

## **CHAPTER**

### **5. CONCLUSION**

This study leads us to a conclusion that the 10 most important factors of delays in Yogyakarta construction industry are: (1) Type of construction contract, (2) Change orders by owner during construction, (3) Delay to furnish and deliver the site to the contractor by the owner, (4) Poor communication and coordination by owner and other parties, (5) Original contract duration is too short during the planning of project, (6) Ineffective delay penalties, (7) Inadequate contractor's work , (8) Rework due to errors during construction, (9) Delays in sub-contractors work and (10) Conflicts between contractor and other parties (consultant and owner). The result showed that the 5 main effects of delays are (1) time overrun, (2) cost overrun for all the parties, (3) negotiation between contractor and owner, (4) dispute and (5) arbitration, (6) Lawsuits, (7) litigation and (8) total abandonment.

To resume the use of available technology in time management methods in Yogyakarta, mostly contractor use construction management and lump sum as method procurement. However bespoke contract and Re-measure methods are rarely used. The majority of contractors utilize projects managements only to manage time on site, adding to that general contracting is considered as the second most appropriate way. Finally flow chart and bar chart are the main tools use in time achieving time managing which means, contractor have some difficulties to identify

changes that occur during the completion work. Thus managing the effects of delay will be hard as well.

According to the results, delay is only notified when one of the parties complains (client, contract administrator and sub-contractors) but mostly when the schedule is updated and reissued. In addition to that, methods of establishing the planned activity durations are often based on method statement and programmer. On the other hand contract manager, project manager and site manager are the parties usually involved in drafting method statements to achieve planned sequence. Therefore logic to the planned activities is done by meetings with the construction and others parties.

To conclude this research, the following points can be recommended in order to minimize and control delays in construction projects. First the factors that concern owners to avoid delays are make progressive payments to the contractor and on time, minimize changing orders and frequent interference during the execution of the projects, avoid delay in reviewing and approving of design documents, have a good communication and collaboration with others parties.

Second contractor should have competent and experienced site-managers to ensure the smooth execution of the project, adequate method of time management, establish an efficient materials management to avoid delay in furnishing items either by the owner. Contractors should better manage the number of laborers and their productivity and plan their work efficiently and effectively during the projects. It is

also important that contractors inspect their jobs often by using quality management to follow the progress of the project.

Third all parties should be present during achievement of planned sequence in order to improve the communication. To manage time, different of tools should be used not only diagram and chart but also linked network so that even owner can follow properly the improvement of work.

Finally to finish this research, Emmit and Gorse (2003) stated communication improvements in early phases of projects would positively influence the quality as perceived by all stakeholders involved. More open communication at all levels could lead to innovations (Lenard and Eckersley 1997) and better technical solutions.