

The dysfunctions of construction project management in developing countries : the case of the republic of congo

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ABSTRACT : The construction environment in developing countries (DCs) is predominantly dominated by the informal and semi-informal sectors that practice project management using inadequate scheduling techniques. In reality, these scheduling methods are not bad, but they are not appropriate to the socio-economic environment of developing countries. This is because the majority of companies operating in these sectors complete projects late. This dysfunction is justified by a survey of 46 companies operating in the Republic of Congo.

KEYWORDS Construction, developing countries, informal and semi-formal sectors, planning, project, management.

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I. INTRODUCTION

In developing countries (DCs), particularly in Africa and in Congo-Brazzaville, the management of a construction project, especially in the informal and semi-informal sectors, is subject to many hazards, a financial environment that is often difficult or increasingly complex, resulting in a scarcity of financial resources to the point where the usual planning methods (PERT, CPM, GANTT, etc.) appear unsuitable. This often leads to a deadlock in the management of construction projects, which can also result in the abandonment of the site with the resulting damage. In this environment, a strong demand for housing is noted. The housing deficit is certainly due to demographic pressure in highly urbanised cities but also to a slackening or disengagement of public authorities in real estate investment programmes. The new supply is insufficient to curb a demand that is rising too fast [1]. Also, this field of real estate is characterised by a remarkable imbalance in relation to the current rate of housing production. We are therefore witnessing "self-construction" in the construction of individual houses, and even other infrastructures. In some countries, this sector accounts for almost 90% of housing production [2 ; 3 ; 4]. Unfortunately, self-building often does not provide quality assurance of the work carried out and often leads to a dead end in the implementation of projects, due to the lack of serious planning. Project management problems are very common in developing countries (DCs), especially in Africa, where mobilising financial resources for the launch and running of construction operations is difficult. We can see from the table below that several obstacles are identified in the management of construction projects in these sectors :

Table 1 : Main obstacles in managing a construction project in the informal sector [5]

Nature of the obstacles	Causes	Consequences
1-Additional work	Modification of works for convenience	- Additional time for completion ; - Waste of material ; - Additional expenditure ;
2-Material failure	Interruption in site supply	- Waste of time ; - Additional expenditure ;
3-Delays of payment	Depletion of financial resources	- Work stoppages ; - Abandonment of the site by the workers ; - Waste of time ;
4-Takeover of the works	Poorly executed or seriously flawed work	- Waste of time ;

5-Technological deficiency	Deficiency in the level of qualification of the labourers	- Additional expenditure ; - Additional expenditure ; - Waste of material ;
6-Mismanagement of resources	Lack of rigour	-Tension on the works budget ; -Increase in expenditure

In fact, if "project management consists of ensuring that activities are carried out on time, within budget and in accordance with the specifications" [5], it is clear that the various traditional methods, whose main determining factors are construction cost and completion time, are becoming difficult to handle in view of the lack of control over these variables. The following pictures clearly illustrate the consequences of poor project management.

II. MATERIEL AND METHODS

II.1. SURVEYS OF PROBLEMS IN THE MANAGEMENT OF CONSTRUCTION PROJECTS IN THE REPUBLIC OF CONGO

II.1.1. Methods of data collection

The collection method is both qualitative and quantitative. It is the interview method, i.e. conducting face-to-face interviews between the interviewer and the respondent. This is all the more interesting as it allows the interviewer to better understand the sequence, logic and discourse of the individuals' experience and the interpretations they make, especially as the interviewer relies on a guide that specifies all the questions to be dealt with, as well as their sequence and the way in which they are to be addressed. It should be noted that the interviews were carried out in the companies' headquarters, in the base camps and on the construction sites.

II.1.2. Sampling

Given the type of research and in order to ensure a representative sample, the method chosen for this study is the quota method. It is indeed very practical for this type of study and allows for better control of the characteristics of the sample or identifiers. The sample selected is composed of 46 companies, and the survey was carried out in the two main cities of Congo (Brazzaville and Pointe-Noire). This was justified by the concentration of the country's activity in these cities.

II.1.3. Objectives of the survey

The objectives of this survey are to

- Identify the types of structure in charge of construction projects ;
- Identify the different project management methods used ;
- Identify the advantages and disadvantages of using these methods ;
- Identify the difficulties associated with project management ;
- Evaluate the performance of these different planning methods.

III. RESULTS

III.1. CONSTRUCTION SECTOR :

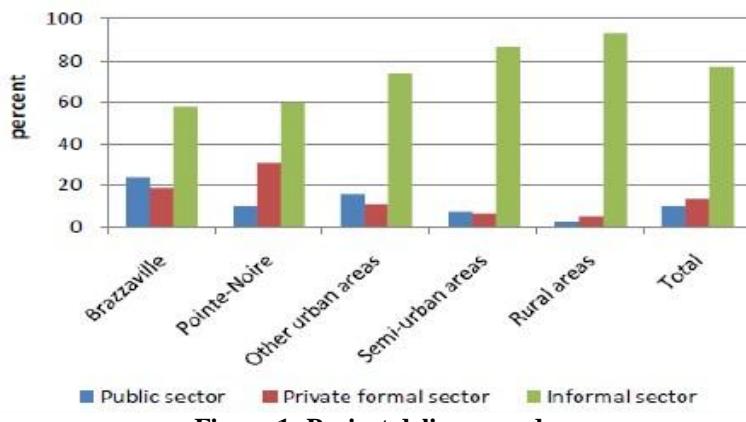


Figure 1- Project delivery mode

Figure 1 shows that the majority of projects are carried out by sectors outside the regulation of official state channels. These sectors include self-builders and self-promoters using skilled workers called "masters" or simply labourers, some of whom later become skilled workers in a given housing trade.

III.2. ORIGIN OF PROJECT FUNDING

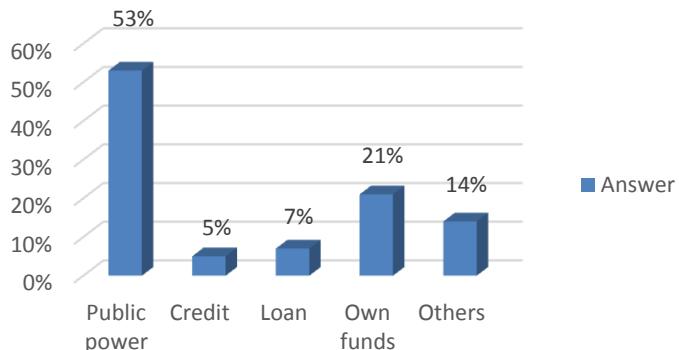


Figure 2 - Origin of funding for construction projects

Figure 2 shows that the majority of construction projects are financed by the state (public authority). Credits are difficult to obtain for companies, as are loans. Companies commit their own funds (pre-financing) to the implementation of projects.

III.3. DELAY IN PROJECT IMPLEMENTATION

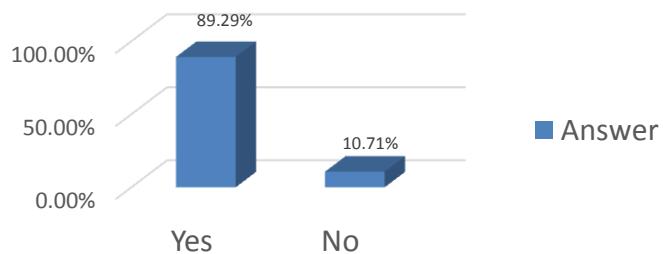


Figure 3 - Out-of-time context in construction companies in Congo Brazzaville.

The study shows that 89.29% of the construction companies have already missed the deadline for the execution of their projects, while 10.71% have not yet done so.

III.4. CAUSES OF LATE DELIVERY OF PROJECTS



Figure 4 - Main factors that can lead entrepreneurs into an off-time context.

The observation of these results allows us to note that the following factors may be at the origin of the failure to execute projects on time for certain companies. These are :

- Financing: a major factor that can cause delay in the execution of works; 82.14% of companies are affected.
- Material supply: one of the tricky factors that can lead to companies being out of time; 78.57% are affected.
- Bad weather: This is an obstacle for almost two thirds of the companies surveyed. As a result, they can

- lead to the non-completion of their projects on time.
- Lack of skilled labour : this is not a major problem, with only a quarter of companies believing they have difficulty finding skilled workers.
 - Lack of adequate equipment: here too the problem is not so great, with less than a quarter of companies not having adequate equipment.

III.5. PROJECT PLANNING METHODS

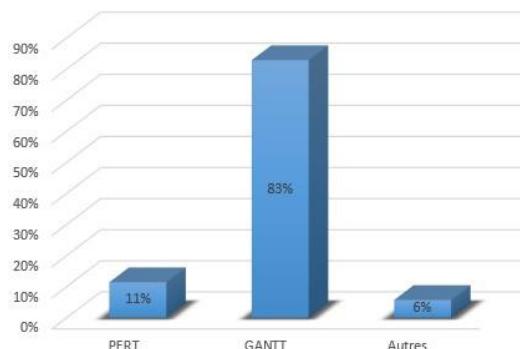


Figure 5 - Planning mode

This histogram (5) shows that the Gantt method is the most used method, followed by PERT and other methods. The Gantt method represents 83% of all methods used.

III.6. RELIABILITY OF PROJECT PLANNING METHODS

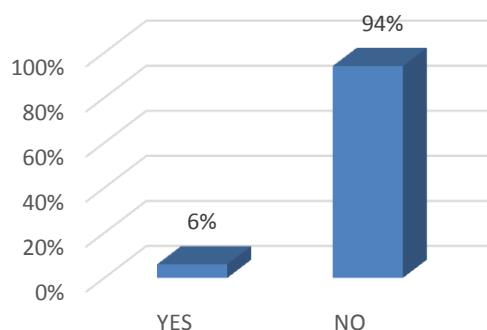


Figure 6 - Are these methods reliable?

Figure 6 shows that these methods do not seem to be reliable for carrying out a construction project in this sector. The planning method (PERT, CPM, Gantt or others) is not at all sufficient to catch up with the sliding project.

III.7. POSSIBILITY OF CATCHING UP ON SLIDING PROJECTS

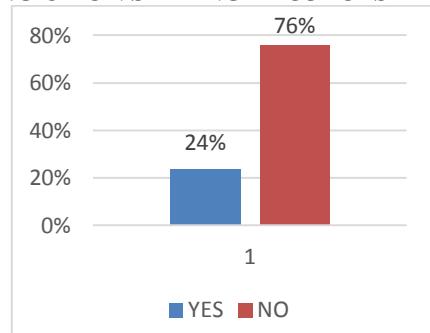


Figure 7 - Are these methods reliable ?

This historiographer shows that the planning method (PERT, CPM, Gantt or others) is not at all sufficient to catch up with the sliding project.

IV. CONCLUSION

The development of the mathematical models of prediction of the parameters of drying of the starch products and the maitrise their processes of transformation into sight industrialization remain a delicate problem in the research and development.

This study reveals the following information :

- Many projects are carried out by companies in the informal and semi-formal construction sectors ;
- The companies exercise an almost traditional planning of their projects ;
- Most of the projects are financed by the state (public authority) whose budget is subject to many constraints ;
- Almost all companies have already completed projects that are out of time ;
- The planning tools are very little used and not well known ;
- Projects are usually slippery because of funding and organisational problems ;
- The mismanagement of allocated resources is not to be overlooked, but it is a parameter that can be Controlled.

The results of the surveys will motivate research projects in the field of project planning taking into account the economic context of developing countries, particularly in the informal and semi-formal sectors. This is because the principles of using classical scheduling methods (PERT, CPM, GANTT, ...) are not properly respected in this environment.

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