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BUILDING SERVICES AND FACILITY MANAGEMENT IN HIGH RISE BUILDING

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ABSTRACT:

What is facility management? It is simply management of building and services. There are various building services provided in the high rise building such as plumbing, sanitation, water supply air conditioning and fire fighting. To make staying in high rise buildings comfortable, special aspects need to be considered. All the tall buildings should have requisite amenities and services that would be suitable to its nature. Therefore care and attention must be paid for satisfying the service requirements during general planning as well as structural planning of high rise buildings as they are very important. So it is very important to study the building services like plumbing, sanitation, ventilation, conditioning, electrification.

INTRODUCTION:

Introduction to the building services and facil in the high-rise residential buildings in order to make a comprehensive study of all the s facilities for those involved in the construction field. T need of the hour is 'vertical expansion' high-rise buildings can run successfully without the p r inst ion of the services .The idea o providing d use services starts in t ceptual stage f. One has to be acquainted with the set dards as per design of the building Th prime aim sho e Safety and in the construct n of high-rise build The future sight with respect t long life of the bu g must be targeted. The above o has been achiev through the case-studies which h een done. It has b en observed that in practice, on one ha me of th rvices are installed as per the norms but o r hand there are a few areas which are neglected. It h een easy to study the subject through the live example of the buildings. Here are some are conclusions which are drawn from the case studies.

METHODOLOGY:

How the study was conducted and the various steps taken from the beginning to the completion of the study. It starts with the setting of the study, then, the study population, sample frame, sample size and sampling technique adopted. Others include data collection instruments and methods of data analysis The investigation took place in s ven villages located in the area known and referred to as the Pimpri Chinchwad municipal corporation one of Pune. These are Akurdi, Pimple Gurav, Pimpl h, Pimpri Waghere, Tathawade, Ravet, Wakad villages population of the study consisted of all e high ris ildings within the PCMC, Pune identified a ve. High ri uildings are buildings having h ight more than 35 m. Suc uctures must have facil es such as twenty-four hours water supply, u interrupted power supply There are more than n thousa building were permitted by PCMC, Pun ong which One thou and and fifty-three high rise buildin permitted whic is a huge number to carry ut the su for the stud Another thing is that most of high ris ildings permitted but is incomplete in mpletion statu various reasons. So for this study he focus is given on the buildings which are completed before 2012 In order to secure representative responses, the size of the sample of high rise building for the study ould not fall below the representative size determined statistical estimation theory, which is based on the degree of confidence that the researcher wishes to employ (Kothari, 1978). For this study, the researcher defines how large a sample of high rise building should be in order to be 95% confident that the probable error of using a sample rather than surveying the whole population will not exceed 0.02%. The following formula is given:

$$N = \frac{Z\alpha^2 n \beta (1-\beta)}{(n-1)\delta^2 + Z\alpha^2 \beta (1-\beta)}$$

N will be maximum and the sample will yield at least the desired precision.

δ is the true value of β which in this case is 0.02 or 2% In this case, the formula yields 09. So 9 No of buildings are selected for study.

One of the features of a good research design is the generation of data for refuting or validating the apriori expectations or hypotheses. Both primary and secondary data were generated for this research. Primary data mainly came from direct observation of the events, manipulation of variables, and contrivance of research situations including responses to questionnaires. Secondary data are also required for this research, which came from PCMC, Pune.

The research method adopted for this work to generate the required data was survey research. The survey research basically focused on self-administered questionnaires complemented with in-depth personal interview, physical survey of the constructed facilities, in-depth study of system operations and facilities bench marking

ANALYSIS OF DATA:

Comprehensive breakdown of data collected from questionnaires administered to tenants in seven villages in Pimpri Chinchwad Municipal Corporation of Pune.

The analysis undertaken in this has been arranged into two sections. The first section examines the preliminary survey details along with the profiles of the selected case studies and customers involved in the study. Finally, the second section is the summary and concluding remarks. For first section, exploratory data analysis (EDA) is first embarked upon prior to more rigorous statistical analysis in line with Tan (2004). However, it must be stated that some of the analysis or tables are preliminary or preamble to another which may warrant scanty comments. At the summary level for each vari research question or objective, extensive discussions are made.

Data was collected between the months pril and November, 2016. The administration and retri was achieved personally and with the aid of a fiel assistant in each of the seven The various responses were subsequentl coded analyzed between August 2016 and mber 201 y means of Microsoft Excel Spread Sheet Ana is

Aggregated responses to building services of s of facilities agement driven building occupant. Th sponses, whe sembled and sorted, with princip of exclusiveness and exhaustiveness in mind, br t out the 2 traits as shown their ranking. A uate and functional facilities ca rst, followed by q ity accommodation with competitive charges coming on the rear. These traits buttresses the indi s earlier ed.

RESULT:

Respondents were asked total 25 questions regarding facilities to indicate the satisfaction level. These question are based on the various building services and facility management such as plumbing, sanitation, water supply, fire fighting, lift and elevator, parking and air conditioning. With the help of liker scale the results are interpreted. The liker scale used for work is shown in table

Very good	Good	Average	Satisfactory	Poor
5	**4**	**3**	**2**	**1**

The responses of every question are driver and arranged in descending order. The higher percentage of response shows the occupants are satisfied with service and lower percentage shows the occupants are not satisfied. At the time of study it found that respondents have recorded 'Poor' as satisfaction level to none of the questions.

CONCLUSION:

Following points are concluded from this paper:-

From case study it found that the plumbing and sanitation services e give more wattage. Occupants are satisfied with pl ng and sanitation. In some of building it was und the storage of water for breakdown con ion is not more importance

In the all case studie electrical work, the standard materials and workma has been followed as p the Indian Standards and ce with the co truction wo k. There is use of child fe switches, fire wires, moti sensor lights and earth leakage circuit bre in all building. Cos umers are fully satisfied with electri vices) to study e existing building services nd facil anagement some selected high rise ilding as a study.

In all ca ies, adequate measure has been ken for fire-fig ng. Hydrants are provided near the staircase and sprinkler system has been provided at the basement parking. In some of case study fire fighting orage tanks is not given much importance In all the s, there are minimum 2 lifts in each building but th e is no provision of fire-lift. In some of building there is provision of visitor lift. At time of study it was found that costumers are satisfied with lift and elevator services.

At the time of case studies it is found that, the cleanliness of water tank and maintenance of drainage system not given much more importance. It creates problem to occupants. Hence, it is to be considered that the planning of building services should not be neglected in the conceptual stage in any high-rise building. If neglected in the initial stage, creates problems in the later stage of construction and would remain as a curse for the rest of the life of the building and the occupants.

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