of \$215m, with completion scheduled for December 2012. The project will tie in with the lane widening project immediately to the south, allowing the NZTA to ultimately provide four lanes south as far as Greenlane.



Enabling works have commenced and involve two busy connections with the Southern Motorway - the Gillies Avenue off-ramp and the St Marks Road on-ramp - which both have to be realigned to accommodate the first stage of construction: the viaduct's new four-lane southbound carriageway.

"We're committed to keeping disruptions on this critical part of our motorway network to a minimum and we'll be doing everything we can to keep Auckland moving while we replace the existing viaduct with a stronger and safer one that has more capacity for traffic," said Tommy Parker, the NZTA's Northern State Highway Manager.

Stage one - building the four-lane southbound viaduct on the harbour or

north-east side of the existing structure - will be finished in time for the 2011 World Cup. "Four lanes instead of the three we have now will increase capacity at an important time when Auckland is playing host to thousands of visitors in town for the rugby," said Mr Parker.

Once traffic has been moved onto the new southbound bridge, stage two of the project will see the existing southbound carriageway deconstructed to make way for three new northbound lanes. The existing northbound carriageway will then also be removed.

To complete the transformation, the two new bridges will then be joined together to form a new viaduct spanning Newmarket that can carry more traffic more quietly, and is strong enough to withstand a 1:2500 year earthquake.

Mr Parker noted that "beyond releasing the traffic flow benefits of previous upgrades to the Central Motorway Junction, an important legacy of the Newmarket Connection project will be the platform it provides for urban design initiatives that can extend the spirit of Newmarket further south along Broadway."

Engaging Your Employees During a Downturn

An investigation into how to effectively apply employee engagement strategies during a market downturn so that employees are willing to go the 'extra mile'.

Background

Businesses today need to improve productivity in tough competitive markets; employers want more but from less. As such, employees are expected to work harder and be motivated to go the 'extra mile' for their employer. The benefits of engaged employees primarily arise from being psychologically present during work, so employees are willing to give discretionary effort over and above the demands of their core job. This study considers how employee engagement can be created and maintained in the current market downturn.

What is Employee Engagement?

The CIPD (2008, p.3) defines engagement as 'being positively present during the performance of work by willingly contributing intellectual effort, and experiencing both positive emotions and meaningful connections to others'. The Institute for Employment Studies (IES)

(2004) offers a similar definition and adds that the employer needs to create an environment where employees are motivated to want to be involved with their work and really care about doing a good job; in return, employees will spread the word about what a good place the company is to work at and to do business with.

An internet search finds a plethora of human resource (HR) consulting firms offering definitions of engagement. Academic research underpinning the concept is less widespread and seems to be gathering interest in the topic only in recent years. Wellins & Concelman (2005, p.1) suggest that engagement is 'the illusive force that motivates employees to higher levels of performance'. Colbat et al. (2004, p.604) define engagement as a 'high internal motivational state', and Dvir et al. (2002, p.737) refer to 'high levels of activity, initiative and responsibility'. Common to the definitions is that an engaged employee

has purpose, commitment, passion, and focused effort, demonstrated in both attitude and behaviour.

The CIPD (2009) emphasises that engagement cannot be required as part of the employment contract; it has to be offered by the employee. It is discretionary effort that employees are willing to contribute. This is generated as part of a positive psychological contract between the employer and employee. Similar to the psychological contract concept, employee engagement is a two way process. 'Organisations must work to engage the employee, who in turn has a choice about the level of engagement to offer the employer' (IES, 2004, p.ix).

There is still some debate amongst practitioners and academics about what exactly constitutes employee engagement. An engaged employee is different to a satisfied employee, who is content to come to work and do what is asked of them;

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PMI Global Congress 2010—Asia Pacific

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For more information about PMI Global Congress 2010—Asia Pacific, visit www.PMI.org/AP10.

CIOB Australasia funds Embodied Energy, Water and Greenhouse Emissions Research

2008 CIOB Australasia Research Grant Scheme recipient **Dr Robert Crawford** has completed phase one of his research. Read on to find out more about this interesting project which investigates modelling the embodied energy, water and greenhouse emissions of building construction assemblies.

Project Aims and Objectives

Environmental data for common construction materials and components can greatly assist building designers during the building design process. Current environmental data for building materials and assemblies is limited and where available often comes from disparate sources, which makes comparison of alternative solutions unreliable and risky. This data must be based on a consistent assessment approach to ensure the reliability of any decisions made.

This project aimed to establish a database of the energy, water and greenhouse emissions required to manufacture and maintain a range of common construction assemblies based on a uniform assessment methodology.

Specific Objectives of the research project were to:

- calculate the energy, water and emissions embodied in a range of construction assemblies and required to maintain them over a 50-year period
- compile these into a database to facilitate streamlined selection of construction assemblies by building designers.

The main output of the project is an expandable database of embodied energy, water and emissions values for at least 20 common building construction assemblies.

A comprehensive hybrid life cycle assessment approach was used to assess the initial embodied energy, water and emissions needed to produce the materials in each assembly. Material replacement rates were used to calculate the energy, water and emissions embodied in materials needed for maintenance and refurbishment of the particular assemblies over a building's anticipated life. For example, it was assumed that painting of internal surfaces would occur every 10 years.

Research findings

A summary of some of the key findings from the project are shown in the following graphs, comparing total embodied energy and water for 21 assemblies for a 50-year building life.

Embodied energy

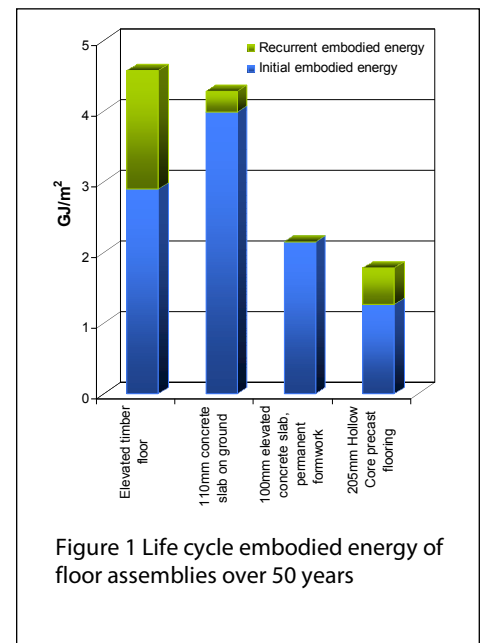


Figure 1 Life cycle embodied energy of floor assemblies over 50 years

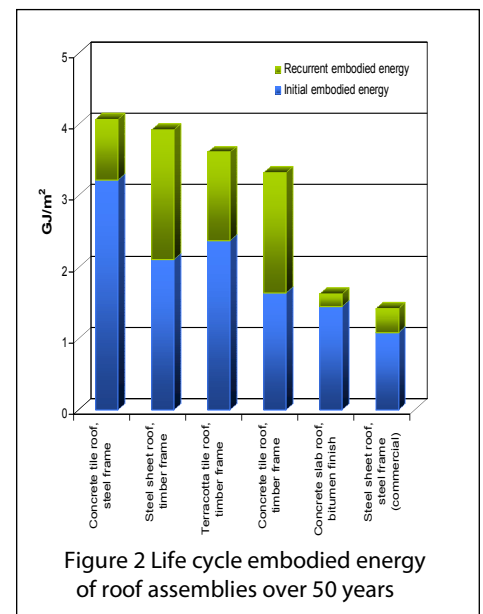


Figure 2 Life cycle embodied energy of roof assemblies over 50 years

Embodied water

A key finding from the project is that the energy and water embodied in replacement

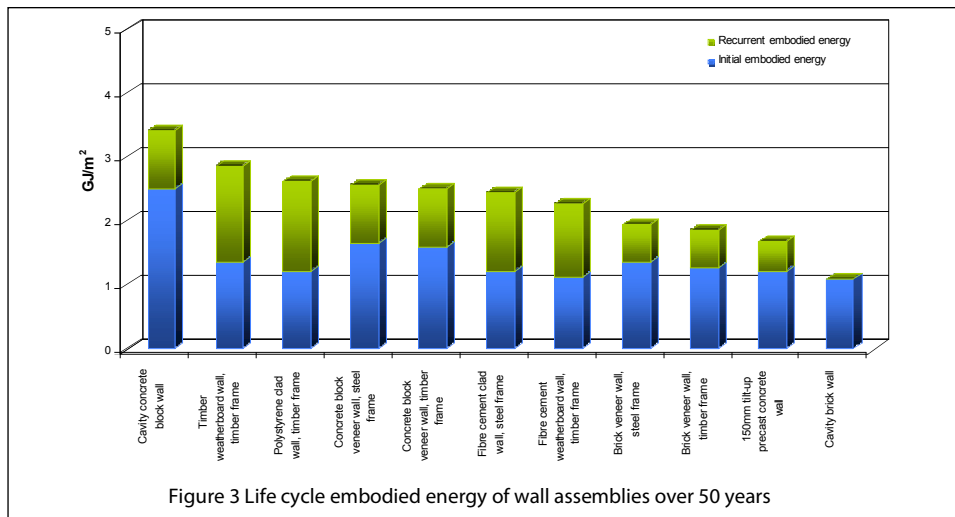


Figure 3 Life cycle embodied energy of wall assemblies over 50 years

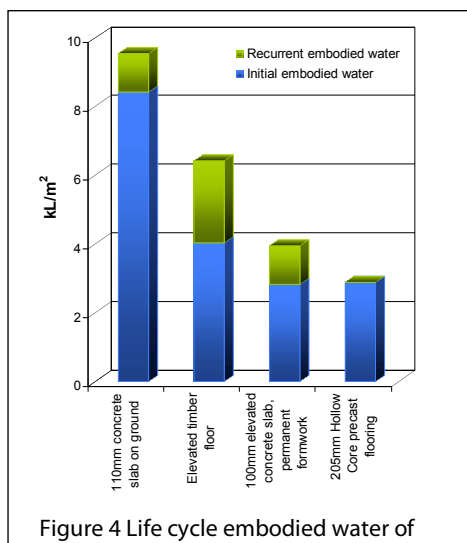


Figure 4 Life cycle embodied water of floor assemblies

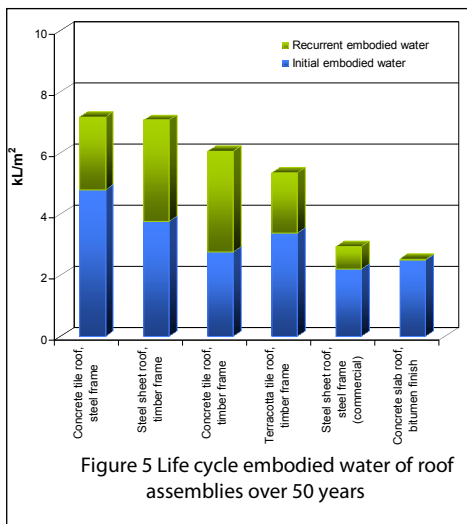


Figure 5 Life cycle embodied water of roof assemblies over 50 years

materials can represent as much as 50 per cent of life cycle energy and water requirements for many of the assemblies assessed. This indicates that significant environmental benefits may be achieved by specifying highly durable materials in order to reduce maintenance and replacement requirements.

Significance of the project to industry

This project provides a database of the

embodied energy, water and greenhouse emissions of 21 standard construction assemblies for wall, roof and floor elements of residential, commercial and industrial type buildings. This database will support the construction industry in their need for comprehensive environmental data across a broad range of construction assemblies and parameters, based on a common assessment framework, all located within a central source.

This will allow building designers to specify individual or combinations of construction assemblies to reduce the indirect (embodied) environment impacts associated with building construction. This will also assist in reducing national greenhouse gas emissions, energy and water consumption.

Publication of findings

The initial findings from this project have been presented at the Sixth Australian Life Cycle Assessment Conference:

Crawford, R.H. (2009) Life Cycle Energy and Greenhouse Emissions of Building Construction Assemblies: Developing a Decision-Support Tool for Building Designers, Sixth Australian Life Cycle Assessment Conference: Sustainability Tools

for a New Climate, Melbourne, February, 12p;

and will be presented at the 43rd Annual Conference of the Australian and New Zealand Architectural Science Association ANZAScA in November:

Crawford, R.H., Czerniakowski, I. and Fuller, R.J. (2009) A Comprehensive Framework for Assessing the Life Cycle Energy of Building Construction Assemblies, Performative Ecologies in the Built Environment: Sustainable Research across Disciplines: Proceedings of the 43rd Annual Conference of the Australian and New Zealand Architectural Science Association ANZAScA, Launceston, November.

Further research

It is intended that this project will form the basis of a more detailed study addressing a broader range of construction assemblies which will integrate the model developed in this project for calculating the embodied energy and emissions of assemblies with a model for analysing building operational energy and emissions. Combining embodied (indirect) and operational (direct) resource requirements for building assemblies will provide a much more holistic and useful tool for the construction industry as these indirect resource requirements are balanced against operational efficiency improvements.

Industry partners are currently being sought to develop an Australian Research Council (ARC) Linkage Project funding application for a project that will investigate the more comprehensive life cycle model discussed above.

Dr Robert Crawford, Future Generation Fellow
Faculty of Architecture, Building and Planning, The University of Melbourne, Parkville, Victoria, 3010

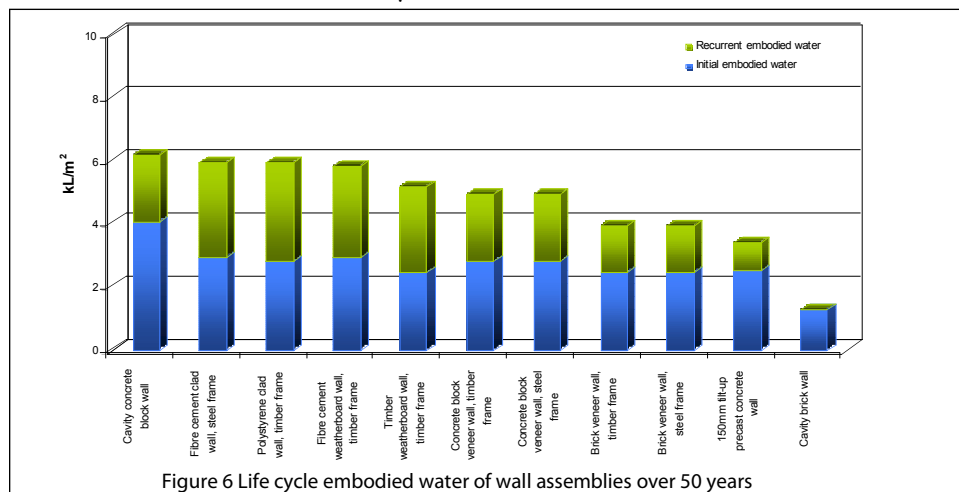


Figure 6 Life cycle embodied water of wall assemblies over 50 years

Engaging Your Employees During a Downturn

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engagement is above and beyond merely being satisfied with your employment. Macey & Schneider (2008, p.7) note that there are conceptual similarities and that satisfaction is a facet of engagement, but emphasise that 'engagement connotes activation, whereas satisfaction notes satiation'.

This is further supported by Saks (2006), who summarises that engagement is distinct and unique consisting of 'cognitive, emotional, and behavioural components that are associated with individual role performance'. Job satisfaction cannot be relied upon to receive the employee's discretionary effort (Macey & Schneider, 2008).

The benefits of employee engagement

The benefits of engaged employees primarily arise from being psychologically present during work, so employees are willing to give their all to the job and are willing to go 'the extra mile' to achieve success (Kahn, 1990; Schaufeli et al., 2002). A plethora of HR consulting firms' purport that engaged employees do more. Hewitt Associates (2004, p.2) state that 'engagement levels have consistently been found to highly correlate to business results'. McBain (2007, p.17) reports from research findings that 'as a consequence of engagement, employees at all levels are prepared to give discretionary effort over and above the demands of the job'. Loehr (2005) suggests that individual engagement benefits include enthusiasm, greater value to the employer, improved physical health and happiness. Logically most people would choose to be happy at work.

As the relationship and trust develops between employee and employer, the psychological contract is strengthened. As the employee experiences positive exchanges they are more likely to have positive intentions towards the organisation including being less likely to quit (Saks, 2006). Studies by Kahn (1990) did not specifically measure outcomes but proposed that engagement leads to individual employee improved outcomes and produces positive experiences for employees and positive attitudes including good health and so it follows intuitively that this will result in positive work outcomes (CIPD, 2006).

A number of performance problems arise from disengagement; disengaged employees are four times more likely to leave the organisation (Corporate Leadership Council, 2004) and have increased absenteeism (CIPD, 2006). If employees

are disengaged this will be reflected in their reduced level of customer service (IES, 2004) which in turn could affect operating profit. Hence, employee engagement can be considered critical to any organisation that seeks to get the optimal performance from its valued employees.

Employee engagement and business performance

The CIPD (2009c) in conjunction with Kings College London surveyed HR managers across 329 UK private sector companies in late 2008 and found a key theme emerge that businesses with higher levels of employee engagement were surviving better than those with lower levels of employee engagement. Firms who reported lower engagement also reported smaller pay rises and bonuses, reduced recruitment and overall poorer business performance. The CIPD (2009c) finds a correlation between lower labour turnover and higher levels of employee engagement being associated with better performance. The CIPD (2009c) suggest that this could be a sign that there is better management of the workforce, resulting in employee engagement but also highlights that redundancies, more assertive management and cuts in pay and training are likely to have an impact on the future levels of employee engagement. The anxiety is reflected by respondents (58 percent) who identified that biggest challenge associated with the economic downturn in 2009 will be maintaining employee engagement.

Whilst the survey suggests a link between engagement and better performance there is not a direct equation that identifies engagement drivers with profit and turnover to aid survival in a downturn. The link between engagement and business outcomes is not simple or direct; it is complex and depends on both the organisations and the individual. Goodridge (2009) notes that while staff engagement is desirable, a major drawback is the time it may take to build engagement in a rapidly changing business. Goodridge (2009) highlights there is no right answer and that it depends on the situation faced and the risks the business is prepared to take.

One short term benefit in the employers favour is highlighted by Furness (2008) that in tough economic times, employees will be less willing to move jobs, and may actually put in a stronger presence in the face of redundancies. However, Furness (2008, p.45) goes on to suggest that when

the downturn passes, that employees will 'readily jump ship if they feel they have been mistreated or their psychological contract has been breached in some way'. Goodridge (2009) highlights that during this time the importance of maintaining trust between employer and employee should not be underestimated. Companies that support the development of their employees during the downturn could strengthen the psychological contract as employees will think this is a good place to work (Furness, 2008).

Engaging your workforce in a downturn

The CIPD (2009a) recommends extra effort to boost employee engagement, a clear sense of direction needs to be given to employees and keeping employees in the picture even when there is little report is important so that rumours are easily dispelled.

The CIPD (2009a) emphasises the need to think long term, making people redundant to later recruit when the market recovers is expensive. It can also have a significant negative affect on the remaining work force 'where creative thought and action dries up and people only do their jobs and nothing more' (Flude, 1994, p.11). This is symptomatic of disengagement. Even if redundancies are made, employers need to maintain honest communication, giving employees as much transparency as possible (Furness, 2008). Peacock (2008) emphasises that the challenge for employers is keeping those that remain in their jobs engaged, and that level of honesty an employer shows in relation to redundancies will influence the level of trust between remaining employees and the employer, 'ultimately, the best companies will keep their staff committed by involving them in what's going on' (Peacock 2008, p.2)

The CIPD (2009a) emphasises the need for applying creative non-financial ways to motivate employees, and understanding what employees really value is essential for effective human resource management during tough economic times. Down (2008) emphasised that in looking for cost reductions, to not be tempted to take the easy pickings that support employee engagement elements that are the essence of the culture. The need for reward and incentives schemes, those are applied consistently and fairly, are purported as essential by Down (2008).

As Trautwein (2009) points out, recognition costs almost nothing, putting in place a structured incentive programme that

corresponds to the key business objectives will make employees feel included in the future direction of the company. Trautwein (2009) emphasis that a poorly thought out and executed programme will have the reverse effect, i.e. not motivate. It is important to 'push the right buttons for the right people' (Trautwein, 2009, p.51) and ensure the changes in incentive and reward programmes are communicated and not just removed. CIPD (2009b) acknowledge that more cost-effective solutions may need to be found but strongly argues that now is not the time to cut development activities as developing and motivating employees is even more important during a downturn, it enables differentiation and more than just survival in the short term, it contributes to long term prospects.

Important Engagement Drivers During a Downturn

The literature review and interview findings concurred that employee engagement is acknowledged as important but sometimes tough to prioritise on the business agenda during a downturn. The key drivers of employee engagement during a downturn, derived from the primary and secondary research were found to be as follows;

1. Honest and consistent communication is a major driver towards employee engagement during a downturn. Employers need to keep employees informed about what is happening in the organisation, even if there is no clear answer.
2. Now is not the time to cut back on training and development. The CIPD (2009c) strongly purport it is not the time to cut back on training during a downturn. Training, in support of professional growth, will strengthen the employee's perception of the company as caring about its people. This will strengthen the employee's psychological contract with the employer during and post the market downturn.
3. Non-core job roles enable employees to add value to the business. The opportunity for employees to be involved and contribute outside of their core job develops human resources that are not easily replicated (Welbourne, 2007) and demonstrates that the employer values the employee's contribution. In the current downturn conditions there is increased pressure to deliver the core job role for business survival and as a result, time and

encouragement for non-core jobs decreases in some organisations. Leaders need to be engaged to create an environment where the non-core job is valued.

4. Consistent commitment from senior management to build employee engagement is required. Understanding the conditions by which engagement happens and is created is the first step that leaders of an organisation need to master. Leaders need to be educated to understand their importance in creating the micro-environment for engaging employees (McBain, 2007; Wildermuth & Pauken, 2008). Leaders will most effectively drive employee engagement when leaders themselves are true believers in the need, importance and benefits of employee engagement.
5. Maintaining the small touches is important. Employers should not be tempted by easy pickings and cut back on the small touches provided to employees (Down, 2008). Employers should seek to understand what employees really value and if budgets are constrained, spend wisely. Cutting back on the small employee provisions will break an implied deal with employees that these items are provided as standard and hence have a proportionately larger impact on the employee's engagement.
6. Employee engagement is an individual experience; what works for one does not work for another. Some individual's have personality traits that are more likely to lead to engaged employees (Wildermuth & Pauken, 2008) and different environments will engage different people. The 'right' fit between the employee, organisation and leader creates the foundation and maximum potential for employee engagement.

Extracted from a dissertation prepared by Helen Dawtrey MCI0B in partial fulfilment of the requirements for the Degree of Master of Business Administration in Construction and Real Estate, College of Estate Management, Reading UK.

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Calculating and Using Float

Patrick Weaver FCIQB member and Immediate Past President has been assisting as a member of the CIOB international committee developing the CIOB Practice Standard for Scheduling, headed up by Keith Pickavance. As part of his research for the new CIOB Scheduling Guide, due for publication in 2010, digging through some old books and resources from the 1960s and 70s, Patrick realised that scheduling has lost a lot of float in the last few years! 40 years ago float was a far more sophisticated concept compared to today but how significant is this loss of insight?

Origin of Float

The origins of scheduling and consequently float is discussed in two earlier papers:

- *A Brief History of Scheduling* .
- *The Origins of Modern Project Management* .

The issues of creating float within networks and the options for manipulating float (legitimately or otherwise) through the structure of the schedule has been discussed in the papers:

- *Float - Is It Real?*
- *The Cost of Time - or who's duration is it anyway?*

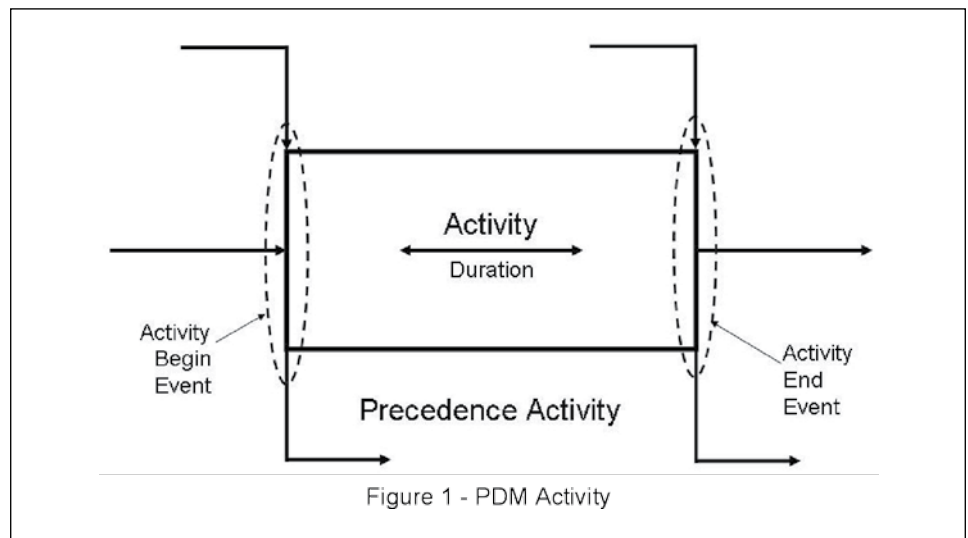
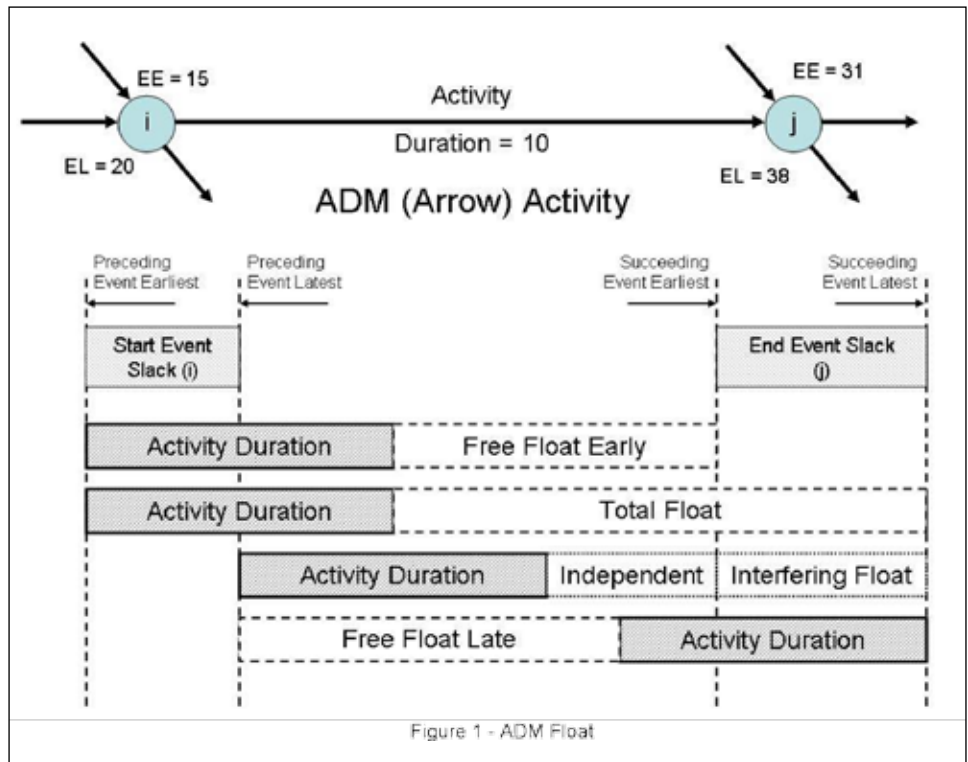
The purpose of this paper is to support the concepts discussed in these earlier papers by analysing the various types of float that have been defined in the last 50 years and considering how they may be used in modern scheduling practice.

Float in ADM Networks

The biggest difference between ADM networks and PDM networks is the importance of the events (nodes) at the beginning and end of each activity.

In an Activity on Arrow network, the computers calculate data for both the events at the end of the arrows and the activity itself (the arrow); refer Figure 1. As a consequence, a rich data set is available to define:

- the scheduling flexibility at the start of the activity,
- the scheduling flexibility of the activity itself and



- the scheduling flexibility at the end of the activity.

Float in PDM Networks

Precedence networks position the activities on the 'node' (ie, the event in an arrow network) and connect the activities with 'arrows' called links. The PDM methodology does not attempt to calculate any values for its links; each link merely defines a logical relationship between two activities .

However, given links can be connected to or from the start and the end of a precedence activity, the issues of the existence of

pseudo start and end events independent of the activity duration remain; refer Figure 3. But, whereas Arrow diagrams had discrete components and precise rules as to how these were calculated, the PDM methodology has never defined an agreed set of calculations to deal with the same issues.

Logical Inconsistencies

Using links other than Finish-to-Start can cause unexpected problems. Figure 2 represents the dry walling work on Level 5 of a high rise block of units (one complete floor):

- Task A is the erection of the framing. This 10 day activity involves 2 days to set out the walls and fix the head and floor tracks and 8 days to fix the rest of the studs and frames
- Task B is the in-wall services rough-in. This involves a total of 3 days work by electricians, plumbers and others to run their pipes and cables inside the wall ready to connect to fixtures and fittings at a later date. This task can start 4 days after Task A has started (this allows time for the framers to have installed around 25% of the studwork) but cannot finish until 1 day after all of the framing is installed. By its nature this work is intermittent requiring several short visits to the floor by each of the services trades.
- Task C is the fixing of the wall sheeting. This can start one day after the 'in-wall services rough-in' has started and needs 3 days to finish after the last of the services are installed in the wall. The three days allows sufficient time to fix the last sheets, finish setting the joints and on the final day complete the sanding of the joints. However, fixing, setting and sanding the wall sheeting will take 12 days overall. Progress on the wall sheeting is only partly dependent on the in-wall services because not every wall has services inside it and as long as the service trades have access to one side of the walls where there are internal services, the sheeting can be installed on the other. The sheeting also needs at least 3 days after the completion of the framing (Task A) before it can finish.

The situation in Figure 4 represents the optimum situation. Task B starts 4 days after Task A allowing Task C to start one day later. Task B finishes 1 day after Task A allowing Task C to complete 12 days after it started. The overall duration of this work is 4 days at the start of Task A, plus 1 day at the start of Task B plus the full 12 days for task C equalling 17 day work.

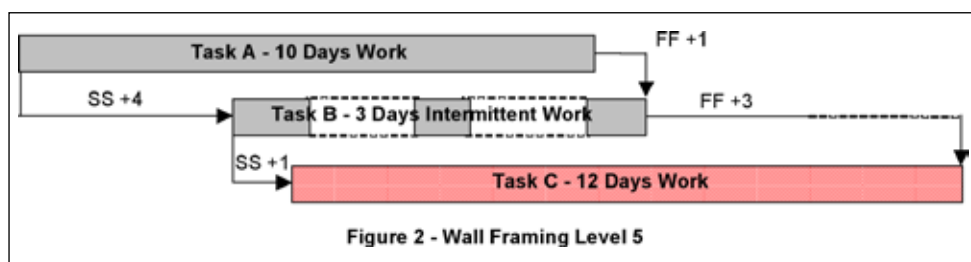


Figure 2 - Wall Framing Level 5

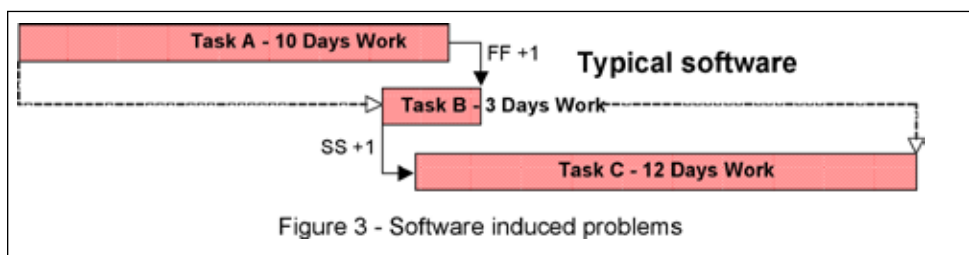


Figure 3 - Software induced problems

Figure 3 shows a typical software solution to this complex problem where all three tasks are deemed critical and the overall duration is assessed as 21 days.

Paradoxically, in this situation whilst all three tasks are on the critical path, increasing the duration of Task B actually reduces the overall time for the three tasks to complete!

Practical Considerations

The predominance of PDM is absolute, well over 95% of the software used by schedulers today cannot create an ADM schedule and probably 99% of schedulers under the age of 40 have never seen or used an ADM schedule. What's needed to advance the practice of scheduling is a standardised way of dealing with calculation conflicts in PDM schedules; the problems are well known, but the solution has been elusive. To date a standardised solution has not been achieved and consequently, with the exception of total float, float in a PDM schedule is uncertain.

From a practical perspective this creates two issues of paramount importance:

- Resources levelling and smoothing is completely reliant on having access to accurate and understandable float values. The absence of these means the scheduling algorithms are likely to be less efficient.
- Contract management relies on clearly defining critical and non-critical activities

and knowing how much flexibility (float) is reasonably available on the non-critical activities.

The lack of defined calculations for most of the float values in a PDM schedule must reduce the overall value of the schedule model compared to more rigorous approaches. Though how important this reduction in schedule integrity is, is questionable. Certainly there has to be some loss of value, what's not determined is, is this loss of value generally significant?

If scheduling is a modelling process designed to affect the future behaviours of people working on the project (ie, persuade them to work to the plan), other factors may be more important. However, from an analytical view point, any loss of accuracy is undesirable and this paper has clearly demonstrated PDM has less rigour in its float calculations than ADM.

References

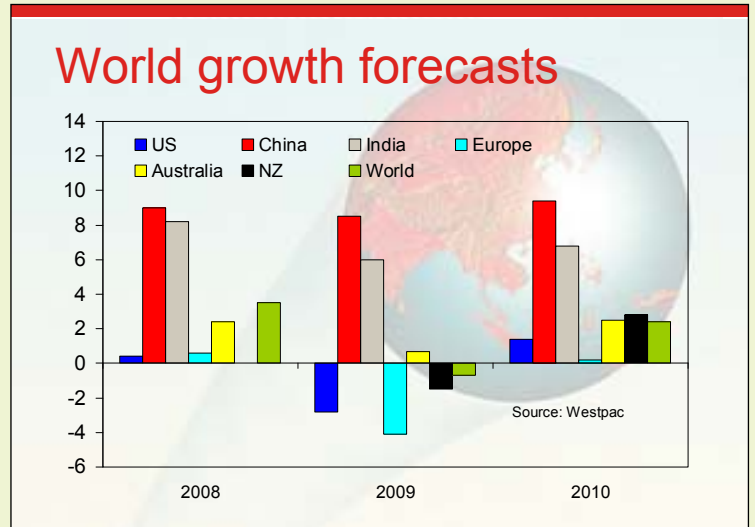
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3. Float - Is It Real?: www.mosaicprojects.com.au/Resources_Papers_043.html
4. The Cost of Time - or who's duration is it anyway?: www.mosaicprojects.com.au/Resources_Papers_009.html
5. For more on links see, Links, Lags & Ladders: www.mosaicprojects.com.au/PDF/Links_Lags_Ladders.pdf
6. The Micro Planner range is one notable exception - the origins of this software was the ICL Pert mainframe software. See: <http://www.microplanning.co.uk/>
7. See, Links, Lags & Ladders: www.mosaicprojects.com.au/PDF/Links_Lags_Ladders.pdf
8. For more on this topic see: Scheduling in the Age of Complexity: www.mosaicprojects.com.au/Resources_Papers_089.html

New Zealand Property Market Update

On Tuesday morning, 20th October 2009, Dominick Stephens delivered a talk on the economic outlook for the New Zealand Property Market, with a focus on the construction industry. Dominick is a Research Economist for Westpac's Institutional Bank. Dominick provided an update on the latest global and New Zealand economic developments, an outlook for the construction industry and for the housing and commercial real estate markets. As with previous presentations by Dominick, this breakfast seminar was very well received by those who attended and not only did they find it interesting and informative, Dominick did not let us down with the entertainment! Presentation notes are now available on our website.



From L to R: David Warwick (CIOB NZ Centre Rep), presenter Dominick Stephens (Research Economist, Westpac NZ), Mark Stone (CIOB NZ Centre Rep)



Altus Page Kirkland's New Direction

Following the acquisition of Page Kirkland Group by Altus Group in August 2009, Page Kirkland have re-branded their Western Australian operations to Altus Page Kirkland and this month appointed Martin Buckley as the company's Principal for Western Australia.

Altus Page Kirkland provides Quantity Surveying, Project Management and Asset Management services to the Western Australian market and is currently successfully undertaking major national and international projects in these fields.

Altus Page Kirkland has had a presence in Perth for over ten years and is confident that the promotion of Martin, combined with the ability of the Perth office to draw on the global expertise and resources of Altus Group, will enable them to service existing and new clients to a level that exceeds expectations.

Martin has extensive experience in costing Green Star and environmental initiatives and is understood to be the only Quantity Surveyor in Western Australia who is a Green Star Accredited Professional. Martin brings to the west a wealth of industry experience spanning the spectrum of the



property industry in the Quantity Surveying and Project Management disciplines.

"I am excited by the opportunity to lead and expand Altus Page Kirkland's presence in WA. For years Western Australia has been the envy of the eastern states with its outstanding growth, so I am looking forward to continuing and growing our business in this dynamic market." Martin Buckley said.

For further information please contact:

Martin Buckley

Telephone: (08) 9288 1758

Email: martin.buckley@altusgroup.com

www.thealtusgroup.com/Global_Network

Watch this space...

What better way to reach the construction professional target audience than to advertise in this publication. Contact Australasia currently has a print run of 2,000 copies distributed at our events, mailed to over 700 members and construction faculties at 27 universities throughout Australia and New Zealand. Reaching the desks of hundreds of construction professionals, academics and students; it's a cost effective way to get your message out there. You can reduce the cost further and zone in specifically to advertise to a particular state for example or negotiate a rate for loose leaf insert.

Visit the website for advertising rates.

<http://www.ciob.org.au/newsletter> for further details.

CIOB Policies & Consultation Responses on the Web

Many members may not be aware of the broad range of policy statements and consultation papers freely available to members on our main CIOB website. A key role for the institute is to work with governments, industry and education stakeholders, and the media to promote our standards and views. The following submissions and policy statements have been developed and/or endorsed by the CIOB.

Sustainable Development

- Proposed Changes to the Standard Assessment Procedure
- Heat and Energy Saving Strategy
- Definition of Zero Carbon Homes and Non Domestic Buildings

- Industry consultation on the Code for Sustainable Buildings
- Review of Inert Waste Regulation
- Strategy for Sustainable Construction
- Consultation on site waste management plans for the construction industry
- Waste Minimisation

Building Controls and Standards

- GBCUK Sustainable Buildings Code
- Building Regulations – various
- Authority Building Controls – various
- The Future of Building Control

Heritage and Conservation

- UK Draft Heritage Protection Bill

Health and Safety

- Corporate Manslaughter

The Built Environment and Construction Industry

- The Impact of the Global Financial Crisis on the Construction Industry
- Construction Act Reform – Improving Payment Practices
- Role of the Chief Construction Officer

Corruption, Transparency and Ethics

- Draft Anti Corruption Action Plan for the Infrastructure Sector

Construction Management

- Managing the risk of delayed completion in the 21st Century

Education and Skills

- Fair Access to the Professions

You can access all CIOB's policy statements and consultation responses simply by clicking on the 'About Us' section of the Head Office website: www.ciob.org.uk. Click on the 'CIOB policies' tab on the left hand column and then click on the various documents to download for your information. Please contact Eddie Tuttle, CIOB's Policy Research & Ambassador Development Manager, via email etuttle@ciob.org.uk if you have any queries relating to policy and consultation responses

Are you a CIOB Student Member attaining your qualifications in 2009?

Make sure to let us know when you are finishing your studies...

If you are a CIOB Student Member who will be attaining your degree at the end of 2009 and no longer studying as at 1st January 2010 then you will be required to advise our Sydney office prior to the end of the year. This will ensure that your newly acquired degree qualification will be recognised and you will be provided the opportunity to upgrade your membership. Those who gain CIOB recognised or accredited degrees are entitled to Incorporate membership which provides you with the professional qualification designation ICIOB that can sit alongside your newly acquired degree post nominals giving international recognition of your professional standing to industry contacts, potential employers and colleagues. Please contact our membership's officer, Margaret Hurst, to finalise your upgrade.

2009 Dates for Your Diary

Events and activities presented by CIOB Australia and our network of associated organisations.

For further information please contact events@ciob.org.au or telephone +61 (2) 9816 4700.

Date 2009	Event	Location
20 October	CIOB Seminar series 'Outlook for the NZ Property Market 2009-2011' – AUCKLAND: Presented by Dominick Stephens, Research Economist, Westpac Institutional Bank. Visit www.ciob.org.au/events for further details.	Copthorne Hotel, Harbourn City Auckland
21-23 October	CIB W099 Conference 2009 – MELBOURNE. Working Together: Planning, Designing and Building a Safe and Healthy Construction Industry. Visit www.ciob.org.au/events or www.constructionsafety2009.com.au for further details.	Rydges Hotel Melbourne
29 October	PMI SYDNEY Chapter 'Managing the Myths of Change' – A One Day Workshop, presented by Peter de Jager. Visit www.ciob.org.au/events or www.constructionsafety2009.com.au for further details.	Cliftons 190-200 George Street Sydney
10 November	CIOB Seminar series 'Outlook for the Australian Property Market 2009-2011' – BRISBANE: Presented by Frank Allen, Director Property Markets, Westpac Property. Visit www.ciob.org.au/events for further details.	Tattersall's Club Brisbane
17 November	CIOB Seminar series 'Outlook for the Australian Property Market 2009-2011' – SYDNEY: Presented by Dominick Stephens, Research Economist, Westpac Institutional Bank. Visit www.ciob.org.au/events for further details.	Menzies Hotel Sydney
19 November	Joint CIOB & ICE in NZ – AUCKLAND. 'Visit to the Newmarket Viaduct Replacement Project'. 5:00pm presentation for 6:00pm Site Visit. Visit www.ciob.org.au/events for further details.	Newmarket Viaduct Auckland
2010		
22-24 February	PMI Global Congress 2010 – Asia Pacific: For details visit http://congresses.pmi.org/AsiaPacific2009/NextYearsCongress.cfm	Melbourne Australia

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Alan Loh	Huang Long
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Lauren Maher	Abraham Mahilraj
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CIOB is the leading professional body for managers in construction with over 43,000+ members in 100 countries.

CIOB Australasia Undertakes Professional Bodies Survey

CIOB Australasia has launched its online survey investigating the reasons why people in our part of the world do or don't value membership with professional bodies. We are keen to hear from not only our members but those construction professionals who are not members of any professional bodies. In the coming weeks you will receive a research link to undertake the survey. To obtain good research data, we hope to get as many responses as possible and ask that you pass the link to your colleagues in the industry so that we can gain a greater understanding into the reasons why people in our part of the world value and seek out membership of professional associations.

You can also access the survey from our website. Deadline for survey participants is 30th November 2009.