



**Modeling Learning Curves for Constructional Work  
Activities in Jordan**

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**This Thesis was submitted in Partial Fulfillment of the Requirements for  
the Master`s Degree in Engineering Project Management.**

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**Amman - Jordan**

**June.2019**

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## **Acknowledgments**

Writing this academic work has been a very important part of my life. I would like to be thankful to all those who helped and encouraged me during my study. I greatly appreciate their advice and continual support throughout the completion of this thesis.

First of all, I am highly indebted to my university supervisor Associate professor Ibrahim A.Mohammed for the cooperation, perceptive remarks, support, kindness, and useful guidance he has continually given me over the period of the study.

Thanks must also go to the honorable supervision committee represented by Dr. Ghalib Sweis and Dr.Ibrahim Froqa for their help and guidance.

I am very grateful to His Excellency the Minister of Public Works and Housing Professor Mohamed Talib Obaidat for guidance and advice since the first day in the field of engineering to submit a master's thesis.

I would like to thank two special people in my life who gave me support and love Dr. Nawaf Obaidat and his wife Mrs. Fayrouz Obaidat.

Lastly, and most importantly, thanks to my friends who were beside me during this period in which I had the honor to meet new and distinguished colleagues from different Arab countries. I wish them all success.

**DEDICATION**

**TO MY PARENTS**

**PROF. MOHAMMED KANOUSH ALSHERA`A**

**KAWKAB JAMIL ALABBADI**

**TO MY BROTHERS**

**NASSER & THAMER**

# **MODELING LEARNING CURVES FOR CONSTRUCTIONAL WORK ACTIVITIES IN JORDAN**

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## **Abstract**

Productivity of laborer`s in the construction site was studied in this thesis, for their productivity of the main factor affecting time required to complete the construction project. To the knowledge of the thesis, there have been no previous studies in Jordan that tackled to the curves of learning in predicting the exact time required for construction work. Objectives of this thesis are to measure the amount of improvement in laborer`s, production in repeated construction processes, and to find learning curves for the number of selected activities. It was necessary to clarify the factors affecting the productivity of the laborer`s.

Two research strategies were used in this study. The first was the field survey, choosing two case studies, selecting five work assignments and reading the time required for each task to calculate the productivity of the laborer`s to accomplish each. Task and then calculate the time required to accomplish all of them. By monitoring the performance of laborer`s using a stopwatch. The researcher also interviewed a number of project management professionals, engineers and contractors. As for the second strategy, the construction of a questionnaire was distributed to 140 engineers in the ministries of public works and housing and to employees of Ministry of Municipal Affairs, where 104 responses were obtained around the most influential laborer`s on the site.

As a results, the study found that the percentage of learning ranged from (1.801 & 2.486) for column works and ( 3.842 & 6.122) for stone works, (3.94 & 9.7) for tile works, (4.42 & 3.64) for plastering works and (5.867 & 11.25) for paint works. The reason for the variation in proportions is due to abundance, material availability, weather conditions and temperature humidity which are more likely to be affected.

Therefore, it is necessary to document the time necessary to complete the tasks to establish a fixed database in Jordan to be compared in addition to the expansion of the study to a larger number of construction work tasks as well as factors affecting them.

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