

A Study on the Maintenance Cost of the Apartment Housing

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Abstract:- Housing is a fundamental need for everyone. Houses are items that draw attention to themselves due to their attributes. As the population and income of the population has grown, so has the demand for housing. As a result, apartments have been constructed to meet people's needs while lowering the amount of land used for residential development. Year after year, the building's maintenance costs rise. Poor or non-maintenance is attributed to rising costs and limited funds. It is vital to identify the elements that influence the cost of apartment resident maintenance in order to ensure that the cost of apartment resident maintenance may be reduced. The scale of apartment housing must be planned, including the number of households, building space, and building type. As a result, it would be advantageous to anticipate the cost while taking into consideration various maintenance features. They include things like floor space, the number of households, heating type, site area, and other maintenance aspects. The ultimate goal of this study was to investigate, assess, and manage the risks associated with determining what factors influence maintenance costs.

Keywords: Maintenance Costs Factors, High rise buildings, Building Owners, Tenants and Types of Maintenance

I. INTRODUCTION

In the field of housing and infrastructure development, Apartments used to be modest living spaces with basic utilities like housekeeping, water, and common lighting. When housing became more vertically oriented with high-rise buildings, lifts were added to the list. Generators were added afterwards due to lack of consistent power supply. Because of the society's tiny size, all connected charges were rigorously limited and closely regulated. (Devanathan, 2013) Within the gated community/ housing society/ apartment complex, we now enjoy a new lifestyle with a swimming pool, gym, club house, party hall, library, guest bedrooms, Jacuzzi, Sauna, landscaped gardens, tennis courts, cricket pitches, golf courses, and other amenities (hence forth referred to as housing society). The builders and developers entice us with an endless list of lifestyle amenities. It appears that life in such a place is a paradise. When you buy an apartment with some of these features and begin to live there, paradise appears to be a mirage. Poor or non-maintenance is attributed to rising costs and limited funds. Such housing societies (or resident welfare associations) have an administrative body (the managing committee - MC) that is constantly collecting maintenance and paying dues. There is a drastic increase in the productivity of maintenance when we institute centralized

and rationalized apartment building maintenance system in place of traditional maintenance. There is no time set aside to analyze costs or investigate cost control. Many MCs have succumbed to sloppy budgeting, rash decisions based on a lack of cost information, and a lack of scientific procedures to identify, allocate, apportion, and control expenses. It's always back to square one, no matter who is in charge of the MC.

II. FACTOR THAT AFFECTS THE COST OF APARTMENT MAINTENANCE

Buildings must be properly maintained by someone with the necessary abilities. The term "maintenance" can be interpreted in a variety of ways. Maintenance is "any work done to maintain or restore any facility," for example, every portion of a site, building, and everything associated to a building must be up to code. Aside from that, maintenance is the effort required to restore and maintain a damaged facility to current standards. As a result, the goal of building maintenance is to keep a structure in good working order and in a condition that is adequate for its intended use. Building maintenance is a mix of technical and administrative actions aimed at ensuring that the item and all parts associated to the building meet the appropriate standard conditions in order to execute the desired function. As a result, the ultimate goals (Azlan, 2009) of building maintenance are to preserve the value of the investment, to ensure that buildings are in acceptable condition and meet the required standard, to present a good appearance of the building, and to conserve the building's historical and architectural values. The total expense or budget set aside to maintain the building's condition is referred to as the maintenance cost. Direct costs such as material, labour, plant, and tool used to maintain the building are also included in the maintenance cost. Meanwhile, high-rise building maintenance costs include indirect costs such as management and administrative employees, as well as overhead costs. One of the biggest housing expense components, is maintenance and operation. Maintenance and operation of buildings often contribute one-third to half of the entire cost of maintenance work, depending on the kind of residential unit such as condominium, apartment, flat, or other. (Rydell, 1970)The cost of maintaining a high-rise residential structure is influenced by a number of factors. Building characteristics, tenant factors, maintenance

factors, new regulation factors, and other elements can all be grouped into five categories.

A. Factor of building attributes

One of the factors that influences upkeep is the building's characteristics. Building characteristics include building age, function, building size, building height, types of structure, building finishes, building materials, and other factors. Every building has its own unique characteristics and peculiarities in the distribution of the overall cost of required maintenance to keep it in excellent working order. Due to the building's rising age, maintenance costs will rise. The maintenance cost is also influenced by the height and area of the building. Building services are a part of the building maintenance process. The building services system should be designed and implemented to ensure that the tenants or occupants of the building live a healthy and safe existence. Every building requires the implementation of building services, which include ventilation, lighting, power, water, sanitation, communication, transportation, and other systems. Building services and structure become factors that influence maintenance costs. In order to inspect, maintain, repair, rehab, and replace the building structure, a significant amount of financial resources must be given. Inspection and maintenance should be performed on a regular basis to ensure the structural stability of the building and to keep the occupants safe. The type of material used has an impact on the cost of maintenance, asset operation, and service life. The materials used to repair and replace broken building components will have an impact on the materials used. The cost of maintaining higher-quality materials is higher (Shabha, 2004).

B. Tenant Factor

The cost of housing maintenance is influenced by the tenant or occupier of a high-rise residential building. Tenants are responsible for up to 25% of the maintenance requirements. As a result, techniques that a landlord might use to bridge the gap between costly maintenance and management of reasonable consumer expectations or demands with tenant and resident participation in housing management (Yip, 2001). Tenant or resident expectations, property use, vandalism by the occupier or a tenant, delay and failure to notify problems, and property accessibility all influence maintenance costs.

C. Factor of Maintenance

The cost of housing maintenance may be heavily influenced by the maintenance component. In general, maintenance factors are classified into two categories: technical and administrative issues. Poor workmanship and poor quality of spare parts and materials are two technical factors that have an impact on maintenance costs. Poor maintenance management, budget constraints, failure to execute maintenance on time, and poor budgetary control are all administrative factors that influence maintenance costs.

D. Factor of Regulation

(Horner, 2002) Changes in local and national regulations have a significant impact on maintenance activity. Many activities of persons participating in the built environment industry are governed by statute. Building code law establishes minimal criteria to ensure that structures are both safe and efficient to use. The goal of building safety laws is to eliminate accidents. This legislation regulates and restricts how maintenance is performed, which has an impact on maintenance costs.

E. Additional Factors

Third-party vandalism is a severe problem that can be found in some high-rise apartment buildings. Damage caused by a third party will necessitate additional maintenance costs to restore the damage. Another element that contributes to rising housing maintenance costs is a lack of or insufficient training for maintenance employees. The performance of maintenance is affected by factors such as staff maintenance or skilled operators.

III. MAINTENANCE FEES: WHAT ARE THEY AND HOW DO THEY WORK?

The annual cost of repair and maintenance for each flat is 0.75 percent of the total cost of construction. Housekeeping, security guards, equipment used, electricity rates, and other service prices are shared evenly among the inhabitants. Repair and maintenance costs for elevators are also split. A sinking fund of 25% of each flat's cost exists. For rented units, non-occupancy costs of 10% of service charges are imposed. Parking fees are assessed based on the amount of parking spaces given to flat owners.

The following points can be used to divide the costs:

- Electricity for the common area, security arrangements, lift operators, cleaners or janitors, parks and gardens, and other charges are included in the service charge.
- Internal roadways, pumping systems, drainage facilities, elevator service, generator service, street lighting, security equipment, and so on are all included in the repair and maintenance charges.
- Vehicle parking fees: If you own a vehicle and use the parking space available to you, you are subject to these fees. Two-wheelers and four-wheelers have separate charges.
- Water-related fees: The number of water inlets in each flat is used to calculate the water charge.
- Non-occupancy fees: If you don't live in your apartment, you'll be charged this fee, which is within 10% of the service fee.
- Sinking Money: An emergency fund set up for unforeseen events. The governing body of the housing society decides on the fund's size.
- Property tax is levied by the state government's designated body.
- Late payments will incur interest at a rate of up to 21% per annum.
- Insurance premiums; the building and its equipment are frequently insured, and the

members will split the cost of the annual premium payment.

The area of each apartment determines the lease and rent payments. In a nutshell, maintenance fees are required of all flat or apartment owners.

IV. APPROPRIATE AND SCIENTIFIC PROCEDURE

According to today's evolving scenario of housing societies being more than just places to live, individuals should be educated on the fact that maintenance cannot be a completely set expense, especially when operating costs are included and charged under the heading of maintenance.'

The first step would be to divide maintenance costs into two categories:

1. Fixed (which in the real sense is maintenance cost)

The costs of fixed maintenance are those that are incurred regardless of the number of people living in the housing society/occupancy. The society is subjected to local taxes. The above elements are included in the fixed cost.

- Annual Maintenance Contracts (AMC) prepared for elevators, diesel generators, and common air conditioners, among other things.
- House keeping contract.
- Salary to maintenance staff .

These costs are typically steady over time (say a year) and are required to keep a housing society's facilities in good working order.

2. Variable (predominantly running expenses).

Running expenses include diesel generator fuel, the cost of purchased water, sewage disposal costs, and common electrical charges for lifts, bore well motors, and lighting. (Devanathan, 2013)

The allocation of fixed and variable costs should be reasonable and acceptable. Variable maintenance expenses have a direct impact on the number of people that live in the housing society.

V. FINAL THOUGHTS

This study adds to our understanding of the expense of apartment building maintenance. The expenditures of maintaining a building are always a concern for the property's management and owner. As a result, actions should be done or devised to lower the expense of high-rise building upkeep. All stakeholders should work together to solve the problem of rising maintenance costs. All parties involved in maintenance management, such as tenants and residents, should participate. For example, residents should take care of the common area of the property together. Furthermore, building maintenance management should provide all residents with an operating manual and regulations as a guideline, as well as the budget for maintaining the building, in order to generate awareness and a sense of belonging to one another. They should be able to comply with the management's regulations once the system is implemented. Maintenance management should implement efficient maintenance management ideas that are relevant to their buildings as additional actions to lower

the cost of building management. Building maintenance management is responsible for following the maintenance schedule that has been established.

Aside from that, stringent enforcement of maintenance fee collection should be undertaken from time to time for all residents or tenants. A top leader in the maintenance management department must make the proper decision on staffing by hiring people who have qualifications that are equivalent to the job. As a result, deliver high-quality maintenance work that meets the requirements or expectations of the relevant stakeholders, such as occupiers and building owners. In conclusion, our study benefited a variety of stakeholders, including the developer, who would benefit from a better understanding of the factors that influence unit maintenance costs. The developer will also be aware of how to improve their services, which have an impact on apartment maintenance costs and, as a result, indirectly reduce their building's maintenance costs. As a result, when they manage the high-rise building for new development, they will save money on upkeep. The government agency will be able to determine the factors that influence high-rise building maintenance costs and the budget that has to be set aside for upkeep. This research also provides significant information to building owners and renters, reducing the maintenance costs of government buildings, building owners, and tenants. Building owners and tenants will understand why maintenance costs vary from year to year. As a result, they were forced to look after the building where they were staying.

VI. REFERENCES

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