Synopsis of the Thesis

Factors Influencing the Buying Decision of the Consumers of Low-Cost Houses in Mumbai Metropolitan Region

Doctoral Thesis Submitted

**In partial fulfilment of the requirements for the award of the degree
of**

DOCTOR OF PHILOSOPHY

In

MANAGEMENT

By

Prashant Kumar Thakur
UID: 17FMRCJHD01012
Under the Guidance of

<div align="right">

Dr. Preetha Chaturvedi

Research Supervisor

Assistant Professor

Faculty of Management Studies

ICFAI University Jharkhand

Ranchi

</div>

ICFAI UNIVERSITY J H A R K H A N D

May 2023

Table of Content

Introduction

The real estate is one of the most important sectors in India. It is the second largest employment generator after agriculture and 4th largest sector in terms of FDI inflows. FDI in the sector stood at US$ 24.54 billion[1] from April 2000 to June 2017. By 2028, India's real estate market size is expected to reach US$ 853 billion[2], increasing from US$ 126 billion[3] in 2015. The residential real estate is approximately 80% of the entire real estate in India. India's housing demand is expected to grow in future primarily due to its increasing population, and an expanding economy. India's all the major cities are currently reeling under the pressure of inadequate infrastructure and housing shortage because of huge migration from rural to urban areas, that has led a to widespread proliferation of urban slums. From 109 million in 1971, the urban population increased to 377 million in 2011 and is further projected to touch 600 million marks by 2030. This clearly indicates that the demand for housing coupled with improved transit in the country is perennial. Currently there is a huge housing shortfall in urban as well as rural areas. Below is the figure on the housing shortage in India.

a. Current shortage 60 million[4]
   i. 20 million for urban
   ii. 40 million for rural
b. Expected requirement to rise 110 million by 2025.
c. 95% would be required for LIG/EWS

However, if we look at the current scenario of residential real estate in India, there is a complete mismatch in the demand and supply scenario. Currently the residential real estate is grappling with huge amounts of unsold inventory, high prices, and stagnant sales. Below are a few data points that reflect this mismatch.

a. Approximately, 7.25 Lakhs[5] of unsold inventory across the tier I cities
b. Inventory overhang of 48 months
c. Approximately 12 Lakhs houses vacant.

d. 30% of the population occupies only 2.5% land.

Historically, the residential real estate sector has been mired with the issue of lack of transparency, execution delays, lack of customer focused approach, and a destination for hoarding black money. This sector has been primarily very fragmented, wherein the small unorganized players outnumber the organized listed developers. Due to this the consumers' confidence took a dip as well as the organized financial sector stayed away from this sector. However, now the sector is going through huge fundamental changes post the introduction of Real Estate Regulatory Act (RERA), and GST.

In the backdrop of the importance of the residential sector for the growth of economy, the current problem of housing shortage, the ongoing structural changes, and the government's focus on low-cost affordable housing to tackle the problem of housing shortage in the country makes affordable housing a very relevant topic for research.

The scale and size of this industry is very significant and has a cascading impact on the overall economy. Approximately, INR 48,000[6] crores will be spent on building affordable houses by the Government of India in the year 2023. However, there is an absolute scarcity of well documented research in the field of affordable housing in Indian context.

Relevance of the Topic

Mumbai metropolitan region (MMR) being one of the most populous cities in India needs to address the problem of lack of low-cost affordable housing to address the problem of urban slums. Rapid population growth has transformed Mumbai into one of the most densely populated cities in the world. While Greater Mumbai has only around 10% of the total MMR land area, it encompasses more than 54% of the total population, depicting an imbalance of distribution. The gross population density for Greater Mumbai has doubled since 1971, increasing

from 13,640 persons/sq.km. to 28,426 persons/sq.km. in 2011. In fact, a few wards in Greater Mumbai have the highest density in the country.

Nearly 1.39 million households live in slums which is around one-third of total urban households in MMR. This underscores the massive requirement for low-cost affordable housing, specifically in the urban areas, without which people tend to opt for informal housing – leading to slums mushrooming in the city. In this backdrop, it is evident that the construction of low-cost affordable houses in MMR at a large scale needs to be undertaken. It is also clear that the success of low-cost housing depends on effective public private partnership (PPP), wherein the private developers are encouraged to take up affordable projects in the city as well as periphery. However, there are few critical areas that need to be addressed for effective PPP, wherein the developers find it a lucrative business opportunity and not just another government led scheme. For developers the affordable segment is a comparatively new segment that requires a new approach towards project planning and execution. Also, the target segment for affordable category is also different and a good understanding of consumers' definition of low-cost affordable housing and their expectation needs to be considered. Factors affecting consumer buying behavior for low-cost houses in MMR also needs to be studied and documented so that it provides substantial insight to the developers who intend to undertake construction of low-cost affordable houses and ensure that it remains economically viable for them.

Problem Statement

In summary, there is a need for a better understanding of constraints in the construction and marketing of affordable housing projects in the range of 25 lakhs to 40 Lakhs. More specifically, the following problem statements need to be probed thoroughly that would enable and encourage developers to take up low-cost housing projects in MMR.

1. The expectation of the buyers of a low-cost housing project in MMR is not properly understood by the developers and the planning authorities.

2. While the Government has introduced numerous schemes and incentives to promote low-cost housing, the level of awareness amongst the target audience has not been measured as of now.

3. Huge numbers of low-cost houses remained unoccupied in the outskirts of MMR, while the city centers are facing the problem of urban slums.

4. Most of the target customers of the low-cost housing units work in the unorganized sectors, and financial institutions are reluctant to provide home loans to them.

5. There is a lack of participation from the private developers in the low-cost housing space.

Research Objectives

The low-cost housing is being aggressively implemented by the government to meet the objective of providing housing for all by 2022. A significant amount of investment is slated to happen in the affordable segment in the coming years. However, still there is a lack of understanding and clarity on the issues like how the land will be made available, what needs to be done at planning level. Also, the developers need to know how to construct low-cost houses at a large scale in a short time as well as sell them at a faster speed to ensure that their margins are met. Most importantly, the expectation of a home buyer from a low-cost housing project in the MMR region is not properly understood.

In this backdrop the objective of this study is to provide the stakeholders of this industry with answers to the following critical points

Stakeholders	Objective
Home Buyers & Developers	1. To identify the factors that a buyer considers before buying a low-cost housing unit and its impact on his buying decision.

	2. To find out the level of awareness amongst the buyers about the various government schemes and incentives for promoting low-cost housing.
	3. To find out whether the government's affordable housing schemes and incentives have an impact on the buying decision of the buyers of low-cost housing units.
	4. To study the effectiveness of the various Government incentives provided to the private developers for undertaking low-cost housing projects in MMR.
	5. To study the direct and indirect impact of various variables on a bank's decision to give home loan to the buyers of a low-cost housing unit working in unorganized sectors.

The result of this study will be valuable to the industry practitioners as well as the government to identify the key areas to focus on that would ensure effective policy formulation and ensure active public private participation.

Literature Review

Literature review is the most critical part of the research value chain and is the core of researcher's journey towards finalizing the research topic and instilling confidence about the relevance of the topic selected. A systematic literature review ensures that the research topic selected is not a repetitive study and adds to the knowledge pool. The objective of the thesis should be to create a new knowledge stream for all the stakeholders rather than just replicating existing studies that have already been done. In fact, the maximum amount of time that a researcher should spend on should be in going through the maximum number of literatures, articles, and reports. For this study the literatures, articles, reports, and websites that have been reviewed broadly revolves around understanding the residential real estate structure in the country with a special focus on the housing shortage in the country especially in Mumbai Metropolitan Region (MMR).

Concentrated efforts have been taken to undergo through the literatures and studies conducted around understanding the reasons for proliferation of urban slums, and the role of rapid urbanization in the deterioration of urban infrastructure. The existing studies on the efforts made to date to tackle the problem of urban slums and the various government schemes and policies have been studied to understand the gaps. Literatures pertinent to the implementation affordable housing schemes implemented in few other countries have been done to draw a better understanding on how other countries have solved or are still trying to solve the challenge of providing descent dwelling units to their population.

One cannot ignore the importance of understanding the consumer buying behaviors and decision-making approach while buying high-ticket items like housing units. Hence, the literature review also focuses on reports, articles, studies conducted around consumer buying behavior and decision-making models. A preliminary literature review shows that past studies are primarily focused on the government's definition of affordable housing and completely ignores the end-user's perception of affordable housing. While there are ample studies done on the reasons for proliferation of urban slums, there is lack of research materials that can act as a guideline for the stakeholders to ensure that the affordable housing becomes a viable business opportunity and not just a government led social scheme. For developers this segment is also a new segment that requires a different approach towards project planning and execution. Also, an affordable project needs to be marketed in a different way as compared to mid and luxury projects. Currently, no such major study is done in that direction.

Assessing the buying pattern of customers towards the purchase of or affordable houses is necessary. Here, the review has specified the factors that have the major potential to influence the buying trend of homes in the metropolitan region of Mumbai. Moreover, major emphasis has been on the government scheme and the ease of loans available for the economically weaker segment and poor segment of the Indian population. This has not only helped to understand the pattern but

also helped to get a clear knowledge of the condition of the real estate industry of the nation. It would generalize the pattern of customers which triggers the buying trend with the consideration of important consumer buying models. The literature review also covered the reports and studies conducted by renowned International Property Consultants (IPCs) operating in India, as they are a very active industry participants and their studies provide the relevant updates on the progress made in the direction of progress made towards execution of affordable housing in India. Their perspective is also important as they interact with the developers, governments, municipal authorities, and customers on a regular basis either as consultants or business partners. Hence the articles and reports published by them bring in input from all the stakeholders for a better understanding of the real estate ecosystem of the country. Below is a partial list of documents, literatures, journals, and reports that were studied during the process of literature review.

Title Of the Study	Author	Scope Of the Study	Key Findings	Remark
An Inclusive Approach of Sheltering the Bottom of the Pyramid	JLL	Deep dive into the problem of urban household shortage Relationship between income level and affordability	There is a mismatch between urban population growth and housing infrastructure Affordability has been perceived differently by different stake holders	Does not cover the reasons behind the supply demand mismatch

Affordable Housing in India-Budding, Expanding & Compelling	Indian Brand Equity Foundation	Covered the Indian real estate in depth. Market potential & Growth drivers	This study was majorly skewed towards promoting affordable housing as an investment opportunity	Lack of research on the fundamental growth drivers and consumer's perception
Decoding Housing for All by 2022	KPMG	Deep dive into housing need Current policy and efforts towards affordable housing Key Challenges	Analyzed current scenario PPP is key for the success Speedy approval processes a bottle neck	Gap in terms of identifying government's initiatives to encourage PPP
Funding the Vision for all by 2022	KPMG	Instruments and means to arrange funds PPP model of execution	The capital market in India is still not ready for efficiently arranging the mammoth funding required	Does not comment on what will drive the funding interest for affordable projects

Government Gazette on RERA	Ministry of Law and Justice	Outlined the RERA Act The various governing clause for developers and brokers	Provides in-depth understanding of RERA Act	Does not addressed the effective ways of implementing the act
Development Plan for Greater Mumbai 2014-2034	Municipal Corporation of Greater Mumbai	The draft report on development plan till 2034 covers the options for identifying lands for residential development that would primarily focus on rejuvenating the city	The government has proposed various non development zone within city limits for residential construction	Gives some forward-looking insights on the government's development plan
The study of slums as social and physical constructs: challenges and emerging	Andrew Crooks (Department of Geography, George	The reason behind proliferation of slums and the imbalanced growth of cities	The skewed residential development not supported by proper infrastructure is one of the	Give a good case study from a global perspective that relates to the problem

research opportunities	Mason University		core reasons for growth in urban slums	in India as well
A blueprint for addressing the global affordable housing challenge	McKinsey Global Institute	Definition of the affordable housing. How the problem of urban slum is being tackled by other countries	It's a challenge that most of the countries are facing. Massive capital outlay is required to address the problem of urban slums. PPP model is the key to success	Gives a global case study on how the problem of housing is handled
Mainstreaming Affordable Housing in India	Deloitte Research Centre	Need identification of the project, location selection to sustainability and maintenance, the value chain. Identifies all the stages of an Affordable	The Affordable Housing sector ecosystem Critical Issues & their significance Government of India Initiatives & Interventions	The paper does not cover the role of private developers

		Housing Project.		
Mumbai Redefined	Anarock Research Team	Fast-track Redevelopment & Slum Rehabilitation Land Unlocking & Change in Development Norms Implementing Sustainable Living Focus on Affordable Housing Projects Accelerate Private Participation	A more practical development plan for the city I required. Government land needs to be unlocked	The study lacks the end user focus

Research Gap

The detailed literature review done shows that past studies are primarily focused on the government's definition of affordable housing and completely ignores the end-user's perception of affordable housing. While there are ample studies done on the reasons for proliferation of urban slums, there is lack of research materials that can act as a guideline for the stakeholders to ensure that the affordable housing becomes a viable business opportunity and not just a government led social scheme. For developers this segment is also a new segment that requires a

different approach towards project planning and execution. Also, an affordable project needs to be marketed in a different way as compared to mid and luxury projects. Currently, no such major study is done in that direction.

There is a significant gap in understanding the core factors that a buyer of affordable housing considers before taking the buying decisions. The perception of affordable housing itself was very subjective before it was formally defined by the government when they officially launched PMAY in the year 2015. While there are several studies done around providing housing to the weaker section of society, there was a lack of participation from the private sector. Most of the housing schemes were initiated by the government without proper analysis of the location and the target segment and hence most of the time it failed to meet the objective. Since most of the projects were government led, there was lack of detailed study done by an independent body with an intention of scaling up the efforts and taking the affordable housing to masses. However, post the launch of PMAY there is a huge emphasis laid on the private participation from the developers. The government is also incentivizing the developers to take up affordable housing projects and hence suddenly, this segment has become lucrative for all the stakeholders. However, there are still no major studies done towards understanding the core factors a buyer considers before buying a home. Also, lack of studies done towards helping the developers to understand the consumers psyche of affordable housing is also a deterrent in effective roll out of affordable housing units.

This study is an effort in the direction towards a better understanding of constraints in the construction and marketing of affordable housing projects in the range of 25 lakhs to 45 lakhs. Since MMR is the region that faces the most severe problem if urban slums, this study focuses on this region specifically to understand the factors that may influence the buying pattern of the region. All the existing studies done so far revolve around government policies and majorly focus on resolving the supply side issue of affordable housing and have ignored the demand side challenges of the ecosystem. More specifically, if we look at the

studies done so far for the MMR there has been a huge gap in understanding expectation of the buyers of a housing project in MMR. Also, while the government has introduced numerous schemes and incentives to promote housing, the level of awareness amongst the target audience has not been measured as of now. The reason for the huge number of houses remaining unoccupied on the outskirts of MMR also needs to be understood.

Research Hypotheses

Hypothesis 1: There is no significant influence of Builders Reputation of low-cost housing project on the buyer's decision.

Hypothesis 2: There is no significant impact of Location on the buying decision of the buyers of the low-cost housing units.

Hypothesis 3: There is no significant impact of Amenities at the low-cost housing project on the buying decision.

Hypothesis 4: There is no relations between Buyers with family preferring gated township over the standalone tower.

 Hypothesis 5: There is no relationship between quality of construction and amenities provided in the low-cost housing projects.

Hypothesis 6: There is no relationship between Level of awareness about Pradhan Mantri Awas Yojana (PMAY)schemes to PMAY helpful in fulfilling buyers wish to own a house.

Hypothesis 7: There is no relationship between Buyers who find the PMAY useful for buying affordable housing and decision for buying low-cost housing projects.

Hypothesis 8: There is no relationship between People who are aware of Pradhan Mantri Awas Yojana (PMAY) and buyers inclined towards buying low-cost housing projects.

Hypothesis 9: There is no relationship between Government Incentives and the developer intending to launch low-cost housing projects.

Hypothesis 10: There is no relationship between availability of low-cost funds for land acquisition and builder's intent to launch low-cost housing projects.

Hypothesis 11: There is no relationship between Government's effort towards making land available within the city limits of MMR will encourage the developers to launch low-cost housing projects.

Hypothesis 12: There is no relationship between single clearance window for providing all the regulatory approvals required will encourage the private developers to launch low housing projects.

Hypothesis 13: There is no relationship between the profitability of the home loan towards low-cost housing and banks decision to sanction home loan to the buyers of low-cost housing unit.

Hypothesis 14: There is no relationship between a borrowers' education level and Lack of fixed income source of borrower in the banker's decision to lend**.**

Hypothesis 15: There is no relationship exists between 'Income profile of the borrower" and "The CIBIL Score of the borrower "in the bank's decision to lend a borrower working in unorganized sector.

Research Methodology

The present research included a positivism research paradigm so that there is a quantitative analysis of facts by a presentation of facts numerically. The study included a quantitative research approach and descriptive research design so that there was the identification of unexplored facts systematically. The deductive research approach has also been included in the research that helped in developing and assessing the hypotheses that were based on predetermined facts related to factors that buyer considers before buying a low-cost housing unit and its impact on their buying decision. Additionally, primary data collection has been

included in the research in which data is collected with the help of surveys, interviews, and focused group discussions. It included using a close-ended semi-structured questionnaire that was based on a 5-point Likert scale. The focused group discussion was conducted by developers, planning authorities, and financial institutions, while the primary survey was conducted with urban slum dwellers and general homebuyers in MMR. The study included a simple random sampling method for the selection of the unit sample in an indiscriminative manner to represent the views of the large population. The ethical consideration, validity, and reliability aspects have also been considered to ensure that accurate and authentic facts are included in the study. Therefore, it can be said that the use of different research methodology tools such as research paradigm, approach, design, data collection, sampling, and data analysis has been highly beneficial in acquiring valuable insights about the level of awareness amongst the buyers about the various government schemes and incentives for promoting low-cost housing.

Population and Sampling

In the present research, a simple random sampling method has been included so that the unit sample was selected in an unbiased manner. By using a simple random sampling method there was the selection of a sampling group whose data could be applied to the overall population. It helped in acquiring reliable insights about the direct and indirect impact of various variables on a bank's decision to give a home loan to the buyers of a low-cost housing unit working in unorganized sectors from the selected set of respondents. The simple random sampling method is an easy method of collecting data that provided reliable facts related to research objectives by removing the errors of classification (Mujere, 2016). As a result, by using a simple random sampling method, there was a better understanding of the research requirements that were related determination of whether the government's affordable housing schemes and incentives have an impact on the buying decision of the buyers of low-cost housing units.

Data Analysis Tools

In the present research, Statistical Product and Service Solutions (SPSS) has been included that helped in analyzing the facts that were collated by using a questionnaire survey and interview. These methods provided quantitative as well as qualitative information which increased the need to use statistical analysis for conversion of the data. The SPSS method also helped in the numerical assessment of the facts that provided valuable insights about the lack of participation from the private developers in the low-cost housing space. As a result, by using a data analysis process based on SPSS, there is the attainment of accurate facts about the preference of individuals for gated township over the standalone tower by the buyers. A major reason behind the inclusion of SPSS based data analysis method was that it was included implementation of mathematical techniques such as frequencies, cross tabulation, descriptive ratio statistics that helped in acquiring accurate insights about the role of a single clearance window for providing all the regulatory approvals required for encouraging the private developers to launch low housing projects. It included carrying out the primary survey by focusing on the urban slum dwellers and general homebuyers in Mumbai Metropolitan Region. The qualitative facts were collected by using a focused group discussion process in which developers, planning authorities, and financial institutions were included for the identification of the gap areas. It also helped in acquiring a 360-degree look at all the stakeholders by developing a conceptual framework. It further helped in the implementation of affordable housing in the Mumbai Metropolitan Region. The conduction of thematic analysis led to the categorization of the collected facts into different parts that were based on the responses of the selected participants. By categorizing the different facts into different themes there is the attainment of valuable insights about the direct and indirect impact of various variables on a bank's decision to give a home loan to the buyers of a low-cost housing unit working in unorganized sectors. Therefore, it can be said that the use of the different data analysis tools such as SPSS and thematic analysis helped in acquiring valuable insights about the research

objectives and research problem by adopting quantitative and qualitative assessment procedures. The SPSS played a major role in quantitative analysis of facts while thematic analysis helped in acquiring qualitative facts that helped in determining the role of income profile of the borrower for providing weightage than CIBIL score of the borrower in the bank's decision to lend to a borrower working in the unorganized sector. For the data collection questionnaire survey and Likert scale were used for getting a response to questions. Questionnaires were modified based on the suggestions. For data analysis mean, median, mode, standard deviation, chi-square, correlation, regression, ANOVA, and factor analysis have been used. To identify patterns that meet all the criteria in the data, a descriptive analysis must be performed to describe, display, or summaries the data points in a constructive manner. Frequency analysis, central tendency analysis, dispersion or variation analysis, and rank analysis are the four main classes of descriptive statistics. In most cases, these procedures perform best when applied to a single variable at a time.

Sample Size

The sample size of the present research included 350 buyers that were both men and women. The age group of the respondents was from 21 to 60 years that were urban slum dwellers and general homebuyers in Mumbai Metropolitan Region. Developers included 25 respondents and the numbers of banks were 10. The sample size was calculated using below formula:

The sample size was determined using the Slovin's formula (Tejero, 2011).

$n = N / (1 + Ne^2)$ Where: n = Number of samples, N = Total population and e = Error tolerance (level).

The selected sample also included developers, planning authorities, and financial institutions for the conduction of focused group discussions.

Sampling Frame:

The sampling frame that was included in the research was urban slum dwellers and general homebuyers in Mumbai Metropolitan Region. The selected frame of the sample provided valuable insights about the availability of low-cost funds for land acquisition that will make low-cost housing projects viable for the private developers.
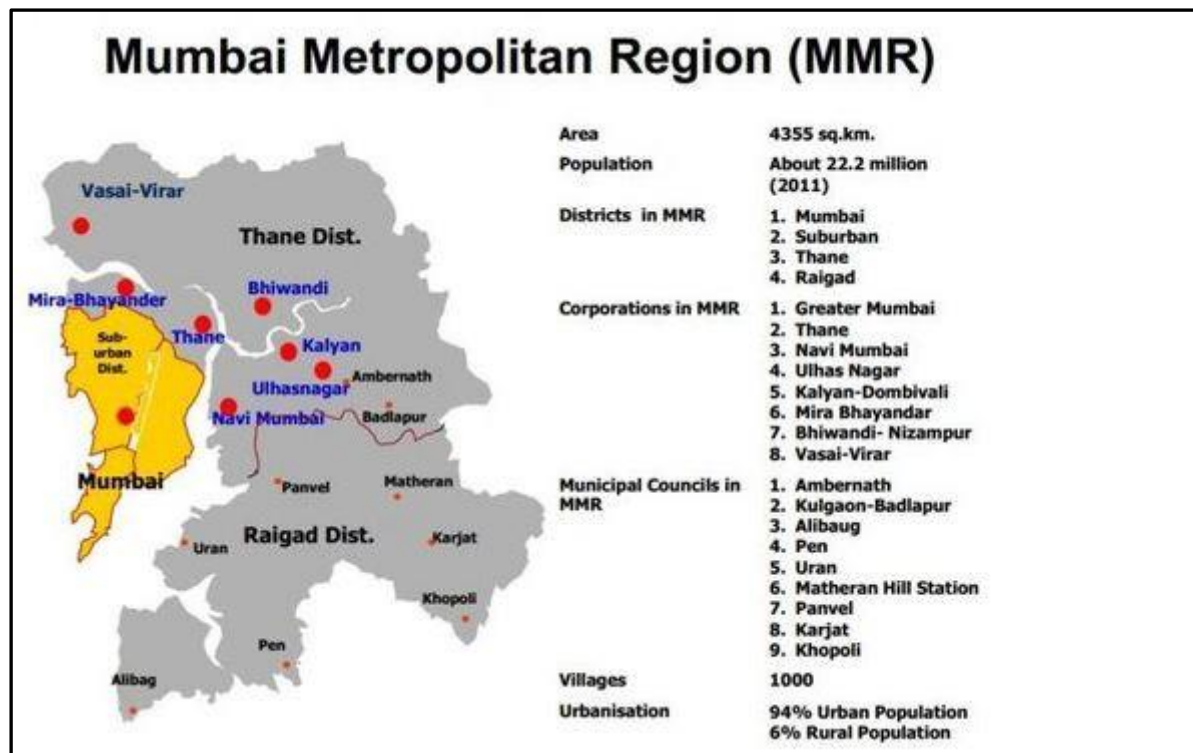
Data Analysis & Interpretation

Research was done to determine the importance of each component in the decision-making process of potential buyers of low-priced homes. Homebuyers' decisions are affected by a variety of variables, including age, income, marital status, education level, employment status, race/ethnicity, sexual orientation, disability, and more. Insights from this study have provided the groundwork for housing market advancements. First, frequency distribution analysis was performed. Upon satisfactory results, the factor analysis of the collected data was conducted, followed by a reliability test and descriptive analysis. Consumer demographic profiles are vital to understand, particularly their economic and social circumstances, in order to evaluate their buying behavior in low-cost

housing projects. The consumption pattern for the low-cost housing project will be influenced by the consumer's cultural and societal values and obligations. Marketers employ demographic profiles to examine and analyze the market, allowing them to focus on the segments that require attention.

In this analysis we have taken sample size as 350 to collect the data according to our questionnaire with the aim of the buyers' decision towards low-cost housing projects to test hypothesis correlation analysis, t-test, ANOVA multinomial logistic regression, RII rank test was conducted. For all the tests SPSS 25.0 software is used, based on the test the relationships between the independent variables and dependent variables were estimated and hypothesis were tested. The analysis has divided in three sections that is Buyers, Builders and Bankers.

By performing the factor test analysis and identifying several factors that have been separated into three components, the first objective has been accomplished.

Component 1- Builders Reputation, Structural Design, and approvals

Component 2- Amenities

Component 3- Location & Neighborhood

By analyzing the builders' and buyers' knowledge using the Spearman's rho test for correlation and the analysis of variance (ANOVA), objectives 2 and 3 have been met. Various factors have been ranked based on the relative importance index which helps private developers for undertaking low-cost housing projects in MMR. The fifth objective has been achieved by showing the importance of various factors that the banker considers before giving home loan to the buyers of a low-cost housing unit working in unorganized sectors.

Finding & Conclusions

- In order to make affordable housing projects a success, builders need to have a firm grasp on what is most important to potential purchasers. This research confirmed previous findings that housing costs are significantly

impacted by factors related to geographical features such proximity to stores, public transportation, entertainment options, educational institutions, and places of employment. Buyers care about the builder's reputation, facilities, neighborhood's safety, and prosperity just as much as they do about the condition of the homes themselves while purchasing houses.

- 72% of the respondents are looking to buy low cost in MMR region in table 4.10. They want to purchase within a 1-2 years of time period. The respondents don't want to buy a very costly house. The house should be between 20 to 40 lakhs as 36% of the buyers expect a house in that range then they like to prefer between 40 to 60 lakhs of range from the table 4.12.

- The categories of home-buying considerations outlined in this research could serve as the backbone of the home-buying process. As such, it is critical that those working in the housing industry fully grasp the weight that various elements have in influencing a consumer's final decision to acquire a home. They should prioritize and finance improvements to these areas of the home-buying process in order to attract more customers and stand out from the competition.

- There is a significant moderate correlation between Buyers who find the PMAY useful for buying affordable housing and decision for buying low-cost housing projects. By analysing the builders' and buyers' knowledge using the Spearman's rho test for correlation and the analysis of variance (ANOVA). The government of India launched the Pradhan Mantri Awas Yojana (Pmay) programme to address the rising gap between housing demand and availability in metropolitan areas. It can be beneficial for the buyer as the major goals of this programme:

- There is a significant strong correlation between Level of awareness about Pradhan Mantri Awas Yojana (PMAY)schemes to PMAY helpful in fulfilling buyers wish to own a house.

- Millions of first-time homebuyers in Mumbai city and the countryside can find relief from their housing problems if they have a thorough understanding of the scheme. Considering the nearing expiry date for MIG I and II categories, "knowledge is a serious issue, especially in urban areas" (found mostly in the urban areas).

- 76% of the developers believe that easy funding for land purchase will encourage the developers to take up low-cost housing projects in MMR. Availability of low-cost land from the government for low-cost housing projects will encourage the developers to take up low-cost housing projects in MMR

- Lack of document and credit history is the major challenges the bankers face while sanctioning the loan to the buyers. Table 4.88 shows how the researchers hope to deduce the borrower's income and creditworthiness from the borrower's CIBIL score.

- The lack of affordable housing options and funding is a major factor in India's failure to meet the demand for housing. With the goal of helping the urban poor acquire or construct a home, the government established the Credit Linked Subsidy Scheme (CLSS) as part of the Pradhan Mantri Awas Yojana to subsidize housing loans.

- There is a strong significant positive correlation between the profitability of the home loan and decision to sanction home loan to the buyers of low-cost housing units. Using the data in table 4.87, the researchers attempt to deduce how a borrower's degree of education and the availability of other income sources affect the lender's final choice to extend credit.

- Especially for the low-income population, there is a severe lack of housing, leading to the proliferation of slums. According to PMAY's most recent projections, 11.2 million homes are needed in metropolitan areas to alleviate the housing crisis. The demand-supply imbalance also contributes

to the upward pressure on prices. The poor and the low-income find themselves trapped in a downward spiral that forces them to resort to illicit means of subsistence.

- In order to make their affordable housing projects a success, builders need to have a firm grasp on what is most important to potential purchasers. This research confirmed previous findings that housing costs are significantly impacted by factors related to geographical features such proximity to stores, public transportation, entertainment options, educational institutions, and places of employment.

- Buyers care about the neighborhoods' safety and prosperity just as much as they do about the condition of the homes themselves. Prospective homeowners are partial to communities with 24-hour security and gated entry. Plus, it is determined that one's financial situation is a major element to think about while buying a home. When looking for an affordable house, most buyers are more concerned with the purchase price, interest rate, monthly payment, and term of the loan.

- In order to ensure that projects are completed on schedule, state governments must ensure that funding is made available on time. In order to pay their portion of the beneficiary share, beneficiaries need help securing legal funding. Families without land ownership are among the worthiest groups to receive government assistance, so they must be included in the plan. Some parts of housing should be improved, and one way to do so would be to increase convergence with other central and state programs.

- The government's focus should shift from "land locked under slums" as a "monetizable" asset to "land availability to provide housing," or else the real beneficiaries will be builders who buy land at concessional prices under the scheme and use a large portion of it to build houses for middle-

and high-income groups and make enormous profits under the guise of these schemes.

Summary of Hypothesis

HO	Hypothesis	p- value	Result
1	There is no significant influence of Builders Reputation of low-cost housing project on the buyer's decision	<0.05	**Rejected**
2	There is no significant impact of Location on the buying decision of the buyers of the low-cost housing units	<0.05	**Rejected**
3	There is no significant impact of Amenities at the low-cost housing project on the buying decision.	<0.05	**Rejected**
4	There is no relations between Buyers with family preferring gated township over the standalone tower.	<0.05	**Rejected**
5	There is no relationship between quality of construction and amenities provided in the low-cost housing projects.	<0.05	**Rejected**
6	There is no relationship between Level of awareness about Pradhan Mantri Awas Yojana (PMAY)schemes to PMAY helpful in fulfilling buyers wish to own a house.	<0.05	**Rejected**
7	No relationship between Buyers who find the PMAY useful for buying affordable housing and decision for buying low-cost housing projects.	<0.05	**Rejected**
8	No relationship between People who are aware of Pradhan Mantri Awas Yojana (PMAY) and buyers inclined towards buying low-cost housing projects.	<0.05	**Rejected**

9	There is no relationship between Government Incentives and the developer intend to launch low-cost housing projects	<0.05	**Rejected**
10	There is no relationship between availability of low-cost funds for land acquisition and builder's intent to launch low-cost housing projects	<0.05	**Rejected**
11	There is no relationship between Government's effort towards making land available within the city limits of MMR will encourage the developers to launch low-cost housing projects.	<0.05	**Rejected**
12	There is no relationship between single clearance window for providing all the regulatory approvals required will encourage the private developers to launch low housing projects.	<0.05	**Rejected**
13	There is no relationship between the profitability of the home loan towards low-cost housing and banks decision to sanction home loan to the buyers of low-cost housing unit.	<0.05	**Rejected**
14	No relationship between a borrowers' education level and Lack of fixed income source of borrower in the banker's decision to lend.	>0.05	**Accepted**
15	No relationship exists between 'Income profile of the borrower" and "The CIBIL Score of the borrower "in the bank's decision to lend a borrower working in unorganized sector.	>0.05	**Accepted**

Implication of the study

As of 2022, India continues to face a substantial shortage of affordable housing in its urban areas. According to a report by the Ministry of Housing and Urban Affairs, the urban housing shortage was estimated to be 18.78 million units in 2012, which increased to 34.5 million in 2022. The high cost of land, construction materials, and labor, coupled with limited access to financing, remains one of the primary reasons for the housing shortage in urban areas. This situation has forced many people to live in informal settlements or slums, exposing them to various challenges such as poor living conditions, lack of basic amenities, and limited access to healthcare and education.

Although several housing schemes have been introduced by past and present governments to address this issue, India is still far from achieving the milestone of providing every citizen with decent accommodation. Despite noble missions behind initiatives such as Pradhan Mantri Awas Yojana (PMAY) and Housing for All, the implementation of these programs has been slow, and significant challenges persist in providing adequate housing to all urban residents.

Addressing the urban housing shortage in India requires a multi-faceted approach that involves government initiatives, private sector participation, and community engagement. This complexity necessitates a better understanding of the factors that buyers consider paramount when purchasing affordable housing. The main objective of this study was to identify these factors, providing significant insights for developers, bankers, and policymakers.

The findings of this study are particularly relevant to developers, who can use the insights gained to design and construct housing units that cater to the needs and preferences of potential buyers. Bankers can also benefit from this study's insights by providing financing options that are better suited to the needs of potential buyers, such as flexible repayment options or lower interest rates. Finally, policymakers can use this information to design more effective housing policies and initiatives that address the urban housing shortage in India.

In conclusion, the urban housing shortage in India is a complex issue that requires a multi-faceted approach. By identifying the factors that buyers consider paramount when purchasing affordable housing, stakeholders can work together to provide sustainable and equitable housing solutions, improving the lives of millions of urban residents in India.

Implication of the Study on Developers

Understanding the preferences of buyers of low-cost housing unit is critical for any real estate developer, and this is particularly true for Indian developers. India's real estate market is highly competitive, and developers must stay attuned to the changing preferences of buyers to stay ahead of the curve.

Here are a few benefits of the study to the developers:

- Meeting customer needs: Understanding the key factors that buyers look for when buying an affordable house can help developers create properties that meet the needs of their target audience. By understanding what buyers value the most, developers can focus on creating properties that cater to those needs and desires, which can ultimately lead to higher customer satisfaction and loyalty.

- Market positioning: Understanding buyer preferences can help developers to position their projects in the market. For example, if buyers are looking for properties that are environmentally friendly, developers can emphasize the sustainability features of their properties in their marketing and branding efforts.

- Risk mitigation: By staying on top of changing buyer preferences, developers can mitigate the risk of building properties that are no longer in demand. This can help them avoid costly mistakes and minimize the risk of unsold inventory.

- Competitive advantage: Knowing what buyers want can give developers a competitive advantage over their rivals. They can use this information to

differentiate themselves from competitors and create properties that stand out in the market.

In conclusion, knowledge of the key factors that buyers look for when buying an affordable house is crucial for Indian real estate developers. By understanding their target audience, developers can create properties that meet their customers' needs and desires, giving them a competitive advantage in the market. This will also help them to tackle the problem of unsold inventory as a complete knowledge of the customer's preference will help the developers to launch the right projects that will be well received by the buyers.

Implication of the study on the bankers:

There are several reasons why Indian banks find it difficult to give home loans to borrowers of affordable home loans working in the unorganized sector.

- Lack of formal documentation: Many individuals working in the unorganized sector do not have formal documentation of their income, which makes it difficult for banks to assess their creditworthiness.

- Unstable income: People working in the unorganized sector often have unstable and irregular income, which increases the risk for banks to lend to them.

- Lack of collateral: Banks typically require collateral to secure a home loan, but borrowers in the unorganized sector may not have sufficient assets to provide as collateral.

- Lack of financial literacy: Many people in the unorganized sector may not have the financial literacy required to understand the terms and conditions of a home loan, which increases the risk of default.

- High-risk category: Since people in the unorganized sector are considered high-risk borrowers, banks may charge higher interest rates to offset the risk, making it more difficult for them to afford a home loan.

Overall, the combination of these factors makes it challenging for Indian banks to provide home loans to borrowers in the unorganized sector. Despite the above-mentioned challenges the banks must mandatorily lend to the affordable housing sector as the affordable housing sector falls under priority sector lending. In this backdrop, the key findings this study provide a framework to find out what are the most important parameters that banks consider before sanctioning home loans to borrowers of low-cost housing.

Implication of the study for Planning Authorities:

PMAY (Pradhan Mantri Awas Yojana) is a government scheme launched in India to provide affordable housing to the economically weaker sections of the society. As of September 2021, the total expenditure incurred under PMAY-U stood at approximately Rs 1.83 lakh crore (approximately 24.6 billion USD). This is a huge expense for any country and the Government must know about the awareness level of the beneficiaries. However, there is a lack of credential study or any method to measure the awareness of the PMAY program till date. This study brings some light in this direction by finding out the level of awareness about PMAY and its impact on their buying decision. Measuring the awareness of PMAY is important for several reasons:

- Reach and Effectiveness: Measuring the awareness of PMAY helps to understand how far the scheme has reached its intended beneficiaries. It also helps to evaluate the effectiveness of the scheme in achieving its objective of providing affordable housing.

- Targeted communication: By measuring the awareness of PMAY, the government can identify the gaps in communication and target its communication efforts towards the right audience. This can help to increase the reach and effectiveness of the scheme.

- Identifying challenges: Measuring the awareness of PMAY can help to identify the challenges faced by the scheme in reaching its intended

beneficiaries. This can help the government to address the challenges and make necessary changes to the scheme to make it more effective.

- Accountability and transparency: Measuring the awareness of PMAY can help to ensure accountability and transparency in the implementation of the scheme. It can help the government to identify any irregularities or issues in the implementation of the scheme and take corrective measures.

Overall, measuring the awareness of PMAY is important for evaluating the effectiveness of the scheme, identifying challenges, and ensuring accountability and transparency in its implementation.

Limitation of the study

- The study is limited to Mumbai Metropolitan Region (MMR) only.

- The buyer opinion can vary from city to city, and it can be biased based on their observation and knowledge about government housing schemes and expectations.

- The real estate rules and regulation varies in different states of the India as real estate is the subject of state. Hence, the observations made for MMR cannot be randomly replicated in other states.

- This study is focused only on buyers' awareness towards PMAY and factors affecting their choice of choosing low-cost houses.

- The data is collected for the present situation of buyers, development and bankers and things could be different in future. Thus, some of the findings of this study cannot be generalized for the distant future as things could change in coming years.

- The data collected may not provide insights regarding domain specific about PMAY implementation as it covers only awareness about the program.

Scope of future research

This study is limited to the Mumbai Metropolitan Region only and hence might not fully capture the pan India findings. Since the other major cities of the country also face the problem of urban slums, there is a scope of a wider research mandate to cover the entire country. There is a scope for future research in Mumbai and other locations to study buyers' perceptions and expectations about the level of service provided by residential developers. The academicians and researchers can also study about the effectiveness of implementation of PMAY and bottlenecks in implementation. Since the government is targeting to provide suitable accommodation the entire MIG and LIG population, there is a future scope to extend the study to see if mix of construction affordable housing and creating an affordable rental housing schemes can solve the problem of urban slums.

BIBLIOGRAPHY

References

Aijaz, R. (2022). How Fares the PMAY (U)? Taking Stock of India's National Housing Programme.

Angel, A. (2017). Impact of pradhan mantri awas yojana with reference to Nilgiri District. *International Journal in Management & Social Science*, *5*(6), 110-113.

Alone and Sawant, Scorecard approach to assess factors causing concrete waste in building construction projects, NICMAR October- December 2014 Vol. XXIX No. 04.

Bamgbade, J. A., Kamaruddeen, A. M., & Nawi, M. N. M. (2015). Factors influencing sustainable construction among construction firms in Malaysia: A preliminary study using PLS-SEM. *Revista Tecnica De La Facultad De Ingenieria Universidad Del Zulia (Technical Journal of the Faculty of Engineering, TJFE)*, *38*(3), 132-142.

Barot, P. PRADHAN MANTRI AWAS YOJANA (PMAY) SCHEME-AN EMERGING PROSPECT OF AFFORDABLE HOUSING IN INDIA.

Bharti, V. (2019). *Slum Redevelopment at Banganga, Bhopal:(under PMAY)* (Doctoral dissertation, SPA Bhopal).

Chin, K. S. (2016). *Attributes influencing home buyers' purchase decision: A study of residential property in Setia Alam* (Doctoral dissertation, UTAR).

Cengiz Sayin, Y. E., Mencet, M. N., Karaman, S., & Tascioglu, Y. (2010). Analysis of factors affecting fish purchasing decisions of the household: Antalya district case. *Journal of Animal and Veterinary Advances*, *9*(12), 1689-1695.

Das, J. K., & Datta, R. N. (2021). Factors influencing purchase decision of real estate: empirical evidence from India. *International Journal of Information, Business and Management*, *13*(1), 53-67.

DANANJOYO, R., CAHAYA, F. R., & RIYADH, H. A. (2020). The Prominence of Financial Considerations on Housing Investors' Purchase Decisions. *The Journal of Asian Finance, Economics and Business*, *7*(12), 869-875.

Eldhose M Manjummekudiyil, Basil P Alias, Biji K Eldhose, Sarath Rajan, Thasneem Hussain, Study of GFRG Panel and Its Strengthening, International Journal of Civil and Structural Engineering Research ,Vol. 2, Issue 2, pp: (161-165), Month: October 2014 - March 2015

Fernandez, R., & Aalbers, M. B. (2020). Housing financialization in the Global South: In search of a comparative framework. *Housing Policy Debate*, *30*(4), 680-701.

Ganesh, V., VM, A. K., Senthilmurugan, S., & RR, A. R. (2022). Role of Green Buildings in Sustainable Living: Implementation and Impacts. *ECS Transactions*, *107*(1), 189.

Gopalan, K., & Venkataraman, M. (2015). Affordable housing: Policy and practice in India. *IIMB Management Review*, *27*(2), 129-140.

Gohil, J., & Gandhi, Z. H. (2019). Pradhan Mantri Awas Yojana (PMAY) Scheme—an emerging prospect of affordable housing in India. *Int Res J Eng Technol*, *6*(12), 2546-2550.

Hassan, M. M., Ahmad, N., & Hashim, A. H. (2021). Factors influencing housing purchase decision. *International Journal of Academic Research in Business and Social Sciences*, *11*(7), 429-443.

Haghshenas, L., Abedi, A., Ghorbani, E., Kamali, A., & Harooni, M. (2013). Review consumer behavior and factors affecting on purchasing decisions. *Singaporean Journal of Business, Economics and Management Studies*, *1*(10), 17-24.

Ismail, S., & Mohamad, S. F. S. (2020). Factors Influencing the Purchase Decision of Affordable Housing Among Middle Income Earner: A Case Study of School teachers in Malaysia. *Malaysian Journal of Science Health & Technology*, *7*.

Jalil, N. A., Samsudin, N., Tha, G. P., Karim, N. A., & Hashim, A. (2018). HOUSE PURCHASE DECISION-MAKINGS: ECONOMIC OR NON-ECONOMIC FACTORS?. *Journal of Fundamental and Applied Sciences*, *10*(5S), 612-625.

Kasthurba, Krishna R Reddy, Venkat Reddy, Use of Laterite as a sustainable building material in developing countries, International Journal of Earth Sciences and Engineering, vol. 7 issue 4 ,August 2014, pp. 1251-1258.

Kumar, Y., & Khandelwal, U. (2018). Factors affecting buying behaviour in the purchase of residential property: a factor Analysis approach. *Available at SSRN 3481597*.

Koklic, M. K., & Vida, I. (2009). A strategic household purchase: consumer house buying behavior. *Managing Global Transitions*, *7*(1), 75-96.

Kurniawan, C., Dewi, L. C., Maulatsih, W., & Gunadi, W. (2020). Factors influencing housing purchase decisions of millennial generation in Indonesia. *International Journal of Management*, *11*(4).

Kotharkar, R., Bahadure, P., & Sarda, N. (2014). Measuring compact urban form: A case of Nagpur City, India. *Sustainability*, *6*(7), 4246-4272.

Khan, P. A. M., Azmi, A., Juhari, N. H., Khair, N., Daud, S. Z., & RAHMAN, T. (2017). Housing preference for first time home buyer in Malaysia. *International Journal of Real Estate Studies*, *11*(2), 1-6.

Levy, D., Murphy, L., & Lee, C. K. (2008). Influences and emotions: exploring family decision-making processes when buying a house. *Housing Studies*, *23*(2), 271-289.

Liu, Y., & Li, Z. (2018). Determinants of housing purchase decision: an empirical study of the high education cohort in urban China. *Journal of Asian Architecture and Building Engineering*, *17*(2), 299-305.

Madala, S. C., Asadi, S. S., & Chandra, D. S. (2019, March). Critical study of the technological interventions on the evaluation of affordable housing to be implemented under PMAY. In *International Conference on Advances in Civil Engineering (ICACE-2019)* (Vol. 21, p. 23).

Mahadevia, D., Bhatia, N., & Bhatt, B. (2018). Private sector in affordable housing? Case of slum rehabilitation scheme in Ahmedabad, India. *Environment and Urbanization ASIA*, *9*(1), 1-17.

Mang, J., Zainal, R., & Mat Radzuan, I. S. (2020). Factors influencing home buyers' purchase decisions in Klang Valley, Malaysia. *Malaysian Journal of Sustainable Environment (MySE)*, *7*(2), 81-94.

Manivannan, P., & Somasundaram, M. (2014). Purchase of residential flats-Factors influencing the decision of buyers in selected cities in Tamil Nadu. *International Research Journal of Business and Management*, *7*(9), 67-73.

Mariadas, P. A., Abdullah, H., & Abdullah, N. (2019). Factors influencing the first home purchase decision of middle-income earners (M40) in Selangor, Malaysia. *e-BANGI*, *16*(1), 1-11.

Nasar, K. K., & Manoj, P. K. (2014). Factors influencing the purchase of apartments: some empirical evidence. *Clear International Journal of Research in Management, Science and Technology*, *4*(7).

Nursal, A. T., Omar, M. F., Nawi, M. N., & Sappri, M. M. (2019). The importance of developer reputation criterion in house purchase decision making. *International Journal of Supply Chain Management*, *8*(1), 697-701.

Omrane, A., & Bag, S. (2022). Determinants of customer buying intention towards residential property in Kolkata (India): an exploratory study using PLS-SEM approach. *International Journal of Business Innovation and Research*, *28*(1), 119-139.

Piyush, R., Bhatt, R., & Pitroda, J. (2016). Study of factors affecting customer satisfaction for residential flats in Surat and Ahmedabad city in Gujarat region of India. *International Research Journal of Engineering and Technology*, *3*(03), 1-8.

Rachmawati, D., Shukri, S., Azam, S., & Khatibi, A. (2019). Factors influencing customers' purchase decision of residential property in Selangor, Malaysia. *Management Science Letters*, *9*(9), 1341-1348.

Ram, P., & Needham, B. (2016). The provision of affordable housing in India: Are commercial developers interested?. *Habitat International*, *55*, 100-108.

Rao, P. S. N. A Review of the Pradhan Mantri Awas Yojana (PMAY) Urban: Housing for All. *Spatial Planning Initiatives under the National Urban Missions*, 86.

Sharma, N., Shimpi, A. S., & Patil, S. G. (2020). Pradhan Mantri Awas Yojana Urban: Are There Any Bottlenecks?. *IIBM'S Journal of Management Research*.

Sean, S. L., & Hong, T. T. (2014). Factors affecting the purchase decision of investors in the residential property market in Malaysia. *Journal of Surveying, Construction and Property*, *5*(2), 1-13.

Sutanto, H., Maranatha, W., & Wata, P. M. (2019). Decision to Purchase a House in Sikka Regency. *International Journal of Scientific Engineering anf Science, xx (xx)*, 1-4.

Singla, H. K., & Bendigiri, P. (2019). Factors affecting rentals of residential apartments in Pune, India: An empirical investigation. *International Journal of Housing Markets and Analysis*.

Shinde, M. S. K., & Darade, M. M. Techno-Economic Analysis of Slum Rehabilitation Housing Project by Pradhan Mantri Awas Yojana using Rapid Wall Technique. *International Journal on Recent and Innovation Trends in Computing and Communication*, *5*(7), 412-415.

Shirgaokar, M., & Rumbach, A. (2018). Investigating housing tenures beyond homeownership: A study of informal settlements in Kolkata, India. *Housing Studies*, *33*(1), 117-139.

Sughana, M. M., & Sheela, P. (2021). Factors Influencing Customers Choice WhileFinalizing A Institution for Home Loans–A Case Study of Visakhapatnam City. *Educational Research (IJMCER)*, *3*(1), 192-201.

Thanaraju, P., Khan, P. A. M., Juhari, N. H., Sivanathan, S., & Khair, N. M. (2019). Factors affecting the housing preferences of homebuyers in Kuala Lumpur. *Planning Malaysia*, *17*.

Yap, T. L., Kennerly, S. M., & Ly, K. (2019). Pressure injury prevention: outcomes and challenges to use of resident monitoring technology in a nursing home. *Journal of Wound, Ostomy, and Continence Nursing*, *46*(3), 207.

Zeng, R. (2013). *Attributes influencing home buyers' purchase decisions: a quantitative study of the Wuhan residential housing market* (Doctoral dissertation, Southern Cross University).

Books

1. Abraham K (1964). *The Conduct of Inquiry—Methodology for Behavioural Science*. (Aylesbury: Bucks: International Text Book Company Limited.

2. Ackoff, R.L. (1953). *Design of Social Research*, (Chicago: University of Chicago), xi, p 420.

3. Gubrium, J. F., & Holstein, J. A. (2000). Analyzing interpretative practice. In N. Denzin & Y.S. Lincoln (Eds.), *The handbook of qualitative research* (2nd ed.), (pp. 487-508). Thousand Oaks, CA: SAGE Publications.

4. Heritage, J. C. (1984). *Garfinkel & ethnomethodology.* Cambridge: UK. Polity Press.

5. Krippendorff, K. (2004a). Content analysis: An introduction to its methodology (2nd ed.). Thousand Oaks, CA: Sage.

6. Krippendorf, K. (2004b). Reliability in content analysis: Some common misconceptions and recommendations. *Human Communication Research, 30*(3), 411-433.

7. Lombard, M., Snyder-Duch, J., & Campenella Bracken, C. (2010). Practical resources for assessing and reporting intercoder reliability in content analysis research projects.

8. Palys, T., & Atchison, C. (2014). *Research decisions: Quantitative, qualitative, and mixed methods approach* (5th ed.)*.* Toronto, Canada: Nelson Education.

9. Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). Thousand Oaks, CA: SAGE Publications.

10. Saylor Academy. (2012). *Principles of sociological inquiry: Qualitative and quantitative methods.* Washington, DC: Saylor Academy.

11. *the social world: The process and practice of research.* Thousand Oaks, CA: SAGE Publications.

12. Sheppard, V. A., & Fennell, D. A. (2019, August). Progress in public sector tourism policy: Toward an ethic for non-human animals. *Tourism Management, 73*, 134-142.

13. Acharya, A. S., Prakash, A., Saxena, P., & Nigam, A. (2013). Sampling: Why and how of it. Indian Journal of Medical Specialties, 4(2), 330-333.

14. Alharahsheh, H. H., & Pius, A. (2020). A review of key paradigms: Positivism VS interpretivism. Global Academic Journal of Humanities and Social Sciences, 2(3), 39-43.

15. Allwood, C. M. (2012). The distinction between qualitative and quantitative research methods is problematic. Quality & Quantity, 46(5), 1417-1429.

16. Apuke, O. D. (2017). Quantitative research methods: A synopsis approach. Kuwait Chapter of Arabian Journal of Business and Management Review, 33(5471), 1-8.

17. Arcidiacono, C., Procentese, F., & Napoli, I. D. (2009). Qualitative and quantitative research: An ecological approach. International Journal of Multiple Research Approaches, 3(2), 163-176.

18. Arghode, V. (2012). Qualitative and Quantitative Research: Paradigmatic Differences. Global Education Journal, 2012(4).

19. Awang, Z. (2012). Research methodology and data analysis second edition. UiTM Press.

20. Barreiro, P. L., & Albandoz, J. P. (2001). Population and sample. Sampling techniques. Management mathematics for European schools, 1(1), 1-18.

21. Burkard, A. W., Knox, S., & Hill, C. E. (2012). Data collection.

22. Chaleunvong, K. (2009). Data collection techniques. Training Course in Reproductive Health Research Vientine.

23. Chawla, D., & Sodhi, N. (2011). Research methodology: Concepts and cases. Vikas Publishing House.

24. Choy, L. T. (2014). The strengths and weaknesses of research methodology: Comparison and complimentary between qualitative and quantitative approaches. IOSR journal of humanities and social science, 19(4), 99-104.

25. Creswell, J. W., & Creswell, J. D. (2017). Research design: Qualitative, quantitative, and mixed methods approaches. Sage publications.

26. Dauter, Z. (1999). Data-collection strategies. Acta Crystallographica Section D: Biological Crystallography, 55(10), 1703-1717.

27. De Leeuw, E. D. (2008). Choosing the method of data collection.

28. Dulock, H. L. (1993). Research design: Descriptive research. Journal of Pediatric Oncology Nursing, 10(4), 154-157.

29. Etikan, I., & Bala, K. (2017). Sampling and sampling methods. Biometrics & Biostatistics International Journal, 5(6), 00149.

30. Fox, N. J. (2008). Post-positivism. The SAGE encyclopedia of qualitative research methods, 2, 659-664.

31. Gallagher, M. (2009). Data collection and analysis. Researching with children and young people: Research design, methods and analysis, 65-127.

32. Goldkuhl, G. (2012). Pragmatism vs interpretivism in qualitative information systems research. European journal of information systems, 21(2), 135-146.

33. Griffee, D. T. (2005). Research Tips: Interview Data Collection. Journal of Developmental Education, 28(3), 36-37.

34. Holton, E. F., & Burnett, M. F. (2005). The basics of quantitative research. Research in organizations: Foundations and methods of inquiry, 29-44.

35. In, J. (2017). Introduction of a pilot study. Korean journal of anesthesiology, 70(6), 601.

36. Koh, E. T., & Owen, W. L. (2000). Descriptive research and qualitative research. In Introduction to Nutrition and Health research (pp. 219-248). Springer, Boston, MA.

37. Krishnaswamy, K. N., Sivakumar, A. I., & Mathirajan, M. (2006). Management research methodology: Integration of principles, methods and techniques. Pearson Education India.

38. Landreneau, K. J., & Creek, W. (2009). Sampling strategies. Available on: http://www. natco1. org.

39. Lans, W., & Van der Voordt, D. J. M. (2002). Descriptive research. In Ways to study and research urban, architectural and technical design (pp. 53-60). DUP Science.

40. Lunn, J.A. (1974) Consumer Decision Process Models in Models of Buyer Behaviour(ed. N. Sheth Jagdish). Harper and Row, New York, pp. 34-69.

41. Morgan, G. A., & Harmon, R. J. (2001). Data collection techniques. Journal-American Academy Of Child And Adolescent Psychiatry, 40(8), 973-976.

42. Morin, K. H. (2013). Value of a pilot study. Journal of Nursing Education, 52(10), 547-548.

43. Mujere, N. (2016). Sampling in research. In Mixed methods research for improved scientific study (pp. 107-121). IGI Global.

44. Nayak, J. K., & Singh, P. (2021). Fundamentals of research methodology problems and prospects. SSDN Publishers & Distributors.

45. Nicosia, F.M. Robert, W (1976). "Consumer Behavior toward Sociology of Consumption", journal of Consumer Research, Vol. 5, pp. 121-133.

46. Otzen, T., & Manterola, C. (2017). Sampling techniques on a population study. Int. J. Morphol, 35(1), 227-232.

47. Pandey, P., & Pandey, M. M. (2021). Research methodology tools and techniques. Bridge Center.

48. Park, Y. S., Konge, L., & Artino, A. R. (2020). The positivism paradigm of research. Academic Medicine, 95(5), 690-694.

49. Prasad, R. K., & Jha, M. K. (2014). Consumer buying decisions models: A descriptive study. International journal of innovation and applied studies, 6(3), 335.

50. Rosenthal, R., & Rosnow, R. L. (2008). Essentials of behavioral research: Methods and data analysis.

51. Ryan, A. B. (2006). Post-positivist approaches to research. Researching and Writing your Thesis: a guide for postgraduate students, 12-26.

52. Siedlecki, S. L. (2020). Understanding descriptive research designs and methods. Clinical Nurse Specialist, 34(1), 8-12.

53. Svensson, L. (1984). Three Approaches to Descriptive Research.

54. Thomlison, B. (2001). Descriptive studies. The handbook of social work research methods, 131.

55. Van Groenou, M. B., Van Tilburg, T. G., De Leeuw, E. D., & Liefbroer, A. C. (1995). Data collection. Living arrangements and social networks of older adults, 185-197.

56. Zaltman,G. Pinson, C.A. And Agelman, R. (1973) "Methodology and Consumer Research". Holt Rinehart and Winston, New York.

57. Zangirolami-Raimundo, J., Echeimberg, J. D. O., & Leone, C. (2018). Research methodology topics: Cross-sectional studies. Journal of Human Growth and Development, 28(3), 356-360.