Project Management and the Quantity Surveyor in Australia

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Introduction

Much is at present being written and said about Project Management and indeed we are all experiencing the effect of this process in some form. Before writing about the problem, forms of definition must be given due to the different terms being used to describe the same operation or process. The writer's experience is mainly confined to Queensland and therefore local experience may be prominent.

Definition of Terms

Project Manager

A member of the Client's organisation whose sole activity is to co-ordinate the Consultants and Builder or Construction Manager involved in the Project.

A Consultant, either an individual or organisation appointed by the Client to act as above.

A design Consultant, usually a Principal of an Architectural Practice designated as Project Manager and Co-ordinator of the scheme between Client, Consultants and Builder or Construction Manager.

An individual or organisation responsible for the management and co-ordination of project and construction activities.

Construction Manager

An organisation or person charged with the responsibility of management and co-ordination of construction activities.

Note: This term above can refer therefore to a Builder operating for a fee return or to a senior Construction Supervisor of a Construction Company.

The confusion of terms of course, makes it most difficult to explain new techniques to Clients.

The Beginning of it all

Most people ask "how did it all start?" Usually goods and services are provided to Clients where demand arises and we have found ourselves in a position of being asked by Clients to get them out of difficulties. When Builders fail by Liquidation (and there were a few here in 1974–5) Clients are left with the problem of getting the job finished and monitoring costs. In some cases where Architects/Clients completed contracts themselves we suggested a cost management control system to aid Project Management to limit costs to completion thus lowering the outgoings of the Clients in excess of the Contract Sum and providing professional certification of costs to a Liquidator, (more of the cost control system later). This is one of the minor ways in which a form of Project Management has been introduced with the Quantity Surveyor providing the cost management ingredient. It should be noted however here that one of the primary reasons for the move in this direction is that large Construction Companies can no longer risk their capital in executing large lump sum contracts in a "boom-slump" inflationary economy on contracts of more than two years duration.

Now experience differs on this point and Project Management has also stemmed from the activities of "Design and Build" Project Managers who undertake to design, document and build for a Client usually on a Target Sum basis. Some Clients have been very satisfied with such a method and others have not, requiring a management method which contains more direct control in the money, cash flow and design decisions.

And so Project Management in one of its forms came into being to fulfil a need in accordance with the normal processes of supply and demand.

Project Management in its essence deals with the control of a project from feasibility, through construction management, cost management and sometimes on into marketing and leasing a building. The Project Manager often as the original promotor of a scheme is responsible for its inception from embryonic idea to drawing board and on to site.

However, such processes are well known and in different circumstances are, and have been undertaken by different persons as appropriate.

The move towards Project Management where cost plus bases are used also calls for new cost control techniques on site during the Construction Period. For example if a Client and/or his Project Manager decides to develop a site, by using a Construction Manager who is paid a fee, and pay costs directly it is imperative that cost control is maintained and therefore we have suggested on-site control systems to provide the necessary cost control.

Therefore we believe that new organisation and construction techniques, especially for large buildings call for *Cost Management,* and so Quantity Surveyors who are "Site-Orientated" can supply such Cost Management and Budgetary Control as a service to Project Management.

Cost Control Techniques with Project Management

In the Office

The Quantity Surveyor in the past has primarily concerned himself with the production of Bills of Quantities and latterly has specialised in Budgetary control and cost management. That is, he is responsible on a contract for the cost of that contract. However within Project Management schemes, he is responsible to the Project Manager to see that throughout the Design and Construction Periods the feasibility is maintained and costs kept within the budget. He may also be responsible for the feasibility from inception.

Cost control techniques on Traditional Contracts are well known but how do we go about controlling costs on a Contract where a Project Manager is in control and a lump sum or target cost basis is not used. A Construction Manager (Builder) is usually employed to build the job for a fee. Architect and Consultants are employed for Design, the Quantity Surveyor is engaged for Cost Management and the works are built on a cost plus basis of reimbursement to the Builder.

The purists can be heard to cry out in horror as there appears to be no cost limiting factor.

This set of circumstances is taken as an example and is not cited as the only means of Project Management.

The early processes are well known. The Project Control Group or committee of Project Manager, Architect, Construction Manager, Cost Manager sets out the inception scheme, prepares budgets and obtains finance and an overall project cost is established. It is of course one of feasibility otherwise the contract does not proceed.

Then the process of Cost Planning between Architect and Cost Manager (Q.S.) proceeds as on any other Contract, there is no need to reiterate this.

We then come to the stage of being ready for construction. No break takes place waiting for tenders with fingers crossed hoping that they will be within the budget. At this stage the Construction Manager agrees that the budgets are fair, trade by trade, and work can commence

In fact work can commence early in the design process if sufficient details are available for any section of the works to be started.

At this stage the work begins and the risk is firmly in the Client's court but "insured" by virtue of the quality of the management team.

It is usual for subcontract bills to be prepared and for the Quantity Surveyor to send out enquiries or for the Construction Manager to do so. The lowest quote is selected by the PCG but of course the Quantity Surveyor first checks the quotes and advises accordingly.

The accent on Quantities lies in the control of sub-contract prices and therefore the sub-contract bills prepared are the paramount job for the Bill Production team. As the Builder constructs for a fee the Quantity Surveyor is not involved in detailed Preliminary bills although of course he must advise on the document which defines the duties of the Construction Manager and his fee.

The sub-contract element of the job usually forms some 80% of the works and therefore Cost Control is achieved by the Quantity Surveyor for the Client by obtaining competitive prices. In a slump the advantages of keen prices goes direct to Client and if large savings are attained early in the job more money can be spent in finishes. The reverse also can be true if we move into a boom, sub-contract prices can rise sharply and perhaps individual trade budgets may be exceeded. As the process of preparing sub-contract bills follows the job construction process there is time to change later finishes to achieve the original budget or take other appropriate action. In violent boom periods many Clients have been left with a job from a bankrupt Builder anyway, so to be left with high sub-contract prices but retaining full power of decision is preferred by many Clients to dealing with the bankruptcy situation with all its accompanying trauma.

So what do we do about controlling costs for the other 20%? Mainly such works involve Preliminaries and attendance on trades. Therefore the negotiation of the budget prices with the Construction Manager for this section of the works is most important. Especially, the Quantity Surveyor must pay close attention to what is agreed about the cost of major plant, such as cranes.

On the Job

The on site Quantity Surveyor now has his budget trade totals to work to and is responsible for preparing a Net Cost Audit of the works. This is necessary as the basis of the scheme is Cost Plus. Only the Quantity Surveyor is competent in my opinion to thoroughly check all wage sheets, invoices and sub-contract costs. We must not erroneously believe that all sub-contract invoices will come in exactly as tendered. Life is much more complex on site than that.

Whilst the Net Cost Audit is being prepared, and this should be done as the invoices flow through the site, the costs are allocated to trade totals and balanced monthly with overall costs. Again it is easy to assume that because we have let the sub-contract and know our budget gains or losses in that regard that all is well, much of the management construction costs are vested in attendance, clearing up, supervision, delays, special sections speeded to suit Client requirements, and so on; therefore we need to pay attention to the progressive recording of the costs *other* than sub-contract.

Each month therefore we can show a trade by trade and section by section cost. At the same time a monthly valuation is prepared using the budget Bill of Quantities which is comprised of the sub-contract Bill and the Preliminary Bills and show a comparison between the theoretical "value" of works complete against their actual costs. Of course the actual costs are "behind" the value in so far as materials costs can be up to five weeks late in being presented. Sub-contract costs need adjusting to the parity of the valuation and late labour costs added in. All Builders know just how difficult it is to carry out this "Adjustment of Cost". It is clearly an advantage for the Quantity Surveyor to have a site representative.

Now, the purpose of the exercise is to be able to pin point very early any loss or adverse cost trend. Losses will show up on the monthly comparison report and this can be prepared within ten days of the end of a cost period ending (without a computer). The Construction Manager can then be shown the results and action can be taken appropriately.

So much for the Cost Control of the Expended Value of the Works. There is of course the Budget which must be progressively updated, advisedly on a monthly basis early on the job as sub-contracts are let.

This is the Cost Control of the Unexpended value of the works and shows the projected Budget position to completion at any stage during the Construction Period. Both reports are important. It is possible to have a good Budget Report with an adverse Cost/Value comparison on works executed on site.

Selecting the Builder/Construction Manager

This is an important task. Many of the problems facing Builders today are removed in the type of contract referred to above and without significant risk and with much of the site control of costs and sub-contract accounts dealt with by the Quantity Surveyor, the Construction Manager is also able to offer a lower margin to the Client.

However, the purpose of executing contracts in such a manner is to finish the job in *time* and to *budget.*

Therefore the Construction Managers are going to be selected on performance. Perhaps the greatest concern regarding such contracts is that cheaper prices could be obtained by going to tender. We must admit that such an argument is valid. However, land costs and building values are such that some Clients cannot afford to have jobs completed one day late. The most difficult problem is to evolve a system of selecting a Builder upon performance without the traditional tendering techniques.

Construction Managers selected for this type of work cannot afford to fail for they will not be employed again and this in itself is incentive indeed.

The Future

Many will query whether such systems as described above will work. We will have to await events, of course, but I believe that during a time of great change the Quantity Surveyor must be prepared to adapt himself to providing budgetary control within new contract techniques being used in the Industry.

Nigeria - A case for a new standard form of Building Contract

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This paper is a review of the British Joint Contracts Tribunal Form of Building Contract, with Quantities, which is of general application in both the public and private building practice in the Federation of Nigeria. It reviews the pit-falls of the present Standard Form as seen by leading British lawyers, quantity surveyors and others on such matters as the role of professional control organisations, the bill of quantities and variations. A proposal is made and a guide line suggested for a new Standard Form to reflect the various local problems encountered during the building process in Nigeria.

Introduction

The building industry in Nigeria, which is still very young, perhaps not more than fifty years old, is saddled with the problems of mass illiteracy, untrained labour, acute shortage of professional and sub-professional personnel, lack of building materials, inadequate transport facilities and the shortage of experienced contractors[12]. The problems of the Nigerian building industry are therefore quite different from those of the U.K. which has advanced technology, experienced manpower, sufficient building materials and adequate reliable transport facilities. In spite of those differences, the JCT Standard Form has been successfully used in many parts of the Commonwealth and has to an extent been successful in the Federation of Nigeria. The JCT form is not perfect for use in the U.K. and where it is used in Nigeria with little or no modifications, it is even less satisfactory for it has many pit-falls.

Some Pitfalls of the Standard Form of Contract

Leading British lawyers and professionals have strongly criticised the standard Form and called for a complete review or a completely new document. Jones[7] asserts that various parts of the Standard Form are undoubtedly ambiguous and obscure. Chavasse[4] complains that a Form of Contract which has lasted nearly sixty years still leaves many questions unanswered. However, in the UK, series of amendments are periodically made to some flaws and to accommodate some new legislation such as VAT.

Ginnings[5] observes that there is always the possibility that new legislation will have to be accommodated and that scope has been provided to incorporate "community law" in appropriate places in the Form. That is because the UK is now a member of the European Economic Community (EEC). That concept of including "community law," is of far greater dimensions than those