CONSTRUCTION LAW INTERNATIONAL

FROM THE IBA INTERNATIONAL CONSTRUCTION PROJECTS COMMITTEE OF THE ENERGY ENVIRONMENT, NATURAL RESOURCES AND INFRASTRUCTURE LAW SECTION (SEERIL)

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Focus on delay analysis

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Forensic schedule analysis methods

Assessing project disruption

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CONTENTS

Vol 13 ISSUE 3
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CONSTRUCTION LAW INTERNATIONAL

A Committee publication from the IBA Energy, Environment, Natural Resources and Infrastructure Law Section **tinyurl.com/IBA-SEERIL**

FEATURE ARTICLES

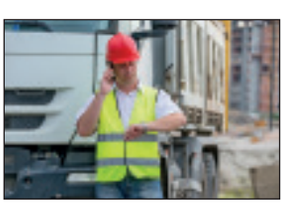
22 **Where are the expert women?**
Sandra Somers discusses the lack of gender diversity in the construction industry as it has been reported by multiple sources across the globe.

32 **Forensic schedule analysis methods: reconciliation of methodologies different results**
John Livengood and Patrick Kelly consider why different forensic schedule analysis methods produce different results on the same set of facts.

46 **Construction scheduling: issues for lawyers**
Douglas Stuart Oles shares practical experience that may assist lawyers when trying to promote the proper use of construction schedules.

52 **Delay analysis: a comparison of the UK and US approaches**
Rob D'Onofrio, Shona Frame and Laura McEwen compare some key aspects of the SCL Protocol and the ASCE Standard, and consider whether the more established SCL Protocol could learn anything from its cross-Atlantic cousin.

61 **Assessing disruption on construction projects – 'measured mile' versus 'system dynamics': a comparison**
Alexander Voigt, Moneer Khalaf, Adam Clements and Sam Mattar review major challenges confronting claimants seeking to recover disruption damages on construction projects as a context for comparing two lost productivity quantifying methods: 'measured mile' and 'system dynamics'.



69 **Continuity in analysing delay**
Thomas C Long considers how using remaining durations based on the amount of work that has been done, instead of the amount of time that has expired, can lead to erroneous results when analysing delay. The article further demonstrates how converting this data can resolve this disparity and bring continuity into the results of a delay analysis

Cover: A skyscraper boom in the City of London, which includes the 278 m (912 ft) 22 Bishopsgate, the tallest building ever to be constructed in the Square Mile. Credit: Joe Dunckley Shutterstock.

2 **FROM THE EDITORS**
3 **FROM THE CO-CHAIRS**
4 **FIDIC AROUND THE WORLD**
4 Hungary
6 Nigeria
7 Kazakhstan
10 **COUNTRY UPDATES**
10 Good faith: England
16 Good faith: Egypt

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FROM THE EDITORS

The third edition of *Construction Law International (CLInt)* 2018 includes, in addition to Country Updates and FIDIC Questionnaires, several feature articles analysing issues relating to schedule, delays and acceleration in construction projects.

Two articles were presented at the International Construction Projects (ICP) Working Weekend held in May 2018 in the Netherlands: one by John Livengood and Patrick M Kelly, who compare the use of different methodologies in forensic schedule analyses; and one by Douglas Stuart Oles, who comments on the lawyers' point of view of delay analyses.

In addition to the above, Rob D'Onofrio, Shona Frame and Laura McEwen examine the laws applicable to delay issues in the United Kingdom and the United States. Alexander Voigt, Moneer Khalaf, Adam Clements and Sam Mattar compare two of the most reliable lost productivity quantifying methods, which are the 'measured mile' method and the 'system dynamics' method in relation to disruption damages claims. Finally, Thomas Long discusses methods to ensure continuity in analysing delay.

Among the feature articles, this edition also includes an article from Sandra Somers highlighting the limited involvement of expert women in the construction industry.

The Country Updates offer an analysis of the application of the principle of good faith under English law, by Shy Jackson, and Egyptian law, by Waleed El Nemr. The different applications of the principle of good faith in common law and civil law jurisdictions is highlighted in these articles.

This edition also includes answers to *CLInt* FIDIC Questionnaire according to three jurisdictions: Hungary, Kazakhstan and Nigeria.

We hope that our readers will find this edition highly informative and we invite everyone interested in contributing to *CLInt* to submit a draft article to CLInt.submissions@int-bar.org.

We finally must inform our readers that the second part of Evelien Bruggeman's article titled 'Legal aspects of Building Information Modelling (BIM) in The Netherlands: the procurement of a work with a BIM component' will be published in the next edition of *CLInt* (Issue 4). The first part of her article was published in the July edition.

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Assessing disruption on construction projects 'measured mile' versus 'system dynamics': a comparison

The second edition of the Society of Construction Law 'Delay and Disruption Protocol' (2017) (the 'SCL Protocol'), which is already receiving some judicial approval,[1] continues to hold the 'measured mile' as the most accepted method for calculating disruption[2] – but, for the first time, the SCL Protocol now also refers to the newer method of 'system dynamics'. This article reviews the major challenges confronting claimants seeking to recover disruption damages on construction projects, including establishing causation, correctly quantifying damages, ensuring applicability to claim and acceptance in courts or arbitrations, as a context for comparing and contrasting two of the most reliable lost productivity quantifying methods[3] – 'measured mile' and 'system dynamics'.
Based on this comparison, it is evident that 'system dynamics' addresses fundamental issues of causation and quantification established in legal precedents and authoritative texts on construction law.

Claiming for disruption: a long and winding road

Disruption is defined by the SCL Protocol as:

> '[…] disturbance, hindrance or interruption to a Contractor's normal working methods, resulting in lower productivity or efficiency in the execution of particular work activities. […] Work that is carried out with a lower than reasonably anticipated productivity rate (i.e. which is disrupted) will lead to: (a) activity delay; or (b) the need for acceleration, such as increasing resources, work faces or working hours, to avoid activity delay; or (c) a combination of both – and therefore, in each case, loss and expense. Hence, 'disruption' is concerned with an analysis of the productivity of work activities, irrespective of whether those activities are on the critical path to completion of the works.'[4]

Disruption is caused by changes to the project, that is, by unplanned events and conditions that could not reasonably have been anticipated at the time of entering into the contract and directly or indirectly affect productivity and quality. The SCL Protocol description also captures, succinctly, difficulties associated with disruption and its analysis: loss of productivity; overlapping events and conditions; the impact of managerial measures; out-of-sequence work; ripple effects; quality issues; rework and so on. To be entitled to resultant damages, a contractor must address the complex nature of disruption along with the requirements stipulated in the contract, authorities on construction law[5,6] and ratified in legal precedents[7,8] namely:

- Liability: which party bears the contractual/legal responsibility for the disruptive events and conditions?
- Causation: what was the causal link connecting the change to the damages being claimed?

- Quantify damages: what additional costs were incurred because of the change?

By their nature, disruption claims do not allow precise, contemporaneous productivity measurement. As Shea[9] put it: 'One of the ironic things about loss of productivity claims is that often the very factors that produce the loss of productivity can also serve to preclude the accurate and precise record-keeping.'

Moreover, there is no rigorous methodology for quantifying such damages. Different methods (outlined in the SCL Protocol[10] and AACEI RP25R-03[11]) have been used to assess disruption on construction projects; the very existence of such a broad variety of estimating methods points to the challenges faced in claiming for disruption costs:

- disruption is not immediately apparent and not contemporaneously documented; and
- its indirect effects ripple through the project, and are often felt well after the event that caused it ended.

The literature on the practical shortcomings of these methodologies is extensive. Gemmell's recent survey[12] targeted at professional groups (experts, judges/arbitrators, lawyers and contractors) found that 74 per cent of respondents believed that 'measured mile' had been used 'successfully' less than 50 per cent of the time – and only 26 per cent of respondents reported a success rate higher than 50 per cent. Given the shortcomings of disruption analysis methodologies, the recent inclusion of 'system dynamics' in the SCL Protocol is timely. It would be instructive, therefore, to compare and contrast 'measured mile' and 'system dynamics' on the basis of criteria derived from such requirements and the complex realities encountered in disrupted projects and in the course of drafting claims.

The 'measured mile' method

'Measured mile' analysis is a method of estimating loss of productivity by comparing the productivity during an 'unimpacted' period with that achieved when the project was 'impacted'. The method is applied on an event-by-event basis, and relies on:

- the work activities performed and periods being identical (or significantly similar); and
- the 'unimpacted' period being sufficient as a baseline.

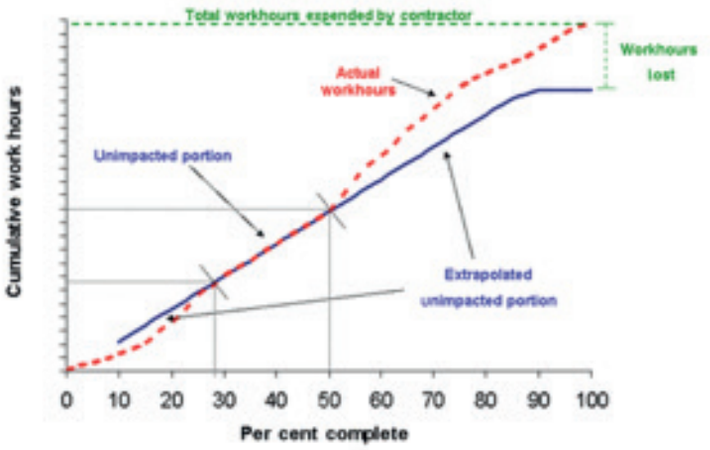

Figure 1: a graphical (original) illustration of the measured mile[13]

If these conditions are met, the productivity from the 'unimpacted' period is compared to the 'impacted' period, with the variance in productivity (delta) considered as due the impacting event.

Systems dynamics

The SCL protocol describes 'system dynamics' as:

> '[…] a computer simulation approach using specialist software to produce a model of the disrupted project. That model replicates the complex network of relationships and interactions that influence labour productivity and rework including the various stages of the project (design, approvals, procurement or manufacturing, installation, construction, commissioning and taking over), the different parts of the works, workflows and project participants, and the direct effects of the claim events.'[14]

As succinctly described above, 'system dynamics' uses simulation models that capture the complex network of causal interactions that connect project activities, decisions and performance. When 'system dynamics' is used in disruption analysis, a simulation model will first be calibrated to produce an 'as-built' simulation that faithfully matches the recorded historical performance of the project, inclusive of unplanned events and conditions (see Figure 2).

Once an 'as-built' model has been developed, a second ('but-for') simulation is run, removing the direct impacts of the unplanned events and conditions are removed. The difference

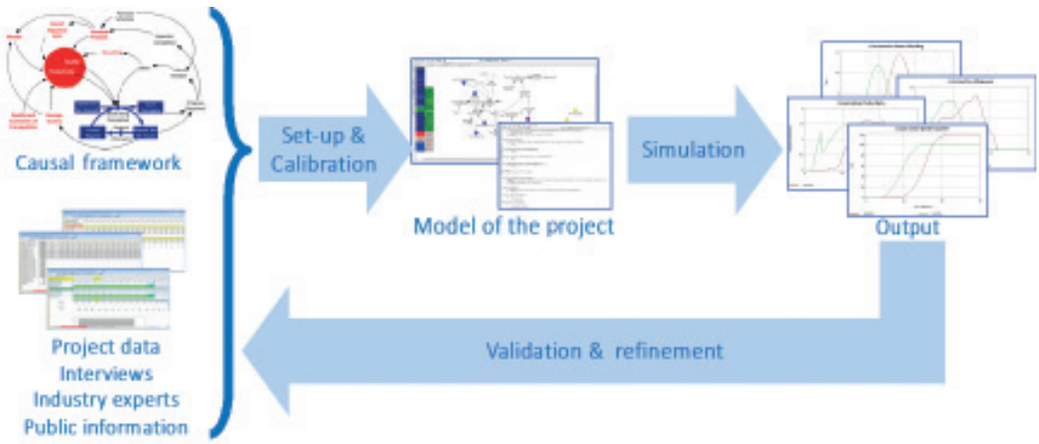

Figure 2: basic steps in the system dynamics modelling process

between simulations provides the disruption 'quantum' caused by the unplanned events and conditions being considered.

Comparison between 'measured mile' and 'systems dynamics'

This section compares how 'measured mile' and 'system dynamics' perform against criteria essential for meeting the legal tests for quantifying damages and establishing causation in a disruption claim, and thus essential for establishing entitlement and achieving recovery of disruption costs.

For clarity, the comparison will be structured around issues relating to:

1. quantifying disruption;
2. establishing causation; and
3. overall applicability and acceptance of the methodologies.

Challenge 1: quantifying disruption

Quantifying disruption properly and holistically relies on the use of productivity data, accounting for rework, and making sure that the entire project is considered.

Use of productivity data

Quantifying damages is difficult when supporting documentation and records are inadequate, which is invariably the case in disruption.

Quantifying damages in disruption is difficult when supporting documentation and records are inadequate...

'Measured mile' compares the progress per hour spent that has been achieved during the period impacted by a change to that achieved during an unimpacted period. It then uses the resulting implied loss in productivity to quantify claimable disruption costs. It is based on an event-by-event comparison of 'the productivity on an unimpacted part of the contract with that achieved on the impacted part. Such a comparison factors out issues concerning unrealistic schedules and inefficient working.'[15]

'System dynamics' is substantively different: it derives unimpacted productivity rates from actual 'as-built' efficiency, and from the number, timing and nature of the disruptive events suffered by the project.

Accounting for rework

Disruption does not just stem from losses in productivity, it is also caused by increases in rework.[16] Rework can amount to a significant proportion of construction costs and this fraction can grow exponentially in massively disrupted projects. The complicating factor when dealing with rework is that it is often incurred long after the causal event. Without a way of estimating how rework propagates through time, the full disruptive effect of a change cannot be assessed.

'Measured mile' does not explicitly address rework, and thus cannot determine which disruptive event or condition (either owner- or contractor-responsible) caused what amount of rework.

'System dynamics' recognises the challenges posed by having to address rework, and puts the latter at the heart of the methodology's causal framework: 'system dynamics'

simulation models include mathematical formulations that capture how (and when) rework is created, discovered and executed.

Applicability to the whole project

Considering the number and temporally/spatially 'expansive' nature of disruptive events, nearly all areas of the project will be impacted. For this reason, disruption claims should address the totality of the works so as to recover the sum total of disruption costs suffered.

Given also that the 'measured mile' requires the baseline be 'unimpacted', it is evident that the applicability of the method would be limited; and almost certainly rarely able to address the entire project.

'System dynamics' is based on the ability of its simulation models to faithfully reproduce the actual performance of entire construction projects. To achieve this, models capture ripple effects of causal events and project decisions, showing how any change eventually impacts all subsequent areas/period of the project. In brief then:

Challenge 2: establishing causation

Quantification issues	Measured mile	System dynamics
Use of productivity data	Productivity losses based on actual project data	Productivity rates calculated from calibrated as-built model
Accounting for rework	Does not account for rework	Rework dynamics are at the heart of the models used
Applicability to entire project	Analysis limited to works comparable to those performed in the 'unimpacted mile'	Models capture disruption across the whole project

In disruption claims, it is essential to establish a causal nexus for productivity losses; retrospective reliance on contemporary records to try to establish causation (cause and effect) is inadequate for evidencing a loss of productivity claim because of the very nature of disruption, such as the ripple effects and multiple causes that are not readily demonstrated by documentation.

Providing a causal narrative

It is necessary for a contractor to prove that an employer's actions resulted in disruption, and then to prove the effect and costs of the disruption. This involves an analysis of the sequence of events and the causal processes that connect the occurrence of events to their intricate outcomes, within a set of initial conditions.

'Measured mile' itself does not deal with causation,[17,18] it simply compares the difference between impacted and unimpacted productivities. To bridge this gap, proponents of 'measured mile' warn about the need to offer some indication of causation and, sometimes, propose to combine this method with others; for example, 'standards' for productivity losses caused by certain types of events.[19] This is a limitation of the 'measured mile' approach.

'System dynamics' is based on a causal framework that describes how project conditions, decisions and changes interact, and how these interactions determine project performance, causing disruption. As such, 'system dynamics' can deliver assessments for causal narratives explaining, step-by-step, how they caused the losses being claimed and how much any given unplanned event impacted project productivity.

Differentiating disruptive impact by event

A court will not deny a claim for damages on the ground that it is difficult to establish the exact amount of the loss. However, a contractor has to establish the cause of the losses event by event. Given that the inability to separately account for contractor inefficiency is one of the key criticisms of global claims,[20] it is essential that the methods demonstrate the causal link although calculating damages may be complicated. The ability to attribute disruptive events individually is a critical requirement of a robust claim: thus, the damages being sought are specifically linked to the events forming the basis of the claim.

Moreover, as a practical matter, the ability

The ability to attribute disruptive events individually is a critical requirement of a robust claim.

to attribute and assess disruptive events individually allows for greater flexibility in the analysis, making it faster and easier to adapt to new data or new circumstances (for example, if liability for the disruption is in fact the contractor's and not the employer's).

'Measured mile' compares the 'as-built' productivity with an 'unimpacted baseline' – and is thus only able to determine the combined impact of all disruptive events that occurred in the unimpacted period.

'System dynamics' models are fed with data describing each disruptive event, and the analysis process can separately keep track of the disruptive impact of each one. The non-linearity of the equations used in 'System dynamic' simulation models also allows them to effectively (and consistently) deal with the cumulative impact of any combination of any number of events.

Accounting for contractor disruption

Some amount of disruption will always be a contractor's own responsibility. Thus, assessment of disruption must be able to account for this. As aptly stated by Lord Macfadyen:[21] 'If the causal events include events for which the defender bears no liability, the effect of upholding the global claim is to impose on the defender a liability which, in part, is not legally his. That is unjustified.'

The 'measured mile' compares productivity between the impacted and unimpacted periods and works, with the loss of productivity being the 'disruptive impact'. The approach is unable to differentiate between employer and contractor-caused disruption.

In 'system dynamics', the as-built model includes all disruptive events and conditions, including the contractor's own productivity losses. The 'but-for' simulation will eliminate only the impact of the employer-risk events causing disruption; that is, the contractor's own productivity losses and disruption remain the contractor's and are excluded from quantification.

Challenge 3: applicability and acceptance

In addition to legal challenges, there are such practical issues as availability of data, validation of results, disruption considerations of time, when methods can be applied, how they are perceived by courts, and so on; these are also relevant

Data availability

'Measured mile' relies on the availability of an 'unimpacted period' – and these 'clean miles' are not always readily available: real projects are usually subjected to changes, and finding any unimpacted periods can be extremely difficult.

> 'It is also true that [Measured Mile] cannot be applied on many construction projects for a host of reasons, two being the lack of detailed productivity record keeping and the lack of suitable or comparable unimpacted areas or time frames.'[22]

Data availability is also of concern to 'system dynamics', which deals much more flexibly with this issue: beyond data for the unplanned events and conditions, the methodology can be applied with a minimum amount of basic historical data, which should easily be available (time series for actual manpower and progress achieved.)

Validation of results

Disruption assessments must meet admissibility requirements as experts or 'opinion evidence' by tribunals or courts (see for example

Causation issues	Measured Mile	System Dynamics
Providing a causal narrative	Does not help establish a causal narrative	Models recreate causal mechanisms driving efficiency, supporting a causal narrative for losses
Differentiating impacts by event	Does not allocate overall disruption to different events	Explicitly allocates disruption to each event
Accounting for contractor disruption	Does not account for contractor disruption	Contractor's self-inflicted disruption accounted for separately

Applicability and acceptance	Measured mile	System dynamics
Providing a causal narrative	Applicable as long as a relevant 'unimpacted mile' can be found	Applicable with a minimum of available historical data, confidence in results increases with availability of additional hard and soft data
Validation of results	No obvious mechanism exists to validate the accuracy of claim estimates	Modelling process follows the scientific method, confidence range surrounding claim estimates can be determined
Interaction of disruption and delay	Does not deal with delays	Models simulate all major aspects of project performance, including schedule issues and delays
General acceptance	Recommended by SCL Protocol and AACEI RP25R-03	Included in rev2 of the SCL Protocol

Daubert[23] in the United States, and *Kennedy v Cordia*[24] in the United Kingdom). For their conclusions to be accepted, the results must be credible, objective, robust, and able to withstand scrutiny and detailed examination. In practice, this means that the closer the methodology follows the 'scientific method', the greater the likelihood of its analyses being accepted. A key element of the 'scientific method' is that hypotheses (here the alleged 'cause and effect' of a disruption event) can be tested, falsified and corrected or improved.

The results of the 'measured mile' are based on the comparison between two project periods, but the methodology cannot test the validity of its assumptions; for example, the impacted and unimpacted periods are hardly ever 100 per cent comparable, and there is no way for 'measured mile' to determine how this affects the accuracy and validity of the analysis results.

In 'system dynamics', the analysis accords with the scientific method: the simulation model is, in effect, a 'recreation' of what caused the project to perform as it did. This hypothesis is tested by requiring that the model's 'as-built' simulation be consistent with all relevant information about the project. Moreover, 'system dynamics' can quantify the accuracy ('90 per cent confidence range') of its claim estimates.[25]

Interaction of disruption and delay

In practice, the distinction between delay and disruption is often misunderstood; for example, sometimes delay and disruption are considered to be unrelated and, at other times, disruption is deemed to be caused by delays.

In reality, disruption and delay events are part of a continuum: any disruptive event will cause at least some amount of delay to some of the works, and any delaying event will cause at least some amount of disruption to some of the works. Indeed, it is often the case that large amounts of the 'as-built' schedule delay will have been caused by a multitude of small disruptive changes, which is typically not considered during more traditional time impact analyses.

While 'measured mile' does not address delays, 'system dynamics' recognises the interconnectedness of delay and disruption: its simulation models include variables representing schedule and delay, and these factors have an impact on efficiency, and are in turn indirectly impacted by it as well.

General acceptance

The 'measured mile' approach is generally accepted, although it has historically still suffered from acceptance problems in the courts.

The use of 'system dynamics' is increasing, and the industry's awareness of this methodology is growing (as evidenced by its inclusion as one of the generally accepted methods of disruption analysis listed in the SCL Protocol.

In brief

Figure 3 compares the reliance and performance of 'measured mile' and 'system dynamics' in addressing the challenges inherent to determining causation and quantifying damages in disruption claims:

…the results must be credible, objective, robust and able to withstand scrutiny and detailed examination…

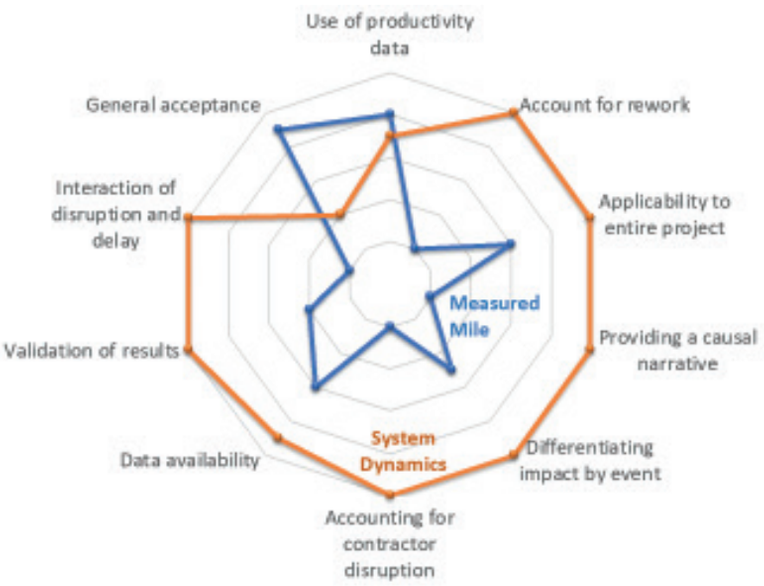

Figure 3: comparison of 'measured mile' v 'system dynamics'

Clearly, the 'Measured Mile' method has significant challenges in how appropriate, or correct, or effective, or defensible it is when applied to calculate loss caused by disruption and/or in demonstrating causation.

The ability of 'system dynamics' to establish causation and to quantify losses separately for each causing event (regardless of the party responsible) appears to be leading to more assured defensibility, significantly higher recovery rates and greater acceptance in the legal community and in courts and tribunals.

Simulation software is becoming much more transparent and easier to use, and accordingly the use of 'system dynamics' in disruption claims is likely to continue to grow, especially since it complies fully with the criteria for evidentiary admissibility and the requirements to prove a disruption claim.

Notes

1 *Santos Ltd v Fluor Australia Pty Ltd* [2017] QSC 153 at [111] – [112]; quoted by Matthias Cheung in 'Taking the measured mile' in Construction Law November 2017.

2 Society of Construction Law Delay and Disruption Protocol (2nd edn), February 2017, p 47.

3 William Ibbs, Nguyen, Long Dee, and Seulkee Lee, (2007) Quantified Impacts of Project Change; Journal of Professional Issues in Engineering Education and Practice, Vol 133, No 1.

4 SCL Op Cit (2), p 48.

5 Keating on Construction Contracts, [10th edn, 2016], para 8-062: 'Disruption claims are often difficult to establish and the evidential requirements for proving disruption claims should not be underestimated. In short the contractor must establish: (a) that there was disruption of its activities, (b) that the disruption was caused by a matter which attracts liability under the contract or for its breach, (c) how much disruption was caused, and (d) what sum is required either pursuant to the contract or as damages for its breach to recompense the contractor for the disruption.
In practice these stages are often elided. Thus primary evidence will be required explaining the nature of the disruption and its cause. In general the closer this evidence is to the "coal face" the more convincing it is likely to be. However once such evidence is given, and assuming it is compelling, considerable work will still be required measuring the extent of the disruption and its financial effect (i.e. stages (c) and d)).'

6 Reginald M Jones 'Claims for the Cumulative Impact of Multiple Change Orders' cites the case '*Centex Bateson Construction Co, VABCA* No 4613, 99-1 BCA para 30,153, at 149,259, 1998. Jones 2001': 'Despite a general recognition of the legal entitlement, little agreement exists as to how the claim should be characterized and what the contractor must prove in order to prevail on such a claim. In general, a contractor seeking to recover for the impact costs of numerous changes on unchanged work must prove three essential elements: liability, causation, and resultant injury. Of these three elements, causation and resultant injury present the largest obstacles to recovery.'

7 Lord Macfadyen in *John Doyle Construction Ltd v Laing Management (Scotland) Ltd* [20012] BLR 393 at para 35 stated: Ordinarily, in order to make a relevant claim for contractual loss and expense under a construction contract [...] the pursuer must aver (1) the occurrence of an event for which the defender bears legal responsibility, (2) that he has suffered loss or incurred expense, and (3) that the loss or expense was caused by the event.

8 *Warwick Construction Inc, GSBCA* Nos 5070 et al, 82-2 BCA 16,091 at 79,854: It has always been the law that in order to prove entitlement to an adjustment under the contract or for its breach, a contractor must establish the fundamental facts of liability, causation, and damage.

9 Shea, Thomas E, Proving Productivity Losses in Government Contracts, 18 Pub Contract LJ 414 (1989).

10 SCL Op Cit (2), p 46

11 Association for the Advancement of Cost Engineering (AACE) International, 'Estimating Lost Labor Productivity in Construction Claims' Recommended Practice No 25R-03

12 Robert Gemmell, (2016), 'The quantification of loss caused by disruption – how appropriate is the measured mile?' Survey extracted from 'Masters in Construction Law and Practice' at The University of Salford, UK.

13 Dwight A Zink, (1986), 'The measured mile: Proving construction inefficiency costs', 28(4), Cost Eng, 19.

14 SCL Op Cit (2), p 48.

15 SCL Op Cit (2), p 48.

16 SP Dozzi and Simaan M AbouRizk (1993) 'Productivity in Construction Institute for Research' in Construction, National Research Council of Canada, NRCC 37001.

17 H Randolph Thomas, (2010) 'Quantification of Losses of Labor Efficiencies: Innovations in and Improvements to the Measured Mile', (2 2) (2010) Journal of Legal Affairs and Dispute Resolution in Engineering and Construction, ©ASCE, ISSN 1943-4162/2010/22/106/7/: 'Using this approach is often unsuccessful, especially with juries because no cause-effect relationship can be established.'

18 Mechanical Contractors Association of America (MCAA), 'Change Orders, Overtime and Productivity' (2016), p144: 'The [Measured Mile] analysis should be accompanied by a cogently written narrative that connects the causes with the effects.'
19 *Ibid.*
20 Keating on Construction Contracts, [10th edn, 2016], para 19-038: '*[A composite financial claim] might also conceivably fail if the court were to find that proper separate identification and linking of the factual consequences constituting the contractor's entitlement to claim and his losses could have been made.*'
21 *John Doyle Construction Ltd v Laing Management (Scotland) Ltd* [2002] BLR 393.
22 MCAA Op Cit (19) p 102.
23 *Daubert v Merrell Dow Pharmaceuticals, Inc*, 509 US 579, 113 S Ct 2786, 125 L Ed 2d 469 (1993)
24 *Kennedy v Cordia (Services) LLP* [2016] UKSC 6
25 James M Lyneis and David N Ford, 'System dynamics applied to project management: a survey, assessment, and directions for future research'; (23 2/3) (2007) System Dynamics Review 157.

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To read more on IBAHRI activities, download the IBAHRI Annual Review 2017 at **tinyurl.com/IBAHRI-Annual Review2017**.

IBAHRI 2017 HIGHLIGHTS IN NUMBERS:

27 grant-funded projects

£779,884 grant expenditure

5,660 Facebook followers

3,213 Twitter followers

2 reports published

29 trial hearings observed

12 legal consultants

missions undertaken

665 individuals trained

19 intervention letters

1 IBAHRI Council Resolution on armed drones

14 countries

£39,850 awarded for IBAHRI Trust intern scholarships

Construction Law International

Guidelines for submission of articles and updates from around the world

Articles should be submitted to **clint.submissions@int-bar.org**.

Articles/features should normally fall in the range between 3,000 and 4,000 words.

The author's name will appear with title but without post-nominal letters etc. Please provide a very short description (<20 words), which should include the author's name, firm or organisation, city and email. For example: '[name] is a [role] at [firm] in [city] and can be contacted at [email].'

As this publication is aimed at busy lawyers, please provide a 50- to 100-word summary, which would serve as the 'standfirst' (or introductory paragraph). This summary could be written in the form of a question or could state a problem that the article then deals with, or could take the form of some bullet points. Article titles should be 5–10 words long.

Endnotes are to be used for citations only. Footnotes are not used in this publication.

We welcome any graphs or other visual illustrations, including photographs that enhance the article.

The Editorial Board cannot guarantee publication. All contributions may be subject to evaluation by the Editorial Board prior to publication.

Updates can be up to 1,500 words, and should address a recent (from the last six months) court decision or change in local law of relevance to construction projects.

Terms and conditions

The article must be the original work of the author, must not have been previously published, and must not currently be under consideration by another publication. If it contains material that is someone else's copyright, the unrestricted permission of the copyright owner must be obtained and evidence of this submitted with the article and the material should be clearly identified and acknowledged within the text. The article shall not, to the best of the author's knowledge, contain anything which is libellous, illegal or infringes anyone's copyright or other rights.

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Construction Law International is intended to provide commentary and general information. It should not be relied upon as legal advice. Formal legal advice should be sought in particular transactions or on matters of interest arising from this publication.

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International Bar Association Conferences 2019




17–18 JANUARY 2019 THE FULLERTON HOTEL SINGAPORE, SINGAPORE
5th IBA Asia Law Firm Management Conference: The Future is Here – Are We Ready?

28–29 JANUARY 2019 ST PAUL'S ETC VENUES, LONDON, ENGLAND
8th Annual IBA Finance & Capital Markets Tax Conference

7 FEBRUARY 2019 CITY CENTRE ROTANA DOHA, DOHA, QATAR
Free Zones and Foreign Investments

7–8 FEBRUARY 2019 WESTIN PARIS, PARIS, FRANCE
7th IBA European Corporate & Private M&A Conference

18–19 FEBRUARY SHUTTERS ON THE BEACH, SANTA MONICA, CALIFORNIA, USA
4th Silicon Beach Conference

27 FEBRUARY 2019 TOKYO, JAPAN
The Fundamentals of International Legal Business Practice

27 FEBRUARY – 1 MARCH 2019 HOTEL NEW OTANI, TOKYO, JAPAN
6th Asia Pacific Regional Forum Biennial Conference

4–5 MARCH 2019 CLARIDGE'S, LONDON, ENGLAND
24th International Private Client Conference

10–12 MARCH 2019 INTERCONTINENTAL, LONDON, ENGLAND
20th Annual International Conference on Private Investment Funds

14–15 MARCH 2019 FAIRMONT THE QUEEN ELIZABETH, MONTREAL, CANADA
22nd Annual International Arbitration Day

20–22 MARCH 2019 W SANTIAGO HOTEL, SANTIAGO, CHILE
Mergers and Acquisitions in Latin America: Challenges and Best Practices in the Era of Compliance

21–22 MARCH 2019 THE LANDMARK HOTEL, LONDON, ENGLAND
Insurance – A guide to a changing legal landscape

27–29 MARCH 2019 FAIRMONT, DUBAI, UAE
11th Annual Real Estate Investment Conference

28–29 MARCH 2019 EUROSTAR GRAND MARINA, BARCELONA, SPAIN
4th Mergers and Acquisitions in the Technology Sector Conference

3–5 APRIL 2019 WESTIN PARIS, PARIS, FRANCE
IBA Annual Employment and Discrimination Law Conference

10–12 APRIL 2019 SHERATON GRAND HOTEL RESORT, RIO DE JANEIRO, BRAZIL
RMMLF/IBA International Mining and Oil & Gas Law

13 APRIL 2019 THE HAGUE, THE NETHERLANDS
The Next Big Questions for International Criminal Justice

29–30 APRIL 2019 HOTEL PRINCIPE DI SAVOIA, MILAN, ITALY
30th Annual IBA Communications and Competition Conference

7–8 MAY 2019 JW MARRIOTT, WASHINGTON DC, USA
35th Annual IBA/IFA Joint Conference on International Franchising

8–10 MAY 2019 RITZ CARLTON, BERLIN, GERMANY
IBA Annual Litigation Forum: Disruption in Litigation – new types of disputes in a new world order

15–17 MAY 2019 ADLON KEMPINSKI, BERLIN, GERMANY
36th IBA International Financial Law Conference

15–17 MAY 2019 BUENOS AIRES, ARGENTINA
22nd Annual IBA Transnational Crime Conference

19–21 MAY 2019 CONRAD, NEW YORK, USA
30th Annual Conference on the Globalisation of Investment Funds

19–21 MAY 2019 SAO PAULO, BRAZIL
25th Global Insolvency and Restructuring Conference

20–21 MAY 2019 ODD FELLOWS MANSION, COPENHAGEN, DENMARK
5th IBA Global Entrepreneurship Conference: The Nordic model – rising up to the global challenge

21–22 MAY 2019 GRAND HOTEL, OSLO, NORWAY
Maritime and Transport Law Conference: Opportunities and Risks in Shipping in 2019

22–23 MAY 2019 CORINTHIA, BUDAPEST, HUNGARY
14th Annual Bar Leaders' Conference

31 MAY – 1 JUNE 2019 PHILADELPHIA, USA
7th Annual World Life Sciences Conference

4–5 JUNE 2019 THE PLAZA, NEW YORK, USA
18th Annual International Mergers & Acquisitions Conference

6–7 JUNE 2019 IMPERIAL HOTEL, TOKYO, JAPAN
15th Annual IBA Competition Mid-Year Conference

13 JUNE 2019 LONDON, ENGLAND
2nd European Fashion and Luxury Conference

25–26 JUNE 2019 OECD, PARIS, FRANCE
17th Annual IBA Anti-Corruption Conference

6–7 SEPTEMBER 2019 FLORENCE, ITALY
23rd Annual Competition Conference

21 SEPTEMBER 2019 SEOUL, SOUTH KOREA
Fundamentals of International Legal Business Practice: IBA Young Lawyers' Training

22–27 SEPTEMBER 2019 COEX CONVENTION & EXHIBITION CENTER, SEOUL, SOUTH KOREA
IBA Annual Conference 2019

IBA 2019
SEOUL 22–27 SEPTEMBER
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