

## Success Factors in Lanao del Sur Construction Projects: A Study for the Development of Project Performance

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### Abstract

Due to the dynamic nature of construction project management, it is inevitable that conflicts will arise. Construction projects are commonly influenced by both success factors that support projects parties finish their objective as scheduled or delay factors that reschedule project completion. The objectives of this research project are to identify success and delay factors to aid contractors in Lanao del Sur to reach their objective on time throughout the construction. This research studied success factors and delay factors through survey questionnaires and structural consultations aiming experts involved in a construction project. Data was collected and evaluated by statistical method to distinguish the utmost significant success factor and causes of delay. This research extracted the most significant success factors according to the literature and most significant delay factors recognized by project parties. The correlation among them is studied to determine with which the most prominent ways in avoiding delays for the success of the project construction. Most of the success factors that contribute to the completion of a construction project are mostly consultant and owner related. Thus, the researcher concluded that to minimize construction delays, effective strategic planning, site management and supervision and clear information and communication channels are possible methods that could be of a great help to be able to have a well-developed construction management.

**Keywords:** Success factors, delay factors, construction project, construction management and project performance.

### Introduction

The construction industry plays a major role in progression and attaining the goals of civilization. Project attainment can be distinct as satisfying the goals and the objectives as suggested in the scheme of the plan; finishing its methodological enactment, keeping up with the timetable, and staying within the financial budget. Construction has difficulty in its usual aspect since it comprises great quantity of individuals as stakeholders, contractor, clients and consultants. The construction industry is one of the industries that have numerous concerns in its daily operations. The study of fresh literature shows that construction projects are usually accomplished with large cost overruns, extended schedules (delay) and quality concerns.

Most of the construction companies nowadays aspire to step up on the next level of this industry, to have advantage, to earn more and to succeed. Thus, to attain this objective, it is a key for contractors to wisely categorize the factors for the success of their projects.

Success of every construction projects such as road development, irrigation, drainage, water supplies projects, housing projects and building establishments plays a major part on the economic development of a province. Thus, the aforementioned usual construction projects were interlinked in the development of the economic growth of the province of s del Sur. Philippines is now a developing country, Lanao del Sur should be part of this development, construction companies operating in the province should always consider the success of every projects they have for the stability and growth of the economic performance of the province.

This study examines success and delay factors in an organized manner to define what success components are most significant and what delay components are to be considered and to be avoided. After the success factors and delay factors are determined, the chances for the development of construction project performance within the province of Lanao del Sur can be measured by the experts in order for them to have a a successful project outcome.

### **Statement of the Problem**

This study attempts to find answers to the success factors and delay factors of the construction project in the province of Lanao del Sur implemented by contractor firms/companies working in the said province. Specifically, this study will sought answers to the following questions:

1. What are the success factors which are the most influential construction companies that are currently undertaking in the construction industry in Lanao del Sur?
2. What are the delay factors to be avoided or prevented that are experienced in the construction industry in Lanao del Sur?
3. What are the success factors and delay factors that are presently experienced by the construction industry in Lanao del Sur?
4. What are the implications can be drawn from the study?

### **Research Design of the Study**

The researcher used the descriptive research method to identify the success factors in construction industry in the province of Lanao del Sur implemented by contractor firms/companies working in the said province so that pon ssible remedies will be drawn. This study used a structured survey questionnaire that was prepared by the researcher in seven pages paper distributed to the respondents and personal interview which was a one on one talk with the respondents. It will be conducted towards professionals in construction companies that have been registered to operate or supervise a construction project.

### **Significance of the Study**

This research will provide valuable information to reach a better understanding of the construction industry at Lanao del Sur. This study will be used to improve the understanding of self-worth in the background of construction system. This study will be beneficial to the construction firm/company whom has project in the province of Lanao del Sur to enhance their knowledge to what are the necessary steps to overcome the delay of their construction project herein Lanao del Sur.

It is foremost hope of the researcher that this study will provide clear insights to readers and enlighten their minds to be able to know and understand what is mean by the duties and obligations of every citizen to have a successful construction projects.

### **Data Gathering Procedure**

The researcher personally distributed the questionnaires to the respondents and they were given enough time to give their sincere answers or responses to the questions. The data in the questionnaires were checked, tallied and tabulated. The results provided valuable data about the problem to be studied. Ultimately, the findings served as the basis for conclusion and recommendations.

### **Statistical Tools**

After gathering the data, the researcher used the frequency distribution and percentage in analyzing them.

*Simple Frequency and Percentage*

*Formula:*

$$P = f/N \times 100\%$$

Where:

P = Percentage      N = Number of Respondents    f = Frequency

### **Findings**

After the data collection and statistical computation from the perspective of the respondents, every factor was ranked and determined whether it is a success factor or a delay factor to their assigned index. Majority of the respondents had the senior positions and experienced between 11 to 20 years of employment in construction industry. Most contributing success factors for the consultant related are: experienced consultant, adequate approval of changes in the scope work by the consultant, proper performance of inspection and testing, accurate site investigation, accurate reviewing and approving of design documents, good communication and constant coordination among the parties. Success factors related to the contractor of the project are: competent project team, effective project planning and scheduling, proper communication and coordination among the team and adequate contractor experience. Design success factor related are: simplicity of the design but artistic, good understanding between the owner's and the design engineer, use of advanced engineering design software and knowledgeable in government regulations and laws. For the Labor related success factor are: decent coordination among the laborers, frequent monitoring of attendance, high motivation, productivity and moral and qualified/experienced laborers. Materials related success factor are: on time delivery, reliable suppliers, no prior changes in material types and specification during construction and good quality of construction materials. Success factor related to the owners of the project are: adequate approval of design, appropriate progress of payment, capable representative, well oriented in construction project process, open-handed for intensives to the contractor to finish ahead of schedule, faster decision making and no prior change of order during construction. Lastly the success factor related to technical aspect of the construction project is: attention to the legal matters between the project materials and participant act accordance with original contract.

This study also identified certain delay factor that should be avoided. A delay factor for the consultant related is conflict between consultant and design engineer. Delay factors related to the contractor of the project is old-fashioned technology. Design delay factor related is insufficient data collection and survey before designing. For the Labor related delay factor slow mobilization of labor because of transportation delay matters due to some detoured road. Lastly the materials related delay factor is shortage of construction materials in the market.

## **Conclusion and Implication**

In a construction project where time truly equals money, the management of time is critical, thus predicting the likelihood of schedule delay may play a key role towards project success. There existed a need to develop a probabilistic schedule delay analysis model in construction projects as a decision support tool for contractors before the bidding stage.

This report emphasized the survey research that had been sent to the professionals in construction industry in Lanao del Sur. 60 respondents answered and were statistically computed and tabulated in order to determine the success and delay factors for the construction project in Lanao del Sur. However, this research is mainly focused on general aspect, not stated in specific condition of projects. The factors might be applicable at any situation during the projects. In fact, future research can be continued for further detail of the success factors in specific condition of projects.

Subsequence with the research and survey, the following is the most defined delay factor in Lanao del Sur construction industry; Conflicts between consultant and design engineer, obsolete technology, insufficient data collection and survey before design, slow mobilization of equipment, loss of time by traffic control and restriction at job site, slow mobilization of labor, shortage of construction materials, delay in progress payments and original contract duration is short. Thus, the most critical delay factors could be taken as the mitigation measures for construction professionals in Lanao del Sur in the future projects. Understanding the delay factors in Lanao del Sur, will help to increase success rate in the construction projects.

Future studies could be performed for different specific types of construction projects, such as road and railway construction projects, building housing projects, utility projects, highways, viaducts and dam construction projects, etc. Future studies can be designed by utilizing different model parameters such as: different number and group of schedule delay factors, linguistic variables and membership functions, weights of rules, aggregation, etc. This study opens up a realm of possibilities where future researchers can produce more powerful, user friendly software that can analyze all the possible schedule success factors, producing fast and reliable results.

Further research is needed to investigate potential improvements in the implementation of project management systems in Lanao del Sur construction industry. Efficient project management would result in tangible outcomes for all aspects of planning, scheduling and monitoring control of time, cost and specification of projects. Implementing efficient management methods will overcome political, organizational and cultural obstacles. Appropriate training for workers related to their task should be organized. For instance, proper management training should be coordinate among engineers and project managers. Skill training for laborers workers is one of the mitigation measures of succes factors in construction projects.

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