

Disputes in Time Bar Provisions for Contractors' Claims in Standard Form of Contracts

Krisanthi SENEVIRATNE¹ and Gladstan Vimal MICHAEL²

School of Energy, Geoscience, Infrastructure and Society, Heriot Watt University Dubai Campus, UAE

¹Email: K.Seneviratne@hw.ac.uk

²Email: GM290@hw.ac.uk

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Abstract

The time bar clause facilitates informing the Engineer (Contract Administrator) in a timely manner of the occurrence of events that may result in delayed completion and/or incur additional costs. Such notices allow parties to mitigate any potential impacts in terms of time and/or cost. Nevertheless, the time bar clause forfeits a contractor's claim, if the notice of claim is not submitted within the stipulated time in the contract, giving rise to numerous disputes. The purpose of this study is to identify the disputes surrounding the time clause in the FIDIC 1999 Red Book, which is an internationally used Standard Form of Contract (SFoC) for building and engineering works designed by the employer. After identifying the sources of disputes and modifications to the standard provisions via a comprehensive literature review, the researchers conducted an online questionnaire survey with 61 construction contract professionals (employers, contract consultants and contractors) and semi-structured interviews with four contract specialists to determine the level of agreement with the identified sources of disputes and modifications to standard provisions. Sources of disputes and modifications were ranked based on the Relative Agreement Index (RAI) from the survey. Interviews were qualitatively analysed to identify agreement/disagreement and the reasons for the agreement/disagreement. Good faith obligation by the employer to allow EoT and additional payment is identified as the most agreed upon source of dispute by the survey respondents (RAI = 0.62, medium agreement). Interviewees commented that a good faith obligation by the employer is in opposition with the contract. Survey and interview respondents agreed that employers generally modify the time bar clause unfairly by reducing the notice period (RAI = 0.71, medium agreement). Among the

appropriate modifications to standard provisions, allowing dispute resolution methods to consider whether a late notice is fair and reasonable under the circumstances of the event (RAI =0.79, medium agreement) and express statement of notice of claim is a condition precedent (RAI = 0.76, medium agreement) were identified as appropriate modifications. Results also show that contract consultants and contractors strongly agreed on all attributes.

Key words: Claims; Disputes; FIDIC; Time bar provisions; UAE

1. Introduction

Owing to the complex nature of construction projects, it is always prudent to have legal contracts, which define schedules, cost and quality requirements; set rights and obligations of the parties; inform parties of risks and provide for dispute resolution (Ashworth, 2006). Latham (1994) advises the construction industry to use Standard Form of Contracts (SFoC) to reduce disputes arising from disparities in bespoke contracts. SFoC also alleviate complexities, time and cost of drafting new contracts. Most SFoC enable contractors to request an Extension of Time (EoT) and additional payment related to events specified in the contract (RICS, 2003). Construction contracts generally contain provisions that require the contractor to give notice when such events occur. Certain SFoC require contractors to serve notice within a specified period of time; in fact, contractors may lose contractual rights if they fail to give notice within the defined time period (Lal, 2002). The significance of giving notice is to inform the employer and contract administrator (Engineer in the International Federation of Consulting Engineers (FIDIC)) that an event has occurred, which may result in delayed completion of the project and may incur additional cost (Longley, 2012). This allows for a timely and effective review of the event, mitigates the risks and permits proper evaluation of the claim (Lal, 2007). Therefore, the intent of an early notice is to prevent an event from becoming a major issue or source of dispute (Bunni, 2005; Meng, 2014). Jones (2009) believes that these early notice provisions not only benefit the employer but also the contractor by enabling him to present a claim in a timely and orderly manner. Qady et al. (2013) indicates that even though a notice of a claim of an event is significant in all projects, it is very critical in public projects due to the onerous administrative procedure for handling claims.

Thomas (2001) argues that despite the benefits, SFoC may contain some aspects that are compromised to satisfy all the parties in an attempt to balance risk distribution. Therefore, disputes

related to obligations, misinterpretation, ambiguity and unexpected events are common in SFoC (Thomas and Ellis, 2008). As many SFoC obligate contractors to notify the other party of a claim within a stipulated time period, one source of construction disputes is notice of submission of claims (Gibson, 2008; Longely, 2012). Within this context, this study focuses on examining the disputes related to the time bar clause as a way of developing an approach to minimise the disputes related to time bar provisions. The study has two objectives. First, to identify the sources of disputes that arise when contractors do not comply with the time bar clause and to identify both unfair and appropriate modifications to the standard provisions through a comprehensive literature review. Second, to empirically identify the level of agreement with the identified sources of disputes and modifications to standard provisions and determine whether employers, contractors and contract consultants agree with the same level.

As an internationally used SFoC, this study focuses on the '*Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer, 1999, 1st edition*' (hereinafter referred to as FIDIC), which structure the relationship between the contractor and employer under the traditional procurement route. The FIDIC is also widely used in the United Arab Emirates (UAE), where the study is conducted.

The claims procedure is provided in detail in FIDIC—clause 20 and sub-clause 20.1 set out the procedures and obligations that contractors must comply with to pursue a claim and the consequences of non-compliance. According to Hilling et al. (2010), the most cited clauses in SFoC are the clauses which enable the contractor to claim losses and expenses and also for EoT for completion. Kululanga et al. (2001) highlight that the first and most important step in any claims process is identifying the claim on time. The next critical step is notifying the other party of the claim within the time bar to reserve the rights to claim additional cost and time (Lal, 2002). Examination of sub-clause 20.1 shows that it is the obligation of the contractor to notify the Engineer.

[T]he Contractor shall give notice to the Engineer, describing the event or circumstance giving rise to the claim.

The notice should contain enough information to properly describe the event as well as the circumstances surrounding the event, including the sub-clause to which the claim applies (Battrick and Duggan, 2013). The time limit for notice of a claim is specified as follows in sub-clause 20.1:

The notice shall be given as soon as practicable, and not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance.

The 28 days time period does not start when the event actually occurred (Glover, 2010); rather, it begins on the date on which the contractor 'should have become aware'. Sub-clause 20.1 provides the consequences of non-compliance as follows:

If the Contractor fails to give notice of a claim within such period of 28 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Employer shall be discharged from all liability in connection with the claim.

Sub-clause 20.1 continues detailing the framework for evaluating a claim by defining the duties of the Contractor and the Engineer if the contractor complies with this time bar provision. Nevertheless, a problem arises when the contractors do not comply with the time bar provision, and it is the focus of this study. Therefore, the research problem of this study can be stated as 'what are the sources of disputes in time bar provisions for contractor's claims when contractor do not comply with the time bar provision and what are the unfair/appropriate modifications to the standard provisions within the context of FIDIC red book?'. Though identification of the construction parties' view on such, the paper contributes to avoid or minimise the disputes related to time bar provisions for contractor's claims.

2. Literature review

Certain disputes in time bar clause are linked with the prevention principle. Prevention is defined in UNIDROIT (2010) Article 7.1.2 as 'A Party may not rely on the non-performance of the other Party to the extent that such non-performance was caused by the first Party's act or omission or by another event for which the first Party bears the risk.' What constitutes an act of prevention in a scenario where a contractor is prevented from completing a project by the employer whom the contractor failed to

notice is controversial (Jones, 2009). While Eggleston (2006) questions whether the prevention principle overrides the contractual obligations and provisions, Lal (2007) argues that the pragmatic approach of the prevention principle should not hinder the enforcement of the express contractual terms which have been negotiated and agreed between the parties. Accordingly, when a duty to notify is explicitly required under the agreed terms of a contract, any failure to perform such duties should be subject to the relevant sanction, notwithstanding the prevention principle. Meantime, Fawzy and El-adaway (2014) assert that the employer cannot claim any damages for the delays caused by the contractor who is prevented from completing the project by the employer. In contrast, Crees and Lau (2015) aver that it is not the employer who prevented completion, rather it is the contractor who prevented the operation of the claim by not issuing the notice for claim, and therefore the contractor is liable for the cost of delay damages. Similar to prevention, some disputes are centred on good faith. Regarding jurisdictional considerations, Article 246 of UAE Civil Code requires the parties to act in good faith. Fegen (2014) questions that in the event of the failure of the contractor to issue a timely notice for claim, should not the Engineer have a duty to act in good faith to determine the claim? Conversely, ICE (2005) indicates is it the contractor who has failed to act in good faith by not issuing the notice as required by the contract, thus breaching the contract by not performing his fiduciary duties. As highlighted by Giles and Walling (2014), in construction projects it is difficult to determine whether one's behaviour is of good faith or not and the jurisdiction differs based on the circumstances. Disputes are also linked with delay damages. Construction contracts usually contain clauses which sanction a party for non-compliance, especially for failure of the contractor to complete the contract within the allotted time for completion. This is termed as delay damages in FIDIC (clause 8.7). The purpose of delay damages is to compensate the employer based on an agreed pre-estimate of the employer's losses, when the contract completion date is not achieved by the contractor due to delays for which the contractor is culpable (Myers, 2014). Davenport and Brand (2013) observe that in the event of a failure by the contractor to issue a notice within the time bar, and consequently if the time for completion is not extended, then the employer recovers the delay damages. Even though the

recovery of delay damages as above is a matter of contention, Davenport and Brand (2013) question whether the pre-agreed rate of delay damages is applicable to such a scenario as it is not known whether the damages incurred by the employer due to the non-compliance of notice provisions carries the same magnitude as the delay damages. The delay in issuing a notice of claim may certainly generate additional costs for the employer, including the cost of investigating the claim retrospectively, cost of additional works which might have been avoided or reduced had the notice been issued on time and any additional supervision and design costs. Hence, as advised by Murdoch and Hughes (2008), the employer can claim only the actual damage. On the contrary, Pickavance and MacLaughlin (2005) argue, why should the contractor's failure to perform his obligation, impede the employer's right for delay damages? Lal (2007) affirms that the proximate cause for the delay is the contractor's breach of his obligation and not the employer's act of prevention, and hence delay damages are applicable. Time is another disputed area. If the employer hampers the contractor's ability to complete the contract on the completion date, then the completion date must be extended. But in the absence of express contractual provisions for extending the completion date or if it is not properly extended, then the time becomes at large (Chern, 2014; Fawzy and El-adaway, 2014). Then, the contractor is only obliged to complete the contract within a reasonable time (Pickavance and MacLaughlin, 2005), which must be determined based on the circumstances. However, it is debatable whether the time becomes at large when the claim is not triggered due to the contractor's failure to notice. Pickavance and MacLaughlin (2005) observe it is common for contractors to submit claims alleging that the employer is not entitled to recover any delay damages since the time is at large. They further view that the failure to issue a notice of claim might affect the award of EoT, but not the power to look into the delays retrospectively after the project has been completed to assess the period for which the delay damages has to be applied and also for assessing any additional costs. Time at large means the employer faces an uncertainty of price and time; thus, Knowles (2005) argues that the engineer has an implied duty to consider and examine the cause of delay which he is aware of and take appropriate steps to prevent the time being at large even though a notice is not issued by the

contractor. Different viewpoints are also presented on whether the time bar clause is a condition precedent. If some condition is precedent, then a party is not liable to perform a duty imposed on it under the terms of the contract until a prescribed condition is fulfilled (Osborne, 2006). Accordingly, the employer is not obliged to award an EoT and additional payment related to a particular claim unless the contractor issued the notice of claim. Whether FIDIC time bar clauses can be enforced as a condition precedent is arguable (Champion, 2007). Knowles (2005) believes that in order for a condition to be a precedent it should be expressly stated in the contract that the failure in serving the notice would result in loss of entitlement, though not in the case of FIDIC. Qady et al. (2013) highlight that issuing the notice within the time bar is not the only condition precedent but that the whole procedure of notifying a claim, including the form and content of the notice, is the condition precedent. Lal (2002) argues that notice provisions are a risk allocated to the contractor as he is the best party to identify and mitigate the risks justifying the provisions as a condition precedent.

Ribbands (2013) indicates that it is a common practice to amend SFoC, and, according to Osborne (2006), such amended versions of the SFoC contain more rigid time bar clauses. Davenport and Brand (2013) state that in some bespoke contracts the time bar is amended to a mere 3 days to notify a claim from the date of awareness. This consequently strips the contractor of his right for additional time and cost. In addition, Longley (2012) observes that employers revise the time bar clause in a variety of ways, including requesting notices for instructed variations, notices to contain detailed information, notices to contain detailed calculation of delay and quantum, issuing the notice to a specific person and requiring the notice to be formally acknowledged by the employer.

Nevertheless, some modifications of the standard conditions are helpful in avoiding ambiguities. Early notice of events is significant in enhancing problem solving and project performance (Meng, 2014). Nevertheless, Longley (2012) and Champion (2007) believe that these modifications do not promote collaborative working. Meanwhile, Totterdill (1997) argues that there is a far better chance of dispute

avoidance if the people on site have meetings as soon as possible to discuss and solve the relevant events rather than just exchanging notices. In addition, Totterdill (1997) believes that SFoC must contain provisions for joint investigation and forensic study of a claim event. Longley (2012) also believes that the circumstances of the event and the requirement of notice must be properly investigated by the parties concomitantly. Due to the problems associated with the strict time bars on notices, FIDIC in its 'Conditions of Contract for Design, Build and Operate Projects', 1st edition, 2008, included a reservation for time bars in sub-clause 20.1, allowing the consideration of late notifications under dispute resolution as follows:

However, if the Contractor considers there are circumstances which justify a late submission, he may submit the details to the Dispute Adjudication Board (DAB) for a ruling. If the DAB considers that, in all the circumstances, it is fair and reasonable that the late submission be accepted, the DAB shall have the authority to overrule the relevant 28-day limit and, if it so decides, it shall advise the Parties accordingly.

Provision of discretionary powers to the engineer to extend the time for employer's default without any notice to prevent any arguments related to prevention principle is also recommended (Jones, 2009). In addition, Jones (2009) advises that in order to avoid the arguments related to prevention principle, contracts must include additional text to the notice provisions such as:

the Contractor agrees to complete by the date specified, notwithstanding having been actually delayed by acts of prevention.

Functioning of time bar clauses can be improved by introducing a penalty equal to the actual loss suffered by the employer due to non-compliance of the contractor of the notice provisions rather than applying the delay damages. Another recommendation is to use the words 'condition precedent' in the notice clauses to prevent arguments and disputes. SFoC might also include the minutes of site meetings as a form of notice because the engineer is aware of an event if it is discussed in the meeting.

Table 1 summarises the attributes identified through the literature review including the differences in viewpoints with regards to the sources of disputes. Objective of the primary data collection is to empirically identify the frequency of agreement on these attributes and determine whether employers, contractors and contract consultants agree with the same frequencies.

Insert Table 1 here

3. Research methodology

After examining the FIDIC time bar clause, the first step of this study was to conduct a literature review to identify the sources of disputes related to the time bar provision and to identify unfair as well as appropriate modifications to the time bar clause.

Given that this study's empirical data collection is based on the attributes identified through a literature review, the researchers adopted a more deductive approach. Therefore, a survey strategy was applied as it is useful in answering questions like what, how many and how much, the answers to which this study intended to find (Saunders et al, 2009). This survey strategy also relies on breadth for validity. The primary data collection method adopted for the study is a structured questionnaire, which focused on identifying the respondents' views on three matters: the sources of disputes in time bar clause, unfair modifications to the time bar clause and appropriate modifications to the time bar clause. The questionnaire was sent to 110 construction professionals, who are involved in administering construction contracts. This pool of professionals was selected intentionally based on their experiences in contract administration and with the use of FIDIC. To determine the minimum sample size, the following statistical equation was used (Creative Research System, 2017):

$$SS = \frac{Z^2 * P * (1-P)}{C^2} \text{-----Equation 1}$$

Where

Z = Z value (1.96 for 96% confidence level)

P = Percentage picking a choice (50% in this study)

C = Confidence interval (10% in this study)

SS = $\frac{1.96^2 * 0.5 * (1-0.5)}{0.1^2}$ = 96 respondents

This formula calculates the minimum sample size as 96 respondents, while the study used 110. Prior studies, which were done on contractual claims, also used this formula to calculate the sample size of an unlimited population (Enshassi, 2009). Since the exact number of construction and consultancy organisations and thus the construction professionals in the UAE are not known based on the published UAE statistics, equation 1 was used to calculate the sample size in this study. The questionnaire was administered electronically via emails. Only, 61 responded, yielding a response rate of 55%. This is above the average response rate (53%) for questionnaire surveys conduct at individual level (Baruch and Holton, 2008). Therefore, it can be argued that the credibility of research findings is more than the average level. Table 2 shows the survey respondents' profiles with regard to their roles, years of experience, use of construction contracts and use of time bar provisions. Thus, the sample represents a mix of employers (7), contract consultants (36) and contractors (18), corresponding to a 14.64 standard deviation of the response rate across different populations. Nevertheless, response of rate across clients, consultants and contractors is generally varied in many construction research, which involves ranking of different attributes. For example, in Doloi et al, (2012), client's representation was 21 compare to 66 of contractors and 13 design consultants. Similarly, in Mishmish and El-Sayegh (2016), the clients representation is 14 compares to 24 contractors and 13 consultants. If such varied representation causes some bias on the research findings, that would be a limitation of this research. Since 87% of the sample is having more than 10 years' experience, 74% of them uses FIDIC 99 Red Book and 67% of them frequently deals with time bar clause, a certain level of credibility in the data collected was achieved.

Insert Table 2 here

In the questionnaire, the respondents were asked to rate the agreement on each attribute on a five-point Likert Scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree), as it is important to include at least five response categories (Allen and Seaman, 2007). Allen and Seaman (2007) indicate that as the Likert Scale data are on ordinal scales, nonparametric analysis methods (i.e. ranking) and distribution free methods (i.e. frequencies) are appropriate. Therefore, the data collected through the questionnaire survey was analysed using ranking based on the Relative Agreement Index (RAI). RAI was employed as it can be used to rank factors to identify the most significant factors (Holt, 2014; Coggins et al., 2016). Furthermore, many researchers (Assaf and Al-Hejji, 2006; Faridi and El-Yayegh, 2006) who ranked the attributes view that mean and standard deviation of each attribute is not a suitable measure to assess overall ranking as they do not reflect any relationship between the attributes. RAI is calculated based on the following formula:

$$RAI = \frac{\sum W}{AN} \text{-----Equation 2}$$

Where

W = Weight given by the respondents (ranges from 1 to 5 in this study, where 1 implies 'Strongly Disagree' and 5 implies 'Strongly Agree')

A = Highest weight (5 in this study)

N = Total number of respondents

While the RAI of 1 indicates the maximum agreement on attributes, RAI of 0 indicates the minimum agreement on attribute (Love et al., 2001). Thus, highest RAI indicates that it has the highest agreement on an attribute while the lowest RAI indicates that it has the least agreement on an attribute. According to RAIs and respective agreement levels are shown in below Table

As the study involves different parties, the Spearman Rank Correlation, which is a nonparametric measure of correlation between two series using the ranks rather than the actual values, was used to compare the views of employers, contractors and contract consultants. Mishmish and El-Sayegh (2016) also used this correlation to compare the views between different roles. Values closer to 1 indicate strong agreement, while values closer to 0 indicate low agreement. Negative values indicate disagreement.

$$R_s = 1 - \frac{6\sum D^2}{(N^3 - N)} \text{-----Equation 3}$$

Where

R_s = Spearman rank correlation

D = Difference in ranking

N = Number of attributes

Following the questionnaire survey, four semi-structured interviews were carried out with professionals having more than 20 years of working experience in the construction industry in order to verify the questionnaire survey findings and draw explanations on their views. Semi-structured interviews are optimal as they allow the researchers to cover the list of questions to be answered and let the interviewee speak more widely on the questions raised by the researcher. As shown in Table 4, the interviewees represent contractors, employers and contract consultants. Interviews are digitally voice recorded and transcribed in MS Word. Interview data is qualitatively analysed to generate verbal descriptions and interpretations. By combining the questionnaire survey and expert interviews, the

strengths of one method will compensate for the weakness of the other method (Cameron and Price, 2009) and will help triangulate data to ensure validity.

Insert Table 4 here

4. Results and discussion

As shown in Table 5, good faith obligation towards EoT and additional payment by the employer is the most agreed source of dispute related to the time bar clause. A RAI of 0.62 (medium agreement) indicates that the survey respondents appreciate a good faith obligation by the employer to allow additional time and cost. Interviewees, however, argued that this expectation is against the terms of the contract. Similar to ICE (2016), they view that the notice provision is a good faith action by the Contractor, and also, as per the UAE law, good faith means to follow the contract as fairly and as best possible. However, the interviewees explained that if it was impractical to issue a notice, then the failure to do so cannot be deemed bad faith. Interviewees also point out that good faith by the employers does not justify auditing in public sector projects. Entitlement to claim delay damages for the period of delay by the employer is the second ranked cause (RAI of 0.57, low agreement). The interviewees agree that the employer could charge delay damages when the contract is very clear that notice is a condition precedent; though this is rigid. However, they commented that depending on the legal jurisdiction, arguments may present with regards to prevention principle and good faith, if the delay is due to an act by the employer or his agents. Losing the contractor's entitlement for EoT and additional payment is against the prevention principle is the third source of dispute (RAI of 0.56, low agreement). Interviewees comment that giving a notice enables the employer to make provisions for the claim in his budget, and hence the contractor takes a risk when a notice is not served. However, the interviewees affirm that the contractor cannot be penalised for the employer's default though he has failed to give notice. They added that the contractor must be alert and have competent people to act contractually as the application of prevention principle depends on legal jurisdiction. Time

becomes at large as the claim mechanism is not triggered, and the time bar clause is not a condition precedent are least ranked. Overall, the survey respondents (RAI = 0.49, low agreement) and the interviewees have a lower level agreement with the response, time becomes at large when the contractor fails to give notice. Interviewees comment that the time becomes at large depends on the legal jurisdiction and is not common in the UAE. Most survey and interview respondents agree that the time bar provisions in standard contracts are condition precedent (RAI = 0.42, low agreement) and cannot be a source of dispute.

Table 5 also presents the RAI and ranking by employers, contract consultants and contractors. The correlation matrix on sources of disputes in time bar clause is presented in Table 6. As shown in Table 6, the Spearman Rank Correlation Coefficient between employers and contract consultants is 0.50 and between employers and contractors is 0.50, indicating a moderate agreement. This is mainly because the employers ranked 'entitlement to claim delay damages for the period of delay' as 1, while the contract consultants and contractors ranked it as 3. This indicates employers' high perception to claim delay damages compare to the contractors and consultants. Meanwhile, 'losing the contractor's entitlement for EoT and additional payment is against the prevention principle' is ranked 4 by the employers and as 2 by the contract consultants and contractors. This shows the contractors' perception to use prevention principle in favour of themselves. However, Spearman Rank Correlation Coefficient between contract consultants and contractors is 0.9, showing a strong agreement on the sources of disputes. Therefore, study findings confirm different viewpoints found in the literature on sources of disputes. These findings further establish that the employers' agreement on the sources of disputes is different from the contract consultants and contractors.

Insert Table 5 here

Insert Table 6 here

As shown in Table 7, reducing the duration to serve notice is ranked one under the unfair modifications to standard provisions (RAI = 0.71, medium agreement). Interviewees too agreed unanimously on this. This is in line with Osborne (2006) and Davenport and Brand (2013), who affirm that amended versions of SFoC have more rigid time bar clauses. The argument supporting this modification is that an early notice allows the employers to mitigate the risks and cost implications. Requesting a notice for variations is ranked second (RAI = 0.71, medium agreement). The interviewees clarify that requesting a notice for variations is a necessity if an instructed variation results in additional time and/or cost, which the employer might not be aware of. Otherwise, it can be considered unfair. Based on the survey results, requirement that notice be formally acknowledged by the employer is ranked as the third unfair modification (RAI = 0.60, medium agreement), while the notice to contain detailed calculations of delay and quantum is ranked as fourth (RAI = 0.56, low agreement). Interviewees comment that though contracts generally state the address for issuing notifications, they are silent on receiving an acknowledgement from the employer. They further added that it is highly unlikely to receive an acknowledgement from the employer, and also it is not essential. All interviewees comment that the requirement to include detailed particulars is an unfair modification by the employers. Issuing the notice to a specific person is ranked last (RAI = 0.50, low agreement), which may depend on the contract.

Table 7 shows the RAI and ranking by employers, contract consultants and contractors on unfair modifications while Table 8 presents the correlation matrix on unfair modifications to the standard provisions. The Spearman Rank Correlation Coefficient between employers and contract consultants is 0.80, while it is 0.75 between the contract consultants and contractors (refer to Table 8). However, as shown in Table 8, the Spearman Rank Correlation Coefficient between employers and contractors is 0.55, showing a moderate agreement. This is mainly because the employers ranked 'notice to contain detailed calculation of delay and quantum' as 2, while the contractors ranked this as 4 (refer to Table 6). This indicates the employers' preference on this modification over the contractors.

Insert Table 7 here

Insert Table 8 here

As shown in the Table 9, the dispute resolution methods to retrospectively inquire whether a late notice is reasonable is agreed upon by most of the respondents (RAI = 0.79, medium agreement) and ranked one as an appropriate modification. Interviewees were also of the same view; though there were some concerns that this would undermining the contractual provisions. RAI of 0.76 (medium agreement) reinforces the fact that express statement of condition precedent is advisable to reduce the disputes and misinterpretation of the time bar clauses. This further helps to overcome the arguments based on the prevention principle and good faith as discussed above. Some interviewees comment that this is a common practice in UAE contracts nowadays, while some argue that the clause itself is condition precedent, and, thus, there is no need for duplication. This however, increases the pricing risk of the contractors and inflates tender pricing. Giving discretionary powers for the engineer is ranked third (RAI = 0.75, medium agreement), while giving discretionary powers for the employer is ranked fourth (RAI = 0.72, medium agreement). Interviewees, however, show some uncertainty over these modifications, emphasising that the employers do not have rights under the contract for this, and adding that the engineers must act fairly. Introducing the minutes of site meetings as a notice of claim (RAI=0.62, medium agreement) is ranked fifth. Interviewees had diverse views on this. Some simply argue that it is not necessary to issue formal notices for every event, as events that are discussed and recorded in minutes can be assumed as known by all the parties. On the contrary, some interviewees distinguish that the notice provision is a pre-requisite for claims and that all the events discussed in site meetings will not result claims. Therefore, the events, which will be followed by a claim, should be noticed formally. Introduce a penalty clause to claim the actual loss incurred by the delay is ranked sixth (RAI=0.61, medium agreement). Interviewees suggested the need to consider the applicability of a penalty based on the circumstances of each case. Ranked last is the express obligation by the contractor to complete the project by the date specified in the contract, if the contractor fails

to notice, notwithstanding the delay is caused by the employers' prevention (RAI = 0.58, low agreement). This modification is considered unfair to the contractor by all the interviewees as it waves the contractor's entitlement unless he noticed the event.

With reference to the RAI and ranking by employers, contract consultants and contractors on appropriate modifications (Table 9), the Spearman Rank Correlation Coefficient between employers and contract consultants is 0.09 (see Table 10), showing a very weak agreement. This is mainly because an express obligation by the contractor to complete the project by the date specified in the contract in the event of contractor's failure to notice, notwithstanding the delay is caused by the employers' act is ranked 1 by the employers and 7 by the contract consultant. Employers ranked this 1 as it is beneficial to them and contract consultants ranked it 7 as this is an unfair modification. Between the employers and contractors, the Spearman Rank Correlation Coefficient is 0.43, showing a moderate agreement. Similar to the disagreement by the employers and contract consultants on express obligation by the contractor to complete the project by the date specified in the contract in the event of contractor's failure to notice, notwithstanding the delay is caused by the employer's act, contractors also disagreed with the employer. The contractors' disagreement is due to the unfair risk posed on them. The Spearman Rank Correlation Coefficient between contract consultants and contractors is 0.80, showing a very strong agreement.

Insert Table 9 here

Insert Table 10 here

Conclusions

This paper presents the results of a questionnaire survey and expert interviews on sources of disputes in time bar provisions for contractor's claims and related modifications to the standard provisions within the focus of FIDIC 1999 Red Book. Identification of the sources and modifications to the

standard provisions provide a useful basis for avoiding or minimising disputes related to time bar provisions in contractors' claims.

Results indicate a lower level agreement by the respondents to time bar clause is not a condition precedent in FIDIC, implying that the contractor is not entitled to any claim if a notice is not served. Regardless of the agreement, the study finds that disputes arise when the contractor does not comply with the time bar in providing notice for its claims. This is consistent with Gibson (2008) and Longely (2012), who argue that the time bar clauses are a source of dispute. Such disputes are mainly based on the good faith principle as many respondents agreed (medium level agreement) that the employer has a good faith obligation to allow additional time and cost, even when a notice is not given. Employers' claims for delay damages and barring any additional time and cost claims by the contractor as against the prevention principle are other sources of disputes (low level agreement). Respondents least agreed with time becoming at large. The study also identified that the legal jurisdiction of a country would impact these dispute sources. The study also found that the reduced duration to service the notice is the main unfair modification made to the time bar clause by employers (medium level agreement). Requesting a notice for instructed variations is seen unfair only when the variation does not have any impact on time and cost (medium level agreement). Requirement of the notice to be formally acknowledged by the employer is seen impractical rather than unfair (medium level agreement). With regard to the appropriate modifications, the respondents agree that the FIDIC time bar clause can be enhanced through provisions in ADR methods in the contract to consider whether a late notice is fair and reasonable based on the circumstances of the event, suggesting a more pragmatic approach (medium level agreement). Express statement of issuing the notice of claim is a condition precedent is accepted as an appropriate modification (medium level agreement). Parties showed some uncertainties on the appropriateness of providing discretionary powers to the engineer and employer to extend the time based on a proper analysis when a contractor failed to notice (medium level agreement). It can be observed that the respondents' agreement on the attributes

were either medium or low. This indicates a mix of views among construction professionals on time bar clause regardless of the use of SFoCs.

There was a strong agreement between contract consultants and contractors as to the rankings of the sources of claims, unfair modifications and appropriate modifications, while the agreement between employers and contractors was moderate. Agreement between employers and contract consultants varied as to the rankings. Strong agreement is shown as to the ranking of unfair modifications, while it was moderate as to the ranking of sources of disputes. A weak agreement is shown as to the ranking of appropriate modifications. This is mainly because the employers ranked 'undertaking by the contractor to complete the works as specified in the contract, notwithstanding the act of prevention by the Employer' at 1 and contractors ranked it at 7.

Since the disputes in the time bar clause fundamentally arise when notice is not served as per the contract, engineers and contractors can work collaboratively to identify and investigate events for their impact on project time and cost to avoid any disputes. As the potential party in identifying events, contractors should be alert and should employ contractually competent persons to minimise disputes. Based on the results of the study, it is recommended that parties be aware of the impact of legal jurisdiction on dispute grounds such as prevention, good faith, delay damages and time at large. It is recommended that unfair modifications to the time bar clause be avoided and that appropriate modifications should be included after properly consulting the contract specialists.

References

1. Allen, E., and Seaman, C. A., 2007. Likert Scales and Data Analyses. *Quality Progress*, 40, 64-65.
2. Ashworth, A., 2006. *Contractual Procedures in the Construction Industry*. 5th ed. Essex: Pearson Education Limited.
3. Assaf, S.A. and Al-Hejji, S., 2006. Causes of delay in large construction projects. *International Journal of Project Management* 24, 349–357.

4. Battrick, P. and Duggan, P., 2013. The rainbow suite, The 1999 FIDIC contracts: Part 12 Contractor's claims (part a). *The Journal of the Chartered Institute of Civil Engineering Surveyors Civil Engineering Surveyor*, 2013, 22-23.
5. Baruch, Y. and Holton, B. C., 2008. Survey Response Rate Levels and Trends in Organizational Research. *Human Relations*, 61(8), 1139-1160.
6. Bunni, N., 2005. *The FIDIC Forms of Contract*. 3rd eds. Oxford: Blackwell Publishing.
7. Cameron, S. and Price, D., 2009. *Business Research Methods a Practical Approach*. London: Chartered Institute of Personnel and Development.
8. Champion, R., 2007. *Variations, Time Limits, Unanticipated Consequences*. London: Society of Construction Law.
9. Chern, C., 2014. *The Law of Construction Disputes*. 2nd ed. Oxon: Routledge.
10. Coggins, J., Teng, B. and Rameezdeen, R., 2016. Construction Insolvency in Australia: Reining in the Beast. *Construction Economics and Building*, 16(3), 38-56.
11. Creative Research Systems, 2017. Available from: <https://www.surveysystem.com/sscalc.htm#two>. Accessed on 01/08/2017.
12. Crees, J. and Lau, J., 2015. Preventing Prevention. *Chartered Institution of Civil Engineering Surveyors Construction Law Review*. 2015, 55-57.
13. Davenport, P. and Brand, M. C., 2013. The effectiveness of time bar clauses following the high court in decision in Andrews V. Australia and New Zealand Banking Group. *International Journal of Law in the Built Environment*. 5(3), 241-252.
14. Doloi, H., Sawhney, A., Iyer, K. C. and Rentala, S. (2012) Analysing factors affecting delays in Indian construction projects, *International Journal of Project Management*, 30(2012), 479-489.
15. Eggleston, B., 2006. *The NEC3 Engineering and Construction Contract a Commentary*. 2nd eds. Oxford: Blackwell Science.
16. Eggleston, B., 2009. *Liquidate Damages and Extensions of Time*. 3rd eds. Sussex: Blackwell Publishing.
17. Enshassi, A., Choudhry, R. M. and El-Ghandour, S., 2009. Contractor' Perception Towards Causes of Claims in Construction Projects. *The International Journal of Construction Management*, 2009, 79-92.
18. Faridi, A. S. and El-Sayegh, S. M. (2007) Significant factors causing delay in the UAE construction industry, *Construction Management and Economics*, 24(11), 1167-1176.
19. Fawzy, S. A. and El-adaway, I. H., 2014. Time At Large within the Common Law Legal System: Application to Standard Forms of Contract. *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction*. 6(1), 1-8.

20. Fawzy, S. A., El-adaway, I. H., and Hamed, T. H., 2015. Contracting in a Global Works: Application of the Time at Large Principle. *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction*. 7(3), 1-8.
21. Fegen, S. F., 2014. FIDIC: Is someone not making decisions to the detriment of others? *Chartered Institution of Civil Engineering Surveyors Construction Law Review*, 2014, 28-30.
22. Gibson, R., 2008. *Construction Delays Extensions of Time and Prolongation Claims*. Oxon: Taylor and Francis.
23. Giles, P. and Walling, E., 2014. Good Faith, Mutual Trust and Co-operation: What Does It All Mean? *Chartered Institution of Civil Engineering Surveyors Construction Law Review*. 2014, 54-56.
24. Glover, J., 2010. The Engineer's Duties. In Speaight, A., eds. *Architects Legal Handbook*. Oxford: Architectural Press: 237.
25. Hilling, J.B., Dan-Asable, D., Donyari, S., Dursun, O. and Thampuratty, A., 2010. FIDIC's Red Book 1999 Edition: A Study Review. *Management, Procurement and Law*. 163, 129-133.
26. Hruatanpasic, D., 2012. Time Bars and Prevention Principle: Using Fair Extensions of Time and Common-Sense Causation. *Construction Law Journal* 28, 379-393.
27. Holt, G.D., 2014. Asking Questions, Analyzing Answers: Relative Importance Revisited. *Construction Innovation*, 14(1), 216.
28. Institution of Civil Engineers (ICE), 2005. *NEC3 Engineering and Construction Contract Guidance Notes*. 3rd ed. Glasgow: Thomas Telford Ltd.
29. Jones, P. D., 2009. Can Prevention be Cured by Time Bars? *Society of Construction Law*, 158, 1-21.
30. Knowles, R., 2005. *150 Contractual Problems and Their Solutions*. 2nd ed. Oxford: Blackwell Publishing Ltd.
31. Kululanga, G.K., Kuotcha, W., McCaffer, R. and Edum-Fotwe, F., 2001. Construction Contractors' Claim Process Framework. *Journal of Construction Engineering and Management*, 127(4), 309-314.
32. Latham, M., 1994. *Constructing the Team*. London: HMSO Publications Centre.
33. Lal, H., 2002. *Extensions of Time: The Conflicts Between the Prevention Principle and Notice Requirements as a Condition Precedent*. London: Society of Construction Law.
34. Lal, H., 2007. *The Rise of the Time Bar Clauses for Contractors Claims: Issues for Construction Arbitrators*, London: Society of Construction Law.
35. Longley, S., 2012. Notice: Substance, Use and Abuse. *Construction Law Review*, 2012, 6-8.
36. Love, P. E.D and Haynes, N. S., 2001. Construction Managers' Expectations and Observations of Graduates. *Journal of Managerial Psychology*, 16(8), 579-593.

37. Meng, X., 2014. Is Early Warning Effective for the Improvement of Problem Solving and Project Performance. *Journal of Management in Engineering*, 2014 (1), 146-152.
38. Mishimish, M. and El-Sayegh, M., 2016. Causes of claims in road construction projects in the UAE. *International Journal of Construction Management*, 18:1, 26-33.
39. Murdoch, J. and Hughes, W., 2008. *Construction Contracts Law and Management*. 4th ed. London: Taylor and Francis.
40. Myers, J., 2014. Liquidated Damages. *Chartered Institution of Civil Engineering Surveyors Construction Law Review*, 2014, 11-13.
41. Nicholas, C., Theo, H. and Ferdinand, F., 2007. Assessing the Readiness of Building Diplomates for the South African Construction Industry. *Journal for Education in the Built Environment*, 2(1), 31-59.
42. Osborne, D. 2006. Effect of Conditions precedent on building Contracts. *Journal of Building Appraisal* 2(3) 188 -192.
43. Pickavance, K. and MacLaughlin, W., 2005. *A little of Time at Large: Proof of a Reasonable Time to Complete in the Absence of a Completion Date*. London: Society of Construction Law.
44. Qady, M. A., Kandil, A., Stuckey, J.M. and Mahfouz, T., 2013. Legal Review of Conditions Precedent to Dispute Resolution in Construction Contracts. *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction*. 5(1), 27-34.
45. Ribbands, N. E. A., 2013. Freedom - To What Extent Does the Doctrine of Freedom to Contract Apply to Construction Contracts? Part1. *The Journal of the Chartered Institute of Civil Engineering Surveyors Civil Engineering Surveyor*. 2013 (1), 33-35.
46. RICS, 2003. *The Surveyors' Construction Handbook*. Coventry: RICS business Services.
47. Saunders, M, Lewis, P., and Thornhill, A. 2016. *Research Methods for Business Students*. 7th ed. Essex: Pearson Education Limited.
48. Seppala, C. R., 2005. *Contractor's Claims Under the FIDIC Contracts for Major Works, International Construction Contracts and Dispute Resolution*, 9 – 10 April, Cairo, Egypt.
49. Thomas, H. R. and Ellis, R. D., 2008. *Interpreting Construction Contracts*. Virginia: American Society of Civil Engineers (ASCE).
50. Thomas, R., 2001. *Construction Contract Claims*. 2nd ed. New York: Palgrave.
51. Totterdill, B., 1997. Dispute Avoidance. In: Campbell, P., eds. *Construction Disputes: Avoidance and Resolution*. Caithness: Whittles Publishing: 29-34.
52. UNIDROIT, 2010. *Principles of International Commercial Contracts* [Online]. Available from: <<http://www.unidroit.org/english/principles/contracts/principles2010/blackletter2010-english.pdf>> [Accessed 15 June 2016].

Disputes in Time Bar Provisions for Contractors' Claims in Standard Forms of Contracts

Table 1: Attributes identified in the literature and differences in viewpoints

Category	Attribute	Literature sources		
		Agree	Uncertain	Disagree
Sources of disputes	Losing the Contractor's entitlement for EoT and additional payment is against the prevention principle	Fawzy et al., 2015	Eggleston, 2009	Osborne, 2006; Lal, 2007; Crees and Lau, 2015
	The employer has good faith obligation towards EoT and additional payment	-	Fegen, 2014; Giles and Walling, 2014	ICE, 2016
	The employer is entitled to claim delay damages for the period of delay	Pickavance and MacLaughlin, 2005; Lal, 2007	Jones, 2009; Davenport and Brand, 2013;	Longerly, 2012
	The claim mechanism is not triggered and the time becomes at large	Lal, 2007; Chern, 2014	Pickavance and MacLaughlin, 2005;	Eggleston, 2009
	Time bar clause is not a condition precedent unless expressly stated	Knowles, 2005	Champion, 2007	Lal, 2002; Qady et al., 2013
Unfair modifications	Reduced duration to serve the notice	-	-	Osborn, 2006; Davenport and Brand, 2013
	Request a notice for instructed variations	-	-	Longerly, 2012
	Notice to contain detailed calculation of delay and quantum	-	-	Kulalanga et al., 2001; Seppala, 2005; Longerly, 2012
	Requirement of the notice to be formally acknowledged by the Employer	-	-	Longerly, 2012
	Issuing the notice to a specific person	-	-	Longerly, 2012
Favourable modifications	ADR in the contract must consider whether a late notice is fair and reasonable under the circumstances of the event	Totterdill, 1997; Longerly, 2012	-	-
	Clear statement that issuing the notice of claim is a condition precedent for contractor's claims	Knowles, 2005	-	-
	Give discretionary powers for the Engineer/Project Manager to extend the time for completion based on a detailed delay analysis by critical path method along with common-sense causation analysis	Jones, 2009; Hrustanpasic, 2012	-	-
	To include discretionary powers for the Employer to extend the time for completion based on a detailed delay analysis by critical path method along with common-sense causation analysis	Jones, 2009; Hrustanpasic, 2012		
	Introduce the minutes of site meetings as a form of notice		-	-
	For non-compliance with the notice provisions introduce a damage equal to the actual loss incurred by the Employer rather than applying the delay damages	Davenport and Brand, 2013	-	-
	Include the following text in the time bar clauses 'in the event of the contractor's failure to issue a notice on time then the Contractor agrees to complete by the date specified, notwithstanding having been actually delayed by acts of Employer/prevention by the Employer.'	Jones, 2009	-	-

Table 2: Survey respondents profile

Description	Numbers	Percentage
Role		
Employer	7	12%
Contract Consultants	36	59%
Contractors	18	29%
Years of professional experience		
Less than 5 years	1	2%
5 to 10 years	7	11%
11 to 15 years	19	32%
16 to 20 years	10	16%
More than 20 years	24	39%
Use of construction contracts		
FIDIC 99 RB	45	74%
Bespoke versions of FIDIC 99 RB	9	15%
Other SFoC	2	3%
Bespoke versions of other SFoC	5	8%
Use of time bar provision		
Always	8	13%
Frequently	33	54%
Sometimes	9	15%
Rarely	5	8%
Never	6	10%

Table 3: RAIs and the levels of agreement

RAI	Attribute Agreement Level
0.8 to 1.0	High
0.6 to < 0.8	Medium
0.2 to < 0.6	Low

Adopted from Nicholas et al., 2015

Table 4: Interviewees' profile

Description	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4
Organisation	Main Contractor	Contract Administrator	Employer	Legal Consultant (Construction)
Role	Senior Commercial Manager	Director Contracts	Managing Quantity Surveyor	Arbitrator
Experience dealing with Contracts	27 Years	30 Years	23 Years	26 Years

Table 5: Sources of disputes in time bar clause

Source of dispute	All		Employers		Contract Consultants		Contractors	
	RAI	Rank	RAI	Rank	RAI	Rank	RAI	Rank
The employer has good faith obligation towards EoT and additional payment	0.62	1	0.51	2	0.73	1	0.59	1
The employer is entitled to claim delay damages for the period of delay	0.57	2	0.80	1	0.60	3	0.52	3
Losing the contractor's entitlement for EoT and additional payment is against the prevention principle	0.56	3	0.34	4	0.62	2	0.56	2
The claim mechanism is not triggered and the time becomes at large	0.49	4	0.49	3	0.60	3	0.44	4
Time bar clause is not a condition precedent	0.42	5	0.29	5	0.43	4	0.43	5

Table 6: Correlation matrix on sources of disputes in time bar clause

	Employers	Contract Consultants	Contractors
Employers	1		
Contract Consultants	0.50	1	
Contractors	0.50	0.90	1

Table 7: Unfair modifications to the standard provisions

Unfair modification	All		Employers		Contract Consultants		Contractors	
	RAI	Rank	RAI	Rank	RAI	Rank	RAI	Rank
Reduced duration to serve the notice	0.71	1	0.80	1	0.70	1	0.71	2
Request a notice for instructed variations	0.62	2	0.60	3	0.70	1	0.72	1
Requirement of the notice to be formally acknowledged by the employer	0.60	3	0.60	3	0.53	3	0.65	3
Notice to contain detailed calculation of delay and quantum	0.56	4	0.68	2	0.56	2	0.54	4
Issuing the notice to a specific person	0.50	5	0.52	4	0.48	4	0.54	4

Table 8: Correlation matrix on unfair modifications to the standard provisions

	Employers	Contract Consultants	Contractors
Employers	1		
Contract Consultants	0.80	1	
Contractors	0.55	0.75	1

Table 9: Appropriate modifications to the standard provisions

Appropriate modification	All		Employers		Contract Consultants		Contractors	
	RAI	Rank	RAI	Rank	RAI	Rank	RAI	Rank
ADR in the contract must consider whether a late notice is fair and reasonable under the circumstances of the event	0.79	1	0.71	3	0.79	1	0.82	1
Clear statement that issuing the notice of claim is a condition precedent for contractor's claims	0.76	2	0.86	1	0.71	3	0.81	2
Give discretionary powers for the Engineer/Project Manager to extend the time for completion based on a detailed delay analysis by critical path method along with common-sense causation analysis	0.75	3	0.71	3	0.73	2	0.80	3
To include discretionary powers for the Employer to extend the time for completion based on a detailed delay analysis by critical path method along with common-sense causation analysis	0.72	4	0.74	2	0.68	4	0.81	2
Introduce the minutes of site meetings as a form of notice	0.62	5	0.63	5	0.58	6	0.68	4
For non-compliance with the notice provisions introduce a damage equal to the actual loss incurred by the Employer rather than applying the delay damages	0.61	6	0.66	4	0.59	5	0.63	5
Include the following text in the time bar clauses 'in the event of the contractor's failure to issue a notice on time then the Contractor agrees to complete by the date specified, notwithstanding having been actually delayed by acts of Employer/prevention by the Employer'.	0.58	7	0.86	1	0.51	7	0.62	6

Table 10: Correlation matrix on appropriate modifications to the standard provisions

	Employers	Contract Consultants	Contractors
Employers	1		
Contract Consultants	0.09	1	
Contractors	0.43	0.80	1