### A Study to determine the Home-Buyer's Preferences through Voice of Customer

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*Abstract*: Home-buying is a dream of every individual but the preferences may vary from one person to another. The main objective of this study is to determine the home-buyer's preferences and residential satisfaction of customers and create awareness among the builders about what buyers prefer in terms of both service and product during the construction or purchase of their residential premises. A focus interview has been conducted among the home-buyers of Chennai City in India to find out the Voice of the Customer (Feedback) on their preferences on buying a house. Based on the statements received by the present researchers during the interview, and after validating these items with the previous studies, a theoretical model linking home-buyer's preferences and customer satisfaction has been developed. This model will certainly be helpful to the construction industry in order to understand the needs/ expectations of the home-buying customer and ultimately in achieving customer satisfaction.

#### Keywords: Builder, House, Customer Focus, Customer Satisfaction

I.

### INTRODUCTION

In today's rapidly changing world, there is a drastic change in the life style of the people. People prefer to have a comfortable living with modern dressing styles and rich looks, sumptuous food, air-conditioned rooms, luxury cars and homes with all facilities/ amenities. They want to fulfill their life-time ambition of owning a beautiful house with an aesthetical appeal, and they attain the status of "customers" in the context of home-buying once they complete the transaction of purchase or occupy a residential house or apartment as an owner [1]; such home-buying customers actually influence the demand of a construction project [2]. In order to satisfy the home-buyer's preferences, the builder (or promoter) has to prepare himself from the learned lessons of the past projects or understand the customer's needs or expectations through a scientific feedback system. But the main problem is that the feedback of one client cannot be directly used for another client, as the main preference of one buyer may not be the preference of another. Customers definitely differ in their preferences and buying behavior relative to the same product [2]. It is therefore extremely difficult for the builder to satisfy all the needs and wants of the customer which differ from one individual to the other, as there is no set standard or specific benchmark that is readily available to adopt them in real life. Apart from this, even most buyers are in dilemma as to what factors should be considered the most important while purchasing a new house. Since housing differs in its type, size and design, but whatever form it takes, there is a need to measure its quality to ensure that it satisfies the resident's family and cultural norms [3]. Improving the quality of construction projects from customer's perspective has gained increasing interest and customer satisfaction has been identified as one of the major challenges in the whole construction industry [4].

Customer's Residential Satisfaction is a feeling of contentment or fulfillment when the customer has ultimately achieved what he has expected in a house; residential satisfaction has been used as a key predictor of an individual's perception of general "quality of life"; residential satisfaction is an ad hoc evaluative measure for judging the success of developments constructed by private and public sectors, and an assessment tool of residents' perceptions of inadequacies in their current housing environment in order to improve the status quo [3]. When customers are comfortable dealing with service providers, they are more willing to complain when service failures occur [5], [6]. The satisfaction level of residents (customers) with respect to quality of workmanship and quality of materials in the construction, quality of repair and maintenance works, surrounding environment of the residential estate, performance of the agencies responsible for estate management, and overall (individual) satisfaction of living in that particular residential estate are some of the factors that are deemed important [7].

To learn about how satisfied its customers are, the company must periodically measure customer satisfaction; but in construction, the extent of satisfaction, or dissatisfaction, is often known only late in the project when most of the customer's money has been spent [8]. Increasing interest is now shown towards the study of how people think of their housing and how it affects their lives; and measuring the housing quality has become an important tool [3]. Since there are no commonly accepted methods of measuring customer

satisfaction in the construction industry [8], the present researchers have conducted this study to identify the most common home-buyer's preferences through the concept of Voice of Customer (VOC) and bring out a holistic model which will be helpful to the building industry.

### II. VOICE OF THE CUSTOMER

Voice of Customer (VOC) is the critical analysis procedure that provides precise information regarding customer input requirements for a product/ service output and the comfort-level that a home-buyer experiences from his house-builder or service provider [9]. VOC enables the engineers and other decision makers to successfully understand and prioritize the customer needs, wants, perceptions, and preferences and serves as a benchmark for future home-buyers on what should be considered important at the time of taking decision to buy a house; and also the information obtained from the customers can be set as goals to satisfy the customer requirements [9]. The beginning of research on VOC originated from the studies of Parasuraman et al. (1988) [10] wherein the authors have mentioned that VOC can be collected through customer's recognition studies and customer surveys [9]. This feedback from the house occupants/ residents will bring out what the home-buyers prefer while purchasing a house, what will satisfy them as a customer of a residential building, whether the customer's expectations are really met during the process of home-buying, and what is the level of satisfaction that is achieved by customer on the quality of services or quality of the constructed building/ facility.

### III. RESEARCH METHODOLOGY

In this study, 250 nos. of home-buyers were approached by the researchers of the present study for conducting a focus-interview in Chennai City, who have recently purchased an individual house or residential apartment from builders. The customer feedback (Voice of the Customer) on their preferences or experiences in purchasing the housing premises/ residential apartment/ building has been obtained during the focus-interview, and the interview-respondents were selected through convenience sampling method. Out of 250 respondents, only 113 were willing to participate in the focus-interview, and the response rate has been only 45.2%. Based on the statements given by the home-buyers during the interview, 46 common preferences of home-buyers or which had the same meaning/ intent have been presented in Table 1. A review of literature was also done to validate these 46 preferences of the home-buying customers, and after analyzing these statements, the preferences were condensed to 23 items, which were supported by literature, and given in Table 2. Using these 23 items validated by literature, a theoretical model has been developed linking home-buyer's preferences and customer satisfaction, and presented in Fig.1. Also, the home-buyer's preferences that are learnt through the focus interview by the present authors are further analyzed and summarized in Section IV.

	(Based On Customer Feedback/ Voice Of The Customer)					
S.N	Expectations of Home-buying Customers (based on Voice of Customer through Focus					
0	Interview)					
1.	I expect that my building should be designed by reputed architect, civil/ structural engineer.					
2.	I expect that my builder should construct the building in a manner that the occupants are always safe.					
3.	I will not recommend my builder to others if the quality of his building construction is not good.					
4.	I expect good image about the builder in the society if I want to buy a property from this builder.					
5.	I will not give my future projects to the same builder if I experience bad service from him.					
6.	I prefer my builder to be kind and polite to me throughout the buying process.					
7.	I expect that my builder should not be harsh when I ask for clarifications in my housing project.					
8.	I want my builder to be courteous and helpful to me at all times.					
9.	I will see the builder's previous experience before I buy the house from him.					
10.	I will not get convinced on the builder unless I see (myself) the finishes of his completed buildings.					
11.	I expect my builder to show me the building approval received from regulatory authorities.					
12.	I will ask the builder to show me evidence of the land-approval by the statutory bodies.					
13.	I should be informed periodically on the actual progress at construction site.					
14.	I expect the builder to intimate any delays on the project to us in a prompt manner.					
15.	I expect the builder to have healthy relationship with me.					
16.	I prefer the builder should conduct periodical meetings with me for discussing project related issues.					
17.	I expect that my builder should understand my needs/ desires/ expectations about the project.					
18.	I want my builder to fix reasonable price for the housing project that I buy from him.					
19.	I will be happy if my builder completes my housing project within the estimated price quoted to me.					
20.	I do not want my builder to keep any hidden cost or charge me extra cost on my project.					

## Table 1. Expectations Of The Home-Buying Customers (Based On Customer Feedback/ Voice Of The Customer)

21.	I expect builder to complete my housing project within a stipulated time.		
22.	I will get frustrated if my builder do not attend my service complaints on first priority basis.		
23.	I expect the builder to guide me on housing loan/ insurance of housing property that I buy from him.		
24.	I will be happy if my builder offers me payment of my house on installment basis.		
25.	I wish that my builder should appoint knowledgeable/ experienced personnel to construct my house.		
26.	I will select my builder who is financially sound to take-up my housing project.		
27.	I will not purchase my house from a builder who do not possess necessary resources.		
28.	I expect my builder to coordinate with architect/ engineer of building project throughout construction.		
29.	I will not allow my builder to continue if his workmanship in construction is not good.		
30.	I do not want the builder to be of egoistic nature.		
31.	I want builder to take safety measures to avoid accidents at site, which we consider as a sentiment.		
32.	I expect involvement/ dedication of the builder towards achieving good quality product (building).		
33.	I want my builder to show keen interest in successful completion of the project.		
34.	I want my builder to make accurate estimation of cost before quoting them to us.		
35.	I expect my builder to show me the accurate built-in measurements.		
36.	I expect my builder to complete the project as per the drawings and specifications finalized with me.		
37.	I don't want any pending work while my builder hands over the premises to me.		
38.	I will like if my builder is impartial among his various customers who have purchased a house.		
39.	I expect my builder to maintain consistency in providing service to customers throughout the project.		
40.	I want the builder to attend to my phone calls, or promptly respond later in case he is busy.		
41.	I expect that I should be able to easily file service or product (construction) related complaints.		
42.	I prefer builder to be honest and trustworthy.		
43.	I expect that my builder should be genuine in all the business transactions with me.		
44.	I will never compromise in the quality of work done by my builder.		
45.	I expect that my builder should use good quality materials in construction.		
46.	I want my house to be designed maintenance-free.		

# TABLE 2. IDENTIFICATION OF VARIOUS FACTORS RELATING TO HOME-BUYER'S<br/>(PREFERENCES FROM LITERATURE REVIEW)

S.	Home-Buyer's	Items supported by Previous	Brief Explanation on the Preferences of
No	Preferences	Studies	home-buying customers
			(By the Present Authors)
1	Customer-focused	Karna et al. (2009) [4];	The builder should focus on serving the
	Approach	Leonard (2008)[11];	customer and achieving the stated and implied
		Lam et al. (2008)[12];	needs of the customers.
		Forcado and Macarulla (2012) [13]	
2	Societal Image	Forsythe (2012) [1];	Positive perception or good-will about the
		Lam et al. (2008) [12];	builder in the society.
		Ibem (2012) [14]	
3	Sound Financial	Leonard (2008) [11];	Soundness of the builder on financial
	Capability of Builder	Lam et al. (2008) [12]	investment/capital and his capability in
			ensuring that proper cash / fund flow is
			important for the successful running of the
			construction project
4	Construction on	Forsythe (2012) [1];	The proposed building should be constructed
	Approved Layout	Lam et al. (2008) [12]	on an approved land/layout (i.e., land
			approved by statutory/regulatory authorities)
5	Authorized Building	Forsythe (2012) [1];	The house should be constructed after taking
	Construction	Lam et al (2008) [12]	necessary permission to build from statutory/
			regulatory authorities
6	Safe Design	Forsythe (2012) [1];	A safe design of the building structure against
		Ibem (2012)[14];	wind forces and earthquake and safety against
		Shen and Jensen (2011) [15]	fire accidents, etc.
7	Previous Experience	Cho and Huang (2011) [16];	Builder should demonstrate his competency
	on Similar Projects	Singh (2008) [17]	level and experience through previous
			projects.
8	Excellent Design	Forsythe (2012) [1];	Providing an excellent, up-to-date design
	and Drawings/	Ibem (2012) [14];	with all drawings and specifications by
	Specifications	Shen and Jensen (2011) [15]	consultants (i.e. architects, civil/ structural
			engineers and interior designers).

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9	Charging of	Forsythe (2012) [1];	Charging the customer reasonable price and
	Reasonable Cost to	Leonard (2008) [11];	abiding by what has been jointly agreed by
	the Customer	Forcado et al. (2012) [13];	the builder and customer at the time of initial
		Ibem (2012) [14]; Lai et al. (2008) [18]	negotiation/ signing of agreement/ contract with builder
10	Appointment of	Shen and Jensen (2011) [15];	Appointment of knowledgeable and
10	Experienced	Cho and Huang (2011) [15];	experienced construction personnel (like
	Construction	Randeree and Chaudhry (2012) [19];	construction engineers, employees and
	Professionals	Saari and Tanskanen (2010) [20]	construction workers).
11	Courteousness	Cho et al. (2011) [16];	Politeness/ kindness of the builder (or his site/
	courteousness	Randeree and Chaudhry (2012) [19];	office representatives) shown towards the
		Singh (2008) [17];	customer.
		Limsila and Ogunlana (2007) [21];	
		Toor and Ogunlana (2009) [22]	
12	Promptness	Randeree and Ogunlana (2012) [19];	Prompt response of the builder to the
		Toor et al. (2009) [22]	customer throughout the project and in all
			aspects, viz., buildings finishes, project
			progress, delays, bills.
13	Healthy Builder-	Karna et al. (2009) [4];	The level of rapport and maintaining
	Customer	Lam et al. (2008) [12]	interpersonal relationships of the builder with
	Relationship		the customer.
14	Timely Response to	Forsythe (2012) [1];	It is immediate and quick action of the builder
	Customer	Lam et al. (2008) [12]	on attending to complaints raised by the
	Complaints		customer.
15	Accurate	Lam et al. (2008) [12];	Ensuring that the built-in measurements of the
	Measurements	Forcado and Macarulla (2012) [13]	building match with customer-approved
1/			drawings.
16	Better Involvement	Lam et al. (2008)[12];	It is the level of dedication of the builder
	of Builder in the	Cho and Huang (2011) [16];	towards execution of the building project.
17	Project	Su et al. (2009) [23]	Using good quality of materials in
17	Good Quality of	Forcado and Macarulla (2012) [13]; ham (2012) [14]:	Using good quality of materials in
	Materials	Ibem (2012) [14];	construction and which conforms to approved
19	Good Workmanship	Saari et al. (2010) [20] Forsythe (2012) [1];	standards and technical specifications. Quality of work achieved by skilled workers,
18	Good workinaliship	Lam et al. (2008) [12];	as a result of supervision of experienced
		Forcado and Macarulla (2012) [13];	engineers/ supervisory staff.
		Limsila and Ogunlana (2007) [21]	engineero, supervisory start.
19	Good Quality	Forcado and Macarulla (2007) [21]	Standard of finish or aesthetic appearance of
1)	Finishes	Ibem (2012) [14];	the constructed building/ facility.
	1 moneo	Shen and Jensen (2011) [15]	and constructed bundling/ facility.
20	Construction Health	Leonard (2008) [11];	Concern of builder on health and safety of
-0	& Safety	Forcado et al. (2012) [13];	construction workers, and developing a safe
	······	Ibem (2012) [14];	and accident-free construction site and by
		Saari and Tanskanen (2010) [20]	providing personal protective equipments.
21	Scheduled	Leonard (2008)[11];	It refers to project completion within the
-	Completion	Limsila and Ogunlana (2007) [21]	scheduled time and cost.
22	Systematic	Forcado and Macarulla (2012) [13]	It denotes to proper and systematic handing
-	Handover of		over of the completed project to the customers
	Premises		after explaining the building systems/ features
			and maintenance-related aspects to customer.
23	Customer Feedback	Karna et al (2009) [4]	Periodical feedback of customers on level of
			expectations and fulfillment of their needs.
	End-Result	Support by Previous Literature	Explanation by the Present Authors
	Customer	Mohit et al. (2010) [3];	Customer Satisfaction is the overall feeling of
	Satisfaction	Karna et al. (2009) [5];	contentment, fulfillment or satisfaction of the
	Sausiacuon	Leonard (2008) [11];	home-buying customers on purchase of the
		Leonard (2008) [11], Lam et al. (2008) [12];	house, when he has ultimately achieved all
		Ibem (2012) [14];	what he wantedhis needs, desires or
		100m (2012) [17],	expectations on the residential building
			expectations on the residential building

### IV. DEVELOPING A MODEL LINKING HOME-BUYER'S PREFERENCES AND CUSTOMER SATISFACTION



Fig. 1. Theoretical Model linking Home-Buyer's Preferences and Customer Satisfaction

A Theoretical Model on home-buyer's preferences and the resultant Customer Satisfaction is theorized in Fig.1, based on opinions of the customer through Voice of the Customer interviews, which is summarized as follows:

Once an individual decides to buy a house, the initial step what he does is that he enquires his relatives, friends or neighbors to recommend a good builder from whom they have purchased a property in previous occasions and if only their relationships were good and fruitful throughout the project. Also, the main requirement of the customer is that his house should be designed by a well-reputed architect, and an experienced civil/ structural engineer should provide the structural design. Therefore, the word-of-the mouth recommendation of the past customers (who have purchased the property from the same builder) forms an integral part of the decision-making of the new home-buying customer. Also, this new customer chooses to approach a house-builder who has good name and image in the society. Not all but few customers will be interested in thoroughly understanding the financial capability, technical and professional skills and resources (such as manpower, machineries) of the builder. After short listing the list of builders based on the capability of the builder in executing similar projects, the prospective home-buyer will meet each of them for discussing about the new project and find out the selling price of the housing property rates on per sq. ft. basis. It is high time that the builder develops a rapport with the prospective customer, and offers the best selling price of the housing project to the customer. If the price of the house is reasonable, then the customer moves further in knowing about the details of the project; he tries to understand some conceptual sketches/ drawings or shows interest in viewing some scaled models of construction or attempts to see an animated movie-presentation on the new project to understand the location, type of project (independent house, residential flats) and facilities provided in the project by the builder. The customer evaluates and forms his own opinion/ ideas on the worthiness of the project, and the value for the money that he will be spending on the project. He would like to visit some of the completed projects or mock-finishes of the housing project in order to understand the quality and workmanship and various finishes of the project.

Next, the customer would ask the builder to show approval of the land property and buildings received from the statutory/ regulatory bodies. He would also investigate on the transfer of land and building or the undivided share (UDS) by the builder to the name of the customer. The customer would like to know whether the customer's changes or modifications in design or specifications will be considered by the builder and how the customer's complaints have been handled in the past by the builder. In the home-buying process, the customer expects that the builder should be courteous, polite and friendly with him, and patiently answer all questions posed by the customer regarding the project or financial commitments.

Once the customer decides to buy the property from a particular house-builder, there should be a positive sign and quick response of the builder in providing all information to the client relating to the project and complete the booking formalities. The customer expects that the builder should involve in the housing project, and customer wants the builder to personally interact with him on all project-related issues, and expects even the builder should promptly answer all his phone calls. The builder should, at all times, be committed to serve the customer, and promise to fulfill the needs of the customer. The customer should get a feeling that the builder is able to understand the needs/expectations of the customer in terms of house design, aesthetical looks, arrangements of rooms and space utility, and providing the needed furniture, fittings and fixtures, and the builder should transform the ideas of the customer into reality. More importantly, the building should be designed for safety against wind, earthquake, lightning, fire accidents, etc.

The customer expects that the builder should maintain good inter-personal relationships with him, and promptly and periodically intimate the progress or delays of the project. He expects that the builder or his representative should accompany the client to the construction site to show him the physical progress of the project. He wants the builder to use good quality of construction materials, and ensure that good workmanship is achieved by engaging skilled construction work force/ professionals. The customer expects that the workers who are appointed by the builder in the construction project should always be in good health, and a conducive working environment is created by the builder to the workers (for example, providing good accommodation to the worker, proper house-keeping of the site, and making sure that waste-water is not stagnated and getting drained-off away from the site). The customer expects that no worker should meet with an accident due to negligence; also, the occurrence of an accident in construction site will create an havoc or hindrance to the progress of the project; and, in case of fatal accidents, the project may be hauled till problems are resolved.

The customer expect that the builder should charge him a reasonable price, and guide him on how to apply for housing loan. He expects that the builder should not charge any amount extra (or hidden) cost over what has been agreed at the time of signing the agreement, and should be transparent and ethical in all his transactions with the customer. The builder should complete the project within the estimated budget and show proper measurements to the customers while handing over the premises to them. All built-in measurements are to be shown to the customer matching the drawings, originally agreed by him. There should be a smooth handing-over of the premises by the builder to the customer; and on taking over by the customer, he should feel happy that the house layout, aesthetical looks and interior design are something great and extra-ordinary, which cannot be compared to the facilities provided by any other builder. At the time of handing-over the premises to the customer, the builder should explain the features and operational mechanisms of the facilities provided in the building, for example, use of chimneys in kitchen, geysers, taps and shower-mixers, door locks and safety childlock facilities, electrical distribution boxes and phase change-over switches, invertors during power-cuts, and so on. After taking over possession of the premises, if the customer comes across any problems like improper fixing of doors and windows, non-working of electrical fixtures/fittings, dampness of walls and wall-painting related problems, leakage of taps, repair to weathering course in terrace, improper flooring or wrong slope in balcony floors, or wall tiling works, etc., he will certainly get upset as he would have spent a lot of his hardearned money / savings towards purchase of the house/apartment or would have even paid the cost of the building through a housing loan; and therefore, the builder has to take urgent measures in rectifying any construction errors/ mistakes without any delay, and fully satisfy the customer. If all the customer's complaints are taken care of by the builder in a timely manner, then the customer will be thoroughly satisfied.

### V. CONCLUSION

Through the above study, the most common home-buyer's preferences that will result in customer satisfaction have been identified and a theoretical model linking these two has also been developed. This study will bring consciousness among the house-builders world-wide on what home-buyers expect or prefer as important in terms of both service and product (house) delivery. Mutual trust and harmonious relationship have to be developed between the builder and house-buying customer, and this will help a long way in successful completion of the project. The builder should make attempts in creating a congenial environment in which the builder and the home-buyer travel towards the journey of creating a marvelous building structure that is safe, excellent in design and which demonstrates the aesthetical ingenuity. If the home-buyer's preferences are correctly identified and fulfilled, then the end goal, "customer satisfaction" will be reached.

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