

**A STUDY ON CUSTOMER SATISFACTION AND APPLICATION  
OF QFD FOR QUALITY IMPROVEMENT IN  
RESIDENTIAL APARTMENTS**

**BY**

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To My Parents

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## DECLARATION

This thesis is a report on the research work carried out in the Department of Civil Engineering, University of Moratuwa, Sri Lanka, During July 2003 to September 2004. This submission is original and does not have any materials previously published or written by any others anywhere, except where citing is made.

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## ABSTRACT

There has been a significant growth in the residential apartment market in Sri Lanka during the last decade. The main reasons behind this upsurge include the growth of population, changes in living patterns and the soaring prices of property particularly in urban areas of the country. Sustainability of this segment of construction depends to a greater extent on the ability of developers to satisfy customer requirements in the long run. At present, most of the residential apartments are designed without the involvement of potential users or customers. When there is a communication gap among the parties, particularly with respect to user requirements, the goal of customer satisfaction and high quality services cannot be achieved. To ensure defects free and user-friendly form of residential apartments, the right blend of design, construction and operation phases is vital.

This study has analyzed the information obtained through questionnaire survey to measure occupants' perception of characteristics of their apartment and its surroundings in terms of both 'importance' and 'quality'. The analysis considered both the private and public sector apartments and its process, critical issues regarding housing and customer attitudes were identified. Further, the results of the study revealed that understanding and determining the real customer requirements are essential for the sustainability of the residential apartment business; to address this issue, Quality Function Deployment (QFD) technique could be used quite successfully and if there is a mechanism to listen to the voice of the customers such as the Post Occupancy Evaluation (POE) surveys presented in this research or any other that enables the involvement of users during the early stages.

*Key words:* Residential apartments, Quality, Customer satisfaction, Post Occupancy Evaluation, Quality Function Deployment

## ABBREVIATIONS

- CABE : Commission for Architecture and the Built Environment  
CMA :Colombo Metropolitan Area  
CCI : Chamber of Construction Industry  
HOQ :House of Quality  
HOMBSAT : Home Buyer Satisfaction  
IQA :Institute of Quality Assurance  
NHDA : National Housing Development Authority  
POE :Post Occupancy Evaluation  
QFD : Quality Function Deployment  
TQM :Total Quality Management  
SD : Standard Deviation  
UDA : Urban Development Authority  
VOCs. : Voice of Customers



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## KEY DEFINITIONS

- Customer** Customer gives broad meaning. In this study customer represents as end – user or occupier
- Developer** The word developers in this work means the company/organization developing the land and plan the development supervise its construction and manage all the business elements of the project. Here, private developers where firms build homes for the private owner occupier market and public developers where NHDA and UDA are going to be considered.
- Design Team** The group of professional consultants who work in collaboration to develop the project, particularly in the stages before construction. Includes Architects, Engineers and Quantity Surveyors
- Residential Apartments** In this study the appellation ‘ residential apartments’ refers to house- buildings, multi –family housing etc.

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