



In this, our Winter 2015-2016 newsletter, our two articles focus on disruption and productivity.

The first Article is an extract from my second book “A Practical Guide to Disruption and Productivity Loss on Construction and Engineering Projects”, published by Taylor & Francis in July 2015. The article/extract gives a general overview of disruption and productivity loss.

Our second article is titled, ‘Causation and Cause & Effect Analysis’. The article discusses proving causation and cause and effect analyses, particularly to demonstrate loss of productivity.

If you wish to discuss any of the matters or points we raise in these articles, please do not hesitate to make contact.

Roger Gibson
March 2016

An Extract from Roger Gibson’s book, “A Practical Guide to Disruption and Productivity Loss on Construction and Engineering Projects”, published by Taylor & Francis in July 2015

Introduction

This book is a practical text that seeks to demystify the measurement of site labour/resource productivity.

In line with the Society of Construction Law Delay and Disruption Protocol launched in October 2002, this book also puts forward a rational and sufficiently accurate method of quantifying the effects of disruption in terms of both cost and time.

Disruption claims impact on the whole of the construction industry and so this book is written for all those members of the construction industry who are involved in submitting, evaluating, awarding, managing and resolving disruption claims.

It is my view that the methods used to quantify disruption must be readily usable by site management. Agreement at this level is the target of the solutions proposed, as it is hoped that this prevents the claim escalating to the formal dispute resolution procedures. It has been my experience that resolving claims for delay and disruption at site level reduces the souring of site relationships, prevents loss of senior management/head office time, which in turn prevents the cost of formal dispute resolution (adjudication, arbitration and litigation).

The solutions proposed in this book also seek to be realistic and recognise that in practice any method of quantifying the cost and time effects of delay and disruption must be sufficiently accurate, robust and useful so that the method employed at site level can also be used (if needed) by adjudicators, arbitrators and judges.

Construction disputes, albeit nominally about money, invariably involve issues to do with time. Extension of time claims self-evidently involve time, as do claims for Liquidated Damages.

Similarly, claims for prolongation costs, loss and expense or disruption are all fundamentally about time. The effective management of time is therefore a part of everything we do in construction and it is at the heart of all construction contracts.



An Extract from Roger Gibson's book, "A Practical Guide to Disruption and Productivity Loss on Construction and Engineering Projects", published by Taylor & Francis in July 2015 (Cont'd)

Cost and time are interdependent. From a project management perspective, the treatment of cost (most commonly in the BoQ) and time (in the programme) as independent models fails to provide a mechanism of direct performance/efficiency comparison. It also prevents the systematic evaluation of the effects of variations and delay. Delay and disruption are associated with time and will often have a related impact on cost.

Whilst it may be tempting to require the development of a system that can quantify the costs associated with disruption to almost laboratory standards, it must be remembered that the construction site is not a laboratory and it is simply uneconomical, impractical, unnecessary and unrealistic to expect to develop such a complex system. In practice, there is a need to balance the desire for extreme accuracy with practical reality - this book recognises this practical hindrance and therefore proposes a solution that is sufficiently accurate for the quantification of disruption claims.

This book aims to demonstrate how the actual site labour productivity measurements can be used to provide an objective and automatic basis for quantifying the effects of disruption in terms of cost and time to arrive at a figure for the loss/expense payable to the contractor. The present position in construction disruption-based disputes is that settlement is often reached after extensive, and sometimes highly subjective, negotiations. The parties' positions are usually severely weakened by a lack of records that may actually demonstrate the effect of a "disruptive" event on the contractor's work operations. If the contractor's productivity could be recorded sufficiently accurately and simply, it could be used as objective evidence to accurately demonstrate the effect the disruption has actually had on the site productivity. The equating of labour productivity loss to disruption is therefore a realistic and objective measure of the effect of disruption on the contractor's work operation.

Delays are an endemic feature of the construction and engineering industries.

In the construction industry, the aim of project control is to ensure the projects finish on time, within budget and achieving other project objectives. It is a complex task undertaken by project managers in practice, which involves constantly measuring progress; evaluating plans; and taking corrective actions when required. During the last few decades, numerous project control methods, such as Gantt Bar Chart, Program Evaluation and Review Technique (PERT) and Critical Path Method (CPM), have been developed. A variety of software packages have become available to support the application of these project control methods, for example Microsoft Project, Asta Power Project, Primavera, etc.

Despite the wide use of these methods and software packages in practice, many construction and engineering projects still suffer time and cost overruns.

There have been numerous studies on the identification of influencing factors of project time and cost overruns worldwide. These studies have found that the most important variables causing construction delays and disruption are poor contract management, financing and payment of completed works, changes in site conditions, shortage of materials, imported materials and plant items, design changes, subcontractors.

The Aims of This Book.

There are a number of excellent books on construction claims; and many other construction books that devote sections and chapters to construction claims. However, the majority of these books give very little guidance on the preparation of disruption or loss of productivity claims.



An Extract from Roger Gibson's book, "A Practical Guide to Disruption and Productivity Loss on Construction and Engineering Projects", published by Taylor & Francis in July 2015

(Cont'd)

Throughout this book the term 'Disruption' is used; being a generalisation to cover both disruption, loss of productivity and acceleration submissions and these aspects of loss and expense claims. Although there are various 'Disruption' analysis techniques around today, in its essence disruption and/or loss of productivity is a fact based process.

The aim of this book is to provide this guidance, particularly in relation to loss and expense submissions. The contents of this book are intended to give its readers the information and practical details to be considered in formulating disruption, loss of productivity and acceleration submissions,

One of the recurring themes in this book is good record keeping on projects. Whilst a lack of progress related records may not be fatal to a claim, it does make a reasonable settlement into an uphill battle. Readers will observe my continuing advice on good record keeping.

Testimonials

Here are two extracts from an Adjudicator's Award, where Roger Gibson's Expert Report was presented by the Referring Party in a dispute regarding an extension of time.

"I accept Mr Gibson's opinion that the period programmed for the M&E works in the xxx was reasonable and that this was work which was probably most dependant upon weathertightness and roof completion."

"I therefore give greater weight to the report of Mr Gibson."

Here are four extracts from an Adjudicator's Award, where Roger Gibson's Expert Report was presented by the Responding Party in a dispute regarding an extension of time, and disruption.

"For the reason that Mr Gibson has undertaken a detailed analysis, I regard his evidence to be of critical importance to me."

"Furthermore, Mr Gibson has answered the criticisms of his first report in a further report submitted with the Rejoinder."

"I therefore accept Mr Gibson's conclusions that further delay occurred during this 'window', but that in accordance with his charts that the additional delay was 10 workdays, not 32 as claimed."

"I accept the conclusions of the expert evidence of Mr Gibson that the delays and disruption to xxx's works were not caused as a consequence of their own failures."

"Dear Mr. Gibson, I read your book Construction Delay: Extension of Time and Prolongation Claims and really enjoyed with your clear and concise style on such a difficult subject."

Mr W.Jook, Hong Kong.



Causation and Cause-Effect Analyses

When carrying out a loss of productivity analysis, three points make up a “triad of proof”: causation, liability and resultant injury. This article focuses particular attention on the role of causation.

For a contractor to be granted additional compensation for loss of productivity, he must show that the employer’s action, or lack of action, caused the contractor to incur additional expense.

Is causation sufficient?

Firstly, when the employer causes a disruption, the contractor is not automatically entitled to additional compensation, e.g. loss and expense. To recover additional compensation for project inefficiencies, the contractor must prove (1) liability, i.e., the employer was contractually responsible for the impact, (2) causation, i.e., the impact caused the labour overrun, and (3) resultant cost increased, i.e. the impact caused a compensable loss.

Each element of the triad must also be linked as shown in Figure 1.

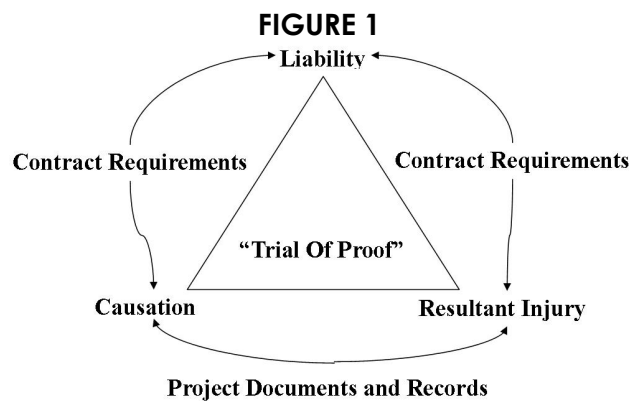


Figure 1. “Trial Of Proof”

The employer needs to know what he did to harm the contractor. Additionally, the contractor needs to show that the contract placed this risk on the employer, and there is reasonable certainty in the resultant injury. Otherwise, the contractor is unlikely to recover any compensation. Thus, the contractor is subject to this “fundamental triad of proof”: liability, causation, and resultant injury.

Proving Causation

Proving causation is a formidable challenge. A discussion of types of causes may seem trite, but it may mean the difference between recovery and no recovery. First, the cause should be employer-caused. Logically, it should be an event. Examples include denial of a time extension when one is justified, an ill-timed change, a constructive change, untimely submittal reviews, and many other events. Each can be proven with some degree of certainty through project documents and records. There is no doubt the event occurred. Additionally, one should be able to establish a link between the event and the contract; a time extension was promised for the reasons stated in the contract or a change should have been given because something not called for in the contract documents was required to be done.

Cause and Effect

The cause-effect link is demonstrated through a careful and thorough review of project documents and records. Interviews with project personnel may be required to clarify and define the details of project events. The interviews are not intended to solicit opinions and assessments. Rather, they should be exclusively for ascertaining facts.



CAUSATION AND CAUSE-EFFECT ANALYSES(Cont'd)

Educating the other party is paramount to promoting a settlement and making sure an Adjudicator, Arbitrator or Judge understands the issues. A valuable rule of thumb is to keep the discussion simple and to concentrate on a few core issues or root causes. Sometimes, it is helpful to construct a cause-effect diagram, like the one shown in Figure 2.

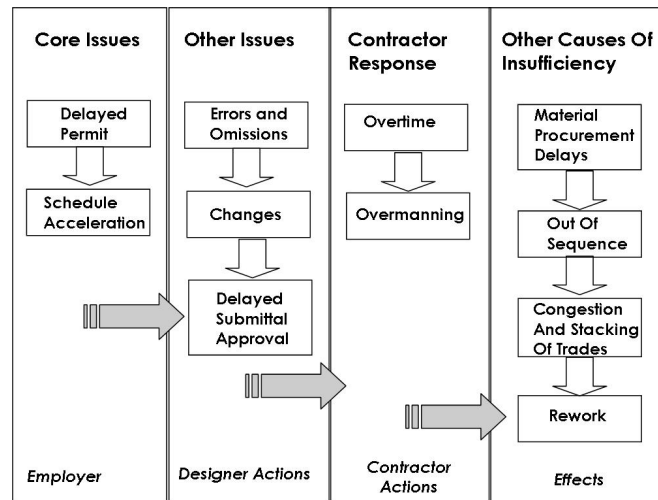


Figure 2.

In this example, the owner is late in obtaining a needed access permit, which delays the start of the work. The owner accelerates the schedule by refusing to grant a time extension. Other causes of loss of productivity, like changes or design deficiencies are often events that happen on a project. It is important to link the events of the claim to the labour inefficiencies, like lack of materials, out-of-sequence work, or rework. In Figure 2, the delayed permit ultimately caused material procurement delays, out-of-sequence work, congestion, stacking of trades, and rework.

Contact Us

Details of our services can be found on our website, <http://www.gibsonconsulting.co.uk/>, but if you would like to discuss how we can help you, Please don't hesitate to contact

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