

**AN EVALUATION OF CRITICAL RISK FACTORS IN
LOCAL CONDOMINIUM DEVELOPMENTS
THROUGH ANALYTIC HIERARCHY PROCESS
(AHP)**

**MASTER OF SCIENCE
IN
CONSTRUCTION PROJECT MANAGEMENT**

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(AHP)**

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“This dissertation was submitted to the Department of Civil Engineering of the University of Moratuwa in partial fulfilment of the requirements for the Master of Science in Construction Project Management”

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Declaration of the candidate & Supervisor

I, the undersigned, hereby declare that the Dissertation entitled “**An Evaluation of Critical Risk Factors in Local Condominium Developments Through Analytic Hierarchy Process (AHP)**” written and submitted by me to the University of Moratuwa, in partial fulfilment of the requirement for the award of degree of Master of Science under the guidance of Dr. Chandana Siriwardana is my original work and the conclusions drawn therein are based on the material collected by myself.

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Dedication

This thesis is dedicated to my loving Parents, Wife and Family
and particularly to
all the stakeholders who have spent their time and effort in the development of
condominiums in Sri Lanka.

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First, I express my sincere thanks to my Supervisor Dr. Chandana Siriwardana and the Staff of University of Moratuwa for guiding me in completing of this study and for encouraging me to publish this work as a paper.

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Abstract

Within the last few decades, the Sri Lankan construction industry is experiencing significant growth in high-rises, particularly the condominiums in Colombo and other highly urbanized areas in Sri Lanka. It is also evident that the condominium market has been expanding with the involvement of both local and foreign investors coming in contributing greater extent of choices and the local construction industry has also been significantly benefited through these developments. However, long term sustainability of these developments is still uncertain due to various socio-economic and political issues. Therefore, it is highly imperative to understand the root causes for such uncertainty and the risks that condominium industry faces in its future developments.

Hence, this study intended to provide an insight on the significance of following a proper risk management framework in condominium projects in Sri Lanka and to enhance the awareness on critical risk factors that might hinder the future developments and progress from the developers' perspective. Thus, the main research question formulated to investigate is "What are the major risks faced by condominium developers as hindrances to the sustainability of condominium developments in Sri Lanka?"

The study has mainly adopted both quantitative and qualitative approaches in data collection, in order to bring the developers' perspective on the risks that have a primary importance from their own point of view. Hence, a desktop study was carried out first to understand the risks that affect the condominium development industry and it enabled to identify fifteen (15) risk factors through published literature. Thereafter, a questionnaire survey was carried out using twenty-one (21) respondents comprising of professionals who are involved in condominium development projects representing three major sectors i.e. Developers, Consultants and Contractors, in order to validate the factors identified. The survey was carried out in two rounds using the Delphi Technique where the questionnaire respondents were requested to rank the risk factors based on their criticality to the condominium developments. Thereafter, the five-most Critical Risk Factors (CRFs) were identified. The data gathered was analyzed and interpreted by adopting Analytical Hierarchical Process (AHP) with the involvement of ten experts selected among the survey respondents.

According to the analysis, the location of a development, inaccurate forecasting on sales and demand, issues related to funding, delays in obtaining clearances and construction challenges due to labour scarcity were considered to be the most critical risk factors in developers' perspective. These risk factors could heavily impact on the investment decisions of the

developers in condominium projects. Thus, the study provides an insight that can be used in policy formation and practices of the Sri Lankan condominium industry to develop a better risk management framework.

Keywords: Condominium projects, Developers, Critical Risk Factors, Risk Management

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LIST OF ABBREVIATIONS

Abbreviation	Description
CMA	Condominium Management Authority
UDA	Urban Development Authority of Sri Lanka
CoC	Certificate of Conformity
CEB	Ceylon Electricity Board
SLT	Sri Lanka Telecom
NWSDB	National Water Supply and Drainage Board
AHP	Analytic Hierarchy Process
CRF	Critical Risk Factor
JV	Joint Venture
BoI	Board of Investment of Sri Lanka
URA	Urban Redevelopment Authority of Singapore
JLL	Jones Lang Lasalle (Sri Lanka)
MMWD	Ministry of Megapolis & Western Development
USA	United States of America
AR	Average Ranks
CRF	Critical Risk Factor
MS	Microsoft

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