FACTORS AFFECTING DELAYS IN THE BUILDING CONSTRUCTION INDUSTRY

by

H.G.W. PANDITHA

DEPARTMENT OF CIVIL ENGINEERING

UNIVERSITY OF MORATUWA

MORATUWA, SRI LANKA

ABSTRACT

History of the construction industry has witnessed that delays in construction projects are a common occurrence. These delays make the contractual parties involved in a particular project to vulnerable conditions and adversarial relationships complaining of other party's faults as the causes for delays. Those delays are an indication of lack of professionalism, which leads to bad reputation and less work for local contractors as client's tend to select more and more foreign contractors for their work. Therefore, it has become a timely need to study the factors affecting delays in the construction industry and suggest possible solutions in order to minimise these delays.

The objectives of the research covered three main areas, namely identification of factors affecting delays in building construction industry during the construction stage, study the importance of the identified delay factors and delay groups, and make recommendations in order to minimise delays in the building construction industry during construction.

Research methodology consists of (a) a detailed literature survey, (b) collection of data based on a structured survey, and (c) data analysis and development of recommendations so as to minimize delays. Similar research undertaken in Sri Lanka was found to be very limited. However, the limited research compiled in Sri Lanka and research conducted in the other part of the world, were quite helpful in developing the investigation programme and to get a broader knowledge in the research area. A well structured questionnaire was prepared using the information gathered from the literature survey. It was further refined based on the pilot survey, which was undertaken on 5 building sites and the views obtained from the experts involved in the building construction industry. Subsequently, data collection was carried out by an interview survey comprising 30 case studies in the Sri Lankan building construction industry. Totally, 60 completed questionnaires were collected from sites by interviewing the contractor and either the consultant or the client. Engineers, architects and quantity surveyors who were attached to sites were interviewed for collection of data.

A commonly used statistical technique of Importance Index method was used for the analysis of data in this research. The delay factors were then ranked using these importance index values. In addition to ranking of delay factors, importance index values were further used to analyse the delay factors with respect to their relationship with delay causes such as client's status, contract sum etc. Based on these findings, recommendations were determined to minimise delays in the Sri Lankan building construction industry during the construction period.

Both the consultant and the contractor have selected "Rainy weather" as the most important delay factor with the important index values of 78.86 and 68.9 respectively. Contractors have selected "changes by the owner and the consultant" as the second most important delay factor while consultants selected the "manpower shortage" as the second most important delay factor. Both the contractor and the consultant have collectively ranked "rainy weather", "manpower skills" and "material shortage" as the top ranking causes for construction delays. This indicates the need for proper planning of all types of resources and improve the skills of the different labour trades required for the construction industry.

Among the several types of delay groups, manpower, financing and changes have been ranked as top order delay groups. Environment and resources especially materials and equipment were also identified as important delay groups. Application of proper planning methods from pre-construction stage onwards, allocation of adequate funds for the project, identification of the needs and introduction of vocational training facilities for specialised jobs, review and evaluation of project alternatives in the pre-construction stage, frequent site meetings and joint site inspections are among the recommendations suggested to minimise construction delays.

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H.G.W.Panditha

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