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Study of Factors Affecting Customer Satisfaction for Residential Flats in Surat and Ahmedabad city in Gujarat Region of India

Rathod Piyush¹, Dr.Rajiv Bhatt², Dr. Jayesh Pitroda³

¹Student of final year M.E. & Construction Engineering & Management & B.V.M. Engineering College, Vallabh Vidyanagar, Gujarat, India, piyush99116@gmail.com

²HOD, Associate Professor, Civil Engineering Department, A.D. Patel Institute of Technology (ADIT), New Vallabh Vidyanagar, Gujarat, rajiv7967@gmail.com

³Assistant Professor, Civil Engineering Department, BVM Engineering College, Vallabh Vidyanagar, Gujarat, jayesh.pitroda@bvmengineering.ac.in

Abstract - Customer satisfaction is very essential for construction industry for Residential projects. In India, real estate sector is passing through tough period. Construction industry needs to understand the needs of residents to continuously improve their products. This paper focuses on analysis of satisfaction factors of customers of Residential flats in cities like Surat and Ahmedabad Gujarat region of India. A customer may be defined as the owner of the project and the one that needs the constructed facility. In simple terms, the customer is the buyer of the product or service. Various factors affecting customer service satisfaction, It was found that flat owners in these unsatisfied with the facilities. We find the satisfaction and un satisfaction factor from Flat owner.

Keywords: Customer satisfaction, Residential flats, RII.

1.INTRIDUCTION

Customer satisfaction is an important factor in the development of the construction process and customer relationship. As construction companies face-increasing competition, greater attention continues to be placed on customer relationships and satisfied customers. Customer satisfaction enables construction companies differentiate themselves from their competitors and create sustainable advantage. The primary purpose of buildings is to provide occupants with conducive, safe, comfortable, healthy and secured indoor environment to carry out different kinds of activities ranging from work, study, leisure and family life to social interactions. In order to achieve this purpose, buildings are designed, planned, constructed and managed based on standards and specifications established by governments, professionals and experts, who are supposed to have adequate knowledge of user's needs and expectations. Customer satisfaction has become one of the issues for construction companies in their efforts to improve quality in the competitive market place. It can be seen as either a goal or a measurement tool in the development of construction quality. It is also apparent that high customer satisfaction leads to the strengthening of the relationship between a customer and a company, and this deep sense of collaboration has been found to be profitable. Satisfaction studies cut across a wide range of disciplines in the management and social sciences as well as the built environment. enerally speaking, satisfaction is a subjective evaluation of the performance of products or services in meeting the needs and expectations of users or customers. It compares the benefits or values users or customers derive to that expected when a product or service is consumed. In a nutshell, satisfaction is a measure of the difference between the actual and expected performance of products or services in meeting users' needs and expectations from the users' or consumers' perspective during or after a consumption experience. Buildings like any other products are designed and constructed with lots of expectations by clients, professionals, users and the community. To clients, buildings require huge capital investment and are expected to bring returns on investment, while to professionals (e.g. architects, builders and engineers) buildings are products of their creativity and imaginative thinking. On the part of users and community, one crucial expectation is that buildings will meet their needs and aspirations by supporting their daily activities and ultimately improve the aesthetic quality of the built environment. The objective of this paper is to examine and deepen the understanding of customer satisfaction factors in the construction projects in Surat and Ahmedabad city.



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2.NEED OF STUDY

Customer satisfaction is one of the critical success factors for all companies. Improving quality and customer satisfaction has received extensive attention. Customers want all utility and service and quality. It should present a good appearance. Customer need good climate and its effect, customer needs their requirements. Customer also reflected on cost.

3.CRITICAL LITERATURE REVIEW

The literature review is carried out to identify factor affecting on construction firms. This are the various research review regarding factors of customer service satisfaction in construction works.

Hinks et al (2001) in this research identified the fact that customer satisfaction in terms of new housing is more than just the technical quality of the constituent components of a house. Quality in new housing as far as the customer is concerned is very much an overall concept. This paper looks at some of the ways that other industries have attempted to measure the rather unformulated concept known as customer satisfaction and considers scope for translating them into the house building context.

Maloney et al (2002) evaluated concept of service encounters is examined in the context of perceived quality and customer satisfaction. Determinants of service quality are analyzed in terms of how they influence perceived quality. The relationship between the criteria used by customers in choosing suppliers and the factors driving satisfaction are examined, and results of two studies of factors involved in contractor selection and satisfaction are reviewed.

Kärnä (2004) examined construction in terms of customer satisfaction and quality. A framework is developed to Mishra (2009) suggested objective of the study was to know the satisfaction level of customer residing in various townships or cooperative societies and to find out the expectations & need of the customers from the builder. The main factors of this study is purchasing residential property depend upon quality and name of developer for this company should have strong goodwill in market. [4]

Yim et al (2010) they evaluated residential satisfaction, the effect in corporation performance based on a previous research of the influence on consumers' behavior by consumers' recognition of the quality of residential environment of apartment house. This study provides a hint to improve homebuilders' management scope and to find alternative policies of the government by verifying

evaluate the dynamics of customer satisfaction and quality. An empirical analysis is conducted to explore customer satisfaction in construction as perceived by two customer groups: public and private customers. Results indicate that the need for contractors to improve performance related mostly to quality assurance, handover procedures and material. Public customers were found to be less satisfied with the contractor's performance than private customers. [23]

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Kim et al. (2005) suggested evaluation criteria based on performance value or the one frequently met in practice by development and application of a housing performance evaluation model for multi-family residential Buildings. They presented model that can be used for objective and practical evaluation and comparison of residential housing alternatives and hence provided users more substantial and practical information about in-use housing performance. [26]

Voordt et al (2006) discussed about general objectives and methods of Post- Occupancy Evaluation (POE) and to show how research findings can be used in designing, redeigning and management of office buildings. Research findings from ex post evaluations can be used to improve the building that has been investigated, and also as an input into ex ante evaluation of other buildings, to build up a body of knowledge, to develop theories about "how buildings work" i.e. about experience, use and costs and benefits of different design solutions, and to develop design guidelines and recommendations for accommodation olicy.[27]

Fly et al (2008) purposed of this research paper is to identify how top performing contractors ask, publish, and respond to customer feedback. A self-administered survey was used to ask information regarding contractor's client feedback process. [14]

housing satisfaction of apartment houses' quality of residential environment, corporation and influential factors. [11]

Zadkarim1 et al (2011) said that the role of customer satisfaction as a mediating factor in the intention of word of mouth is supported. In contrary, in high income sample customer satisfaction influenced more by product quality and service quality than other constructs.[25]

Akinluyi et al. (2012) Concluded that, Functional, Aesthetic, Structural qualities and Satisfaction are important in the overall Students' Housing for Obafemi Awolowo University. This study has examined the socioeconomic characteristics of the students in the halls of

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residence. They carried a 215 were sampled and more male students were sampled at O.A.U. Students that resides in O.A.U ranges between the ages of 21-25years. This study definitely improves the overall standard of student's residential satisfaction. (22)[18]

Singh et al (2013) carried out a 200 sample of salaried class persons was taken by using purposive sampling technique from tri-city i.e., Chandigarh, Mohali and Panchkula. This was identify the key factors affecting the decision of customers to buy residential apartments. The most important factor while selecting a apartment

We find out the various factor from previous study. Doing the further study and survey from above this factor and find out the factor for customer service satisfaction and un satisfaction factor.

Builder reputation

Materials & Method Used In Construction

Location Of The Building

Aesthetic Appearance Of The Building

Security Provisions

Fire Safety and Protection

Size and space of rooms

Drawing Or Living Room

Bathroom

Area Calculation

Ventilation

Water supply

Parking

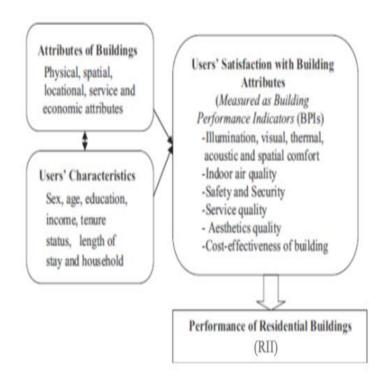
Recreational Facilities

Interiors of building

followed by Financials, Connectivity, Layout, Proximity, and Recreational and Leisure factors. [6]

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Saglik et al (2014) studied, a survey questionnaire was used as the data collection technique and Ruetzler's (2005) scale, which was developed to measure service quality in a college refectory. They use methodology of factor analysis, ANOVA, t-test, and multiple regression analysis. they performed 689 valid cases of survey data.[7]



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4.METHODOLOGY FOR RANKING OF FACTORS FOR CUSTOMER SERVICE SATISFACTION

There is need to carry out ranking of factors. There are many techniques to carry out raking. Such techniques are as below:

- 1. Relative Importance Index (RII) Method
- 2. Important Index (IMP.I.) Method
- 3. Relative Importance Ratio (RIR) Method

From above methods most appropriate method for ranking factors is Relative Important Index Method.

The Relative Importance Index (RII) can be used to rank (R) the different factors. These rankings make it possible to cross-compare the relative importance of the factors as perceived by the four groups of respondents (i.e. clients, consultants and contractors, subcontractors). Each individual factor's RII perceived by all respondents can be used to assess the general and overall rankings in order to give an overall picture of the factors for selection of subcontractors by contractors in Indian construction industry. This RII technique were used by many researchers like Geraldine john kikwasi (2012), Aftab Hameed Memon et al. (2014) to rank the causes of delay in construction projects. The formula to calculate RII is given below:

 $RII = \sum W/A*N$

Where,

W = Weighting given to each factor by the respondents (ranging from 1 to 5),

A = Highest weight (i.e. 5 in this case),

N = Total Number of respondents.

5.CONCLUSION

The research work presented in the paper has focused on the analysis of the factors affecting the customer satisfaction specifically for residential flats of 2BHK and 3BHk category. Scope of the work is limited to 2 cities of the Gujarat of India – Surat and Ahmedabad. This paper study is very important to identify factor which affect the customer service satisfaction in construction industry. Factors are identified. Relative Important Index(RII) is suggested to carryout ranking of above factors.

REFERANCES

[1] Abayomi Omonori, Akinloye Lawal," Understanding Customers' Satisfaction in Construction Industry in Nigeria", Journal of Economics and Sustainable Development, ISSN 2222-1700, Vol.5, No.25, 2014.

e-ISSN: 2395 -0056

- [2] Abdulhamid Shebob, Raj Shah, and Amit Mhalas, "A Review of Customer Satisfaction Factors in Libyan Housing Projects" KICEM Journal of Construction Engineering and Project Management, KICEM Journal of Construction Engineering and Project Management, ISSN 2233-9582, 2013
- [3] Abdulhamid Shebob, Raj Shah, and Amit Mhalas, "A Review of Customer Satisfaction Factors in Libyan Housing Projects", KICEM Journal of Construction Engineering and Project Management, ISSN 2233-9582, 2013
- [4] Alok Mishra," A study of Customer Satisfaction of Residential properties in selected areas in Pune", International Journal For Administration In Management, Commerce And Economics.
- [5] By Z' eljko M. Torbica and Robert C. Stroh, "Customer Satisfaction In Home Building", Journal of Construction Engineering and Management, Vol. 127, No. 1,ASCE, ISSN 0733-9634, January/February 2001, 0082–0086.
- [6] Dr. Tejinderpal Singh, "Identifying Key Factors Affecting Purchase Decision Of Residential Apartments: An Exploratory Study In Peripheries Of Chandigarh" International Journal of Applied Services Marketing Perspectives, ISSN (P):2279-0977, Volume 2, Number 3, July – September 2013, 493-498.
- [7] Erkan Saglik, Asst. Prof. Ali Caglar Gulluce, Ufuk Kaya, Çağlar Kadir Ozhan, "Service Quality and Customer Satisfaction Relationship: A Research in Erzurum Ataturk University Refectory", American International Journal of Contemporary Research Vol. 4 No. 1; January 2014.
- [8] Eziyi O. Ibem a, Dolapo Amole, "Subjective life satisfaction in public housing in urban areas of Ogun State, Nigeria" Cities 35, 2013, 51–61.
- [9] Eziyi OffiaIbema,n, AkunnayaP.Opokoa, AlbertB.Adeboyea, Dolapo Amoleb, "Performance evaluation of residential buildings in public housing estates in Ogun State, Nigeria: Users' satisfaction perspective" Frontiers of Architectural Research, 2013, 178–190.
- [10] F. Jesin Esther Mary, Dr.S.T.Surulivel "A Study on Buyer Satisfaction in Residential Apartment With Reference to VGN Infra Pvt. Ltd" International Research Journal of Business and Management, ISSN 2322-083X, Volume No – IV, 2014
- [11] Hae Lee Yim, Byeong Hun Lee, Ju Hyung Kim, and Jae Jun Kim," The Effect Of The Quality Of Apartment Houses On The residential Satisfaction And Corporation Performance",
- [12] Hidayat Kaiman, Andri Yan Prima Zani, "Influence of Service Quality and Price of House flat on customer satisfaction (Studies in Marunda flats of North Jakarta)",



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- International Journal of Business and Management Invention ISSN (Online): 2319 8028, ISSN (Print): 2319 801X,Volume 2 Issue 7, July. 2013,01-05.
- [13] Jasper Mbachu, Raymond Nkado," Conceptual framework for assessment of client needs and satisfaction in the building development process", Construction Management and Economics, January 2006, 24, 31–44.
- [14] Jessica J. Fly, MCSM, Dennis C. Bausman, "Customer Satisfaction Survey Best Practices".
- [15] Jyh-Bin Yang, Sheng-Chi Peng, "Development of a customer satisfaction evaluation model for construction project management" Building and Environment 43, 2008, 458–468
- [16] Mastura Jaafar, Noor Liza Hasan Osman Mohamad T. ramayah, "The Determinants Of Housing Satisfaction Level: A Study On Residential Development Project By Penang Development Corporation (PDC)"
- [17] Milan Ambro, Martina Praprotnik, "Organisational Effectiveness and Customer Satisfaction", Organizacija, Volume 41, Research papers, September-October 2008.
- [18] Muyiwa Lawrence Akinluyi, "An Evaluation of Functional, Aesthetic, Structural qualities and Satisfaction in Selected Students' Housing for the University", International Journal of Architecture and Planning, Volume 3, Issue 1, 2014, ISSN: 2147-9380, 2012, 1-27.
- [19] Paulinus Woka Ihuah and David Eaton, "A Frame Work For The Sustainable Management Of Social (public) Housing Estates In Nigeria: A Pilot Study" The Construction, Building and Real Estate Research Conference of the Royal Institution of Chartered Surveyors, 2013
- [20] Pooria Rashvand and Muhd Zaimi Abd Majid, "Critical Criteria on Client and Customer Satisfaction for the Issue of Performance Measurement" Journal of Management in Engineering, Vol. 30, No. 1, © ASCE, ISSN 0742-597X, January 1, 2014, 10-18.
- [21] Roshana Takim, Akintola Akintoye "Performance indicators for successful construction project performance." Association of Researchers in Construction Management, Vol. 2, 2002, 545-55.
- [22] Sami Kärnä "Analysing customer satisfaction and quality in construction the case of public and private customers".
- [23] Sami Kärnä "Analysing customer satisfaction and quality in construction the case of public and private customers".
- [24] Sami Kärnä, "Analysing customer satisfaction and quality in construction the case of public and private customers", Nordic Journal of Surveying and Real Estate Research Special Series Vol. 2, 2004.
- [25] Siamak Zadkarim, Hossien Emari, "Determinants of Satisfaction in Apartment Industry: Offering a Model", Journal of Civil Engineering and Urbanism, ISSN-2252-0430, Volume 1, Issue 1: 15-24, 2011.
- [26] Sun-Sook Kim, In-Ho Yang, Myoung-Souk Yeo, Kwang-Woo Kim, "Development of a housing performance evaluation model for multi-family residential buildings in Korea", Building and Environment 40, 2005, 1103–1116.

[27] Sun-Sook Kim, In-Ho Yang, Myoung-Souk Yeo, Kwang-Woo Kim, "Development of a housing performance evaluation model for multi-family residential buildings in Korea", Building and Environment 40, 2005, 1103–1116.

e-ISSN: 2395 -0056

- [28] Tony Auchterlounie, Dr. John Hinks, "The measurement of customer satisfaction in the private house building sector", Inclusive and Sustainable Environments: Conference Papers. 2001.
- [29] William F. Maloney, M.ASCE, "Construction Product/Service and Customer Satisfaction", Journal of Construction Engineering and Management, Vol. 128, No. 6, ASCE, ISSN 0733-9364, December 1, 2002, 522–529.



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House Cost:

APPENDIX: A

SURVEY FOR: STUDY OF FACTORS AFFECTING CUSTOMER SATISFACTION OF RESIDENTIAL HOUSING PROJECT IN SURAT AND AHMEDABAD

GENERAL INFORMATION

Name of the housing estate:

Owner of the house:	1=Very Dissatisfied
Age:	2=Dissatisfied
Address:	3=Neutral
Constructed year:	4=Satisfied

Type of House: 5=Very Satisfied

Built of Area:

SERVICE PROVIDED BY THE COMPANY								
Sr No.	Builders Attributes	1	2	3	4	5		
1	Natural / Behavior of the builder							
2	Fulfillment of the requirement							
	Budget							
	Time							
	Quality							
3	Appointment of the Supervising team							
4	Construction Company Reputation							
BUIL	DING ATTRIBUTES							
Sr No.	Builders Attributes	1	2	3	4	5		
	Type, Location and Aesthe	etic .	Арр	eara	ance)		
1	Number of bedrooms							
2	Building type							
3	Design of bath and toilet facilities							
4	Type of materials used in the construction of building							
	Materials in flooring							
	Materials in wall							
	Materials in door and							

	windows			
5	Location of building in the housing estate			
6	Aesthetic appearance of building			
	Sizes and design of internal spaces			
7	Sizes of living rooms			
8	Sizes of bedrooms in the house			
9	Sizes of cooking and storage spaces			
10	Satisfied with kitchen design			
11	Satisfied with celling height			
	Illumination, Thermal and Visual comfort			
12	Quality of natural lighting in bedrooms			
13	Natural lighting in kitchen			
14	Quality of air in bedrooms			
15	Natural lighting in living rooms			
16	Quality of air in living/dining spaces			

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17	Thermal comfort in the			
17	building			
18	Privacy in the building			
	Security and protection			
19	Protection against noise pollution			
20	Protection against dampness in the building			
21	Protection against insects and dangerous animals			
22	Security measures in the building			
23	Fire safety measures in the building			
24	Door Locks			
	Water and electricity supply			
25	Electrical services in the building			
26	Water supply and in the building			
	Service			
27	Extent to which home builder set your expectations early.			
28	Extent to which home builder personnel were available during evening and weekend hours.			
29	Extent to which you were welcomed enthusiastically.			
30	Extent to which home builder presented the basic advantages of the home.			
31	Extent to which you were treated like a person, not a number.			
32	Extent to which home builder personnel			

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	showed an interest in you as a customer.			
33	Extent to which you were given a quiet place to make decisions.			
34	Extent to which home builder explained every step of the home buying and building process to you.			
35	Extent to which it was made clear to you whom you should contact during construction.			
36	Extent to which home builder explained to you your responsibilities for maintenance and upkeep.			
37	Extent to which home builder explained to you the way the various items in your home operate.			
38	How satisfied were you with the professionalism of the home builder personnel?			
39	How satisfied were you with the competence (skills and knowledge) of the home builder personnel?			
40	How satisfied were you with the responsiveness (willingness to help and provide prompt service) of the home builder personnel?			
41	How satisfied were you with the reliability (ability to perform the promised service dependably and accurately) of the home builder personnel?			
42	How satisfied were you			



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	with the communication with the builder's construction personnel?						(i.e., after move-in)?	
43	How would you rate your satisfaction with your builder's attitude about customer service							
OBSE	RVATIONS				_			
Mate	rial used in flooring:							
Door	Materials:							
Wind	low materials :							
	ition of the building : Soun rs/ damaged	d / Min	or Re	pairs ,	/ major			
Passa	ige Space : Width							
Stairo	case Dimensions :							
Eleva	tor Details : Dimensions							
	Company							
Plum	bing Fixtures : Company Na	me						
Plot I	Dimensions : Length							
Widtl	h							
Built	Up Area of Building:							
FEED	BACK							