The background to the development of the Guide

The Time Management Working Group September 2009

Back row: Paul Kidston, David Tyerman, Andre Gildas, Mark Russell
Front row: Rob Clark, Trevor Drury, Alan Midgley, Keith Pickavance, Tony Ciorra

The early days

I guess it all started in the autumn of 1974 when, I was the architect in charge of a 54-bed nursing home project. I had written a letter to the nominated subcontractor for the mechanical installations criticising his performance and threatening to replace him unless things changed. In response I received a 17-page letter, criticising my spelling, grammar, syntax and understanding of the building contract, finishing with the words "*nemo dat quod non habit"*, yours faithfully, legal director. That changed my life. Recognising that my education, as an architect, had not prepared me for plumbers writing to me in Latin and that, probably, I would have to suffer it for the next 30 years or so, I embarked upon a degree in law.

Construction management, earned value analysis and computers

In 1982, by now in partnership with my brother, a quantity surveyor, the practice developed a facility in construction management as the procurement method of choice. The projects, which we designed and measured, were divided into separate trade packages and managed by us as the design team. In those days we scheduled the works for each package and their interfaces by bar charts, drawn by hand. The packages were usually small and rarely changed much, save in their timing and we used what is now referred to as earned value management (EVM) to get a handle on how the progress in one package was likely to reflect upon the outturn cost and completion date of the whole, when several were being carried out in parallel.

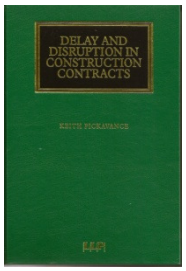
We needed a computer to tie it all together but, in those days, we thought the PC (which then was an Apple 2b and which could not do much) would never catch on. So I mortgaged my

pension fund and bought a Digital PDP 11-73 mini computer with three screens, two printers and a programmable database and spreadsheet. We thought it was pretty good in those days, notwithstanding that the spreadsheet could only calculate sequentially from top left to bottom right and, once the instruction to recalculate had been given, in relation to 40 or so linked spreadsheets, you could both make and drink a cup of tea before getting the result.

Critical path analysis and a change of tack

By 1989 my brother had decided to become a contractor and I pursued a career as an architect, expert and sometimes an arbitrator. As an architect and expert in disputes, I had come to the conclusion that there was much that needed to be said for critical path networks and their use in predicting consequences and, having woken up early one morning thinking about how an architect gives a fair and reasonable extension of time when there is both concurrent delay and float, I wrote a synopsis of a book which I felt needed to be written. My spare time, over the next seven years, or so, was spent in reading everything I could find on CPM scheduling, risk management, proof of causation and so on which, to a great extent, became more focussed after I joined an American consultancy, in London, in 1993.

In 1997, the first edition of "Delay and Disruption in Construction Contracts" was published. This was the first book on delay analysis published in the UK. At the time, the publisher and I

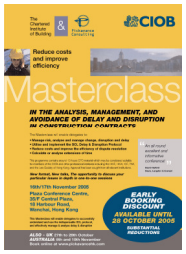


both thought the book was about how architects could deal with extensions of time in the UK. But, within the first six months, it sold in 54 countries. Then we realised that time management was not parochial, it was an international problem, transcending cultural, jurisdictional and industrial issues, and affecting all industries in which a unique product is created, over a period of time, by a number of specialised designers, working under a contract which entitles the employer to change its mind about what it wants.

The delay analyst became the name given to those who specialised in picking up the pieces after things had gone wrong. A whole new career structure then developed for architects (but not many) surveyors, civil engineers and project managers, who specialised in proving the cause of delays and their effect on completion, in troubled projects, in dispute, and many more books were to be written on the subject ….

Training and education – the Masterclass series

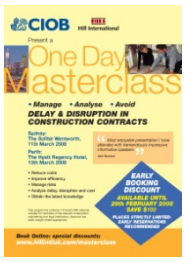
By 1999, as a result of being employed doing little other than advising employers, contractors, subcontractors, architects and engineers on delayed projects, I had become increasingly concerned about the way the construction industry managed time. Not just in the UK but internationally. It seemed that, on every project upon which I was then engaged, I saw the same incidence of poor scheduling, poor record keeping and poor project control.. We almost always had to correct major deficiencies in what often were "approved" schedules or "programmes" as they tended to be called. Rarely had anyone other than the contractor who prepared it, seen an electronic copy and records, if kept at all, were often badly prepared and impossible to use, unless re-keyed into a database.



I decided to offer training to the industry in managing time and delay analysis and, in 2000 set up a short training course called a "Masterclass" the first of which, for about 32 people, was held at the PA Consulting conference centre in Bromley, Kent. It consisted of a two days of lectures and case studies

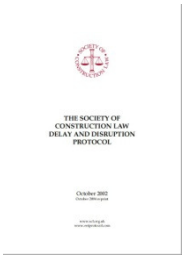
followed by a sample dispute to be analysed by syndicates in a workshop through the calculation of cause and effect and presentation of case to an arbitrator or judge of the Construction and Technology Court. We paid the speakers well and charged a hefty price for the course but because of the costs of room and equipment hire (half a dozen computers, software and so on) we never made any profit on it. However, it was popular and we continued with it.

About a year later, I met John Douglas, the CEO of Englemere, who had heard of the Masterclass, and wondered if we could do it in conjunction with the CIOB. Undaunted, by its unprofitablity, John was of the same mind that profitability was not important so long as we didn't make a loss! We were concerned that few people could afford to take off from work three contiguous days and experience had shown that few of the delegates (more and more of which seemed to be lawyers) had the computer skills necessary for the analytical work. We decided to shorten the Masterclass to two days, the first day in managing time pro-actively and the second in retrospective delay analysis.



That is a successful formula that continues to this day where up to five Masterclasses, sometimes attracting as many as 90 people each, are now held in different parts of the world every year. So far, in partnership first with the Pickavance Consulting and latterly with Hill International, (who acquired my company in 2006) the CIOB have sponsored 16 Masterclasses in time management in various parts of England, three in each of Hong Kong and the UAE, two in each of Sydney and Dublin and one in each of Brussels, Melbourne, Perth and Singapore.

The SCL Protocol and Change Management Supplements



At about the same time as the Masterclass series started, a drafting committee of the Society of Construction Law in London, of which I was privileged to be a member, embarked upon the drafting of a paper to promote good practice in the calculation of entitlement to an extension of time. In October 2002, what is now known as "The SCL Protocol" was published.

The thesis of the Protocol was that if the impact of events could be impacted upon a CPM network, which was up to date at the time, the effect could be calculated and measured contemporaneously, instead of guessed. Moreover, this would be greatly to the advantage of everyone concerned with construction contracts because they could then managed their risks proactively instead of fighting about who would pay after it was too late to put the problem right.

It was apparent that standard forms of contract did not encourage time management (typically there were pages and pages of clauses dealing with cost, there was only one clause dealing with time and that not linked to the extension of time provisions). Not only that, but in some forms, effective time management was actually inhibited. Accordingly, in 2003, in conjunction with Fenwick Elliott, solicitors, I drafted a series of contract supplements for use with the 1998 series of JCT contracts to facilitate their use in the management of time.

Notwithstanding the obvious advantages, the industry did not take this message to heart. On the whole, contract drafting bodies ignored both the SCL Protocol and The "Change Management Supplements" as they were called, and unfortunately 'the Protocol', as it became known, was used more often as a stick with which to beat the opposition in disputes, rather than to manage time pro-actively and avoid disputes in the first place.

President of the CIOB

Disappointed by the absence of take-up of the recommendations of the Protocol and Change management Supplements, and wondering what to do next about the continuing problems of poor planning, scheduling and project control, in the spring of 2006, I was invited to join John Douglas and Chris Blythe the CEOs of Englemere and the CIOB, respectively, for lunch at a rather nice fish restaurant in Soho. They said they wanted me to make a bigger contribution to the CIOB and invited me to allow my name to go forward to council as a potential vice president, if accepted, all things being equal to become President of the CIOB in 2009.

They listened patiently while I argued that although, for the last 30 years or so, construction management had been the CIOB's cornerstone policy for improvement of the construction industry, time management (without which effective cost control was impossible) seemed largely to have been neglected. Ultimately, they agreed that if my nomination was approved, the CIOB would back my attempts to make improvements in the way the industry managed time.

CIOB Research

Before embarking upon a solution, it seemed to me that it was important that we had a good understanding of where the problems lay. Following a period in which various research subjects and techniques were discussed, between December 2007 and January 2008, under my direction, the CIOB conducted a survey of the industry's knowledge and experience of different methods of project control and time management, under the heading of *Managing the Risk of Delayed Completion in the 21st Century.*

The thesis underpinning the research was that, despite the advice of the Protocol and availability of advanced computerised facilities, little had changed in the practice of time management since the development of the bar chart, nearly 100 years ago. The essence of the research was thus to understand industry performance, the techniques used and the competence of those engaged in the process of time management. As far as we could ascertain, this was the first research of its kind.

The survey required the respondents to submit commercially sensitive information. Four hundred companies were approached and 73 responses received, just under half of which were anonymous. The report was based upon data provided on nearly 2,000 projects over a three year period.

The conclusions of the CIOB report

The survey showed that simple, repetitive, low-rise projects have a high chance of success within the traditional, intuitive, management processes. However, the more complex the project, the less likely it was that intuitive management would be sufficient to achieve completion on time. Without a scientific approach to time management, complex buildings and engineering projects were likely to be substantially delayed in their completion.

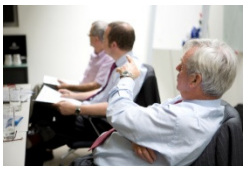
The research revealed that the growth in training, education and skill levels of the industry in the use of time management techniques had not kept pace with the technology available. 95% of the respondents thought that the standard of education and training in the management of time was unsatisfactory.

The Guide

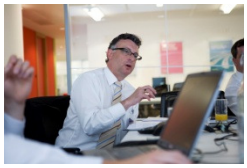
From the research, it had become apparent that time management in the construction industry in 2008 was in about the same state as cost management had been at the turn of the 20th century, about 100 years ago. There were no accepted standards to work to; no formal educational programme for those who set out to do it; no formal training for those doing it; and no accreditation or qualifications to demonstrate competence.

However, it was apparent that, unless there were standards to which to work, there was little that could be done about education, training or accreditation.

Accordingly, the first stage was to write a guide to good practice. Conscious that although there was much available in software training and several books and a recommended code of practice in retrospective delay analysis, no one anywhere appeared to have attempted before the writing of a guide to how to manage time pro-actively and this looked as though it was likely to be a world first.



The Working Group



The first stage was to find a project coordinator and working group to put it together and eventually Mark Russell was seconded from the NHBC as the Group Coordinator in September 2008.

I wanted to get as many as possible, differently qualified, and enthusiasts in this field, from different backgrounds from around the world so that they could approach the problem from different directions. Advertisements for interest were placed in trade journals and a response page was placed on the CIOB website. I was invited to give the keynote address on the CIOB's research to the Construction SuperConference in London in May 2008 and to repeat the paper in Singapore in September for the Project Management Asia Conference. I took advantage of both to invite participation in the forthcoming Guide, it was as a result of the latter that Pat Weaver from Australia, joined our group.

The first task of the Working Group was to consider what we mean by the words we use. This turned out to be an enormous task, which kept everyone busy for over five months. It produced, a comparative table of all the definitions that various bodies used for the various terms in use, a document that would have produced a book on its own! Many signed up

to the Working Groups website with an interest, and made valuable contributions from the outset. I persuaded an American chum of mine from the PMI College of scheduling, Earl Glenwright to join the group and more signed up as interested parties but did not contribute. Those who stuck it out formed the hard core of the Working Group and from April 2009 onwards much work was done in meetings around a table either at the offices of EC Harris or of Hill International, in London coupled with the contributions from Pat in Australia, Earl in America.

The process we followed was that, first, someone who was interested in dealing with a particular aspect of the subject would write something and distribute it to the group via Mark. Mark would then field commentary on it from the rest of the Group, sometimes via our discussion website, and an edited version would be tabled for group discussion.

By July 2009 we had started to draw together the various sections and it then fell to me to fill the gaps and to attempt to bring a common style to the various isolated contributions. As a result of this process, the core principle were developed together with the essential scheduling densities, strategies, quality assurance and the concept of the time model. In September 2009 four days were set aside for the editing of the work and drawing the diagrams. David Thompson, a graphic artist, was introduced to the working group and he participated in several meetings, producing his wonderful free-hand sketches.

By the end of September it was ready for peer review and Mark and Sarah Naxton, the CIOB's Marketing Communications and Web Manager, worked tirelessly with Rob Clark to place the draft and questionnaire on the website for downloading and commentary.

January 2010 came around and it was time to look at the results of the peer review. Over 200 copies of the draft had been downloaded for comment and many extensive and informed commentaries had to be reviewed and the Guide edited to account for the suggested improvements. A further series of meetings through February 2010 produced further drafts and by March 2010, the last draft was deemed fit to be sent for print.

It has been a long but extraordinary satisfying journey. The Working Group enthusiastically supported by Earl in the US and Pat in Australia have had many passionate and fascinating debates. Some have gone on for many meetings and have resulted in several drafts and re-drafts before a consensus could be achieved. However, we all recognize that this is just the beginning. Although it is the best we can do now, I doubt that before long, it will need to be revised and updated as a result of more experience and better minds turning to this subject.

The next stages of the development of time management will be in setting up an educational and training structure and providing some form of accreditation for those who achieve an appropriate level of competence in time management.

Not only will the construction industry benefit from this but, because they tend to suffer from the same difficulties, we hope that it will also be of some benefit to the industries of civil engineering, water, gas and oil, IT and shipbuilding, amongst others.

Keith Pickavance PPCIOB
Ascot, 2010