

**IMPROVEMENT OF INDIAN
RESIDENTIAL REAL ESTATE ASSET
DEMAND AND DELIVERY FOR
ENHANCEMENT OF CONSTRUCTION
INDUSTRY OUTPUT**

Thesis

Submitted in partial fulfilment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

by

APOORVA D K



**DEPARTMENT OF CIVIL ENGINEERING
NATIONAL INSTITUTE OF TECHNOLOGY
KARNATAKA**

SURATHKAL, MANGALORE – 575025

June, 2024

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June, 2024

DECLARATION

I hereby declare that the research thesis entitled '**Improvement of Indian Residential Real Estate Asset Demand and Delivery for Enhancement of Construction Industry Output**' which is being submitted to the National Institute of Technology Karnataka, Surathkal in partial fulfilment of the requirements for the award of the degree of Doctor of Philosophy in Civil Engineering, is a bonafide report of the research work carried out by me. The material contained in this research thesis has not been submitted to any university or institution for the award of any degree.

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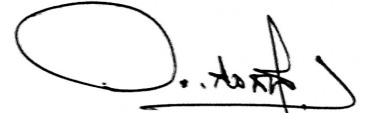
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CERTIFICATE

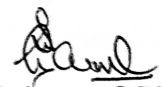
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ABSTRACT

In the context of an absence of studies examining the interrelationship between Indian construction industry and residential real estate sector, the study aims to develop and test a conceptual framework aimed at stimulation of construction industry output through optimization of housing market, followed by development of improvement frameworks for demand and supply side forces of housing market.

Means of stimulation of construction industry by residential real estate sector were categorized based on the intent behind purchase of residential real estate assets or inflow of capital into housing development entities. Housing market was examined to identify factors constituting consumer-centric delivery and consumer-empowered demand. Supply side of housing market was probed to identify underlying factors stifling the delivery of housing assets. The identified factors were put together to form the conceptual framework. Questionnaires were developed and administered to both demand and delivery-side stakeholders of housing market, along with carrying out of interviews and document analyses.

The study demonstrates significant correlations between real estate investment-led construction industry output stimulation and consumer-centric residential real estate asset delivery. The deterrents to consumer-centric housing delivery have been ascertained to be having an impact on time, cost and scope of housing projects. Significant correlations have been ascertained between these deterrents. On the demand-side, skills, awareness and engagement of consumers are strongly correlated with each other. Affordability of housing is rightfully correlated with all the three means of stimulation of construction industry output. Improvement frameworks for the delivery-side of housing market have been identified to be required to be developed to cover the interfaces of interaction between promoters/developers, judicial/quasi-judicial bodies, urban local bodies and governments. Improvement frameworks for the demand-side of the housing market were ascertained to be required to be centered around the different phases of asset acquisition.

Specific to the Indian context, the study presents and validates a novel conceptual framework aimed at stimulation of construction industry output through interventions in housing market, along with development of improvements frameworks catering to both demand and supply-side forces of housing market.

Keywords: Construction Industry Output, Residential Real Estate Asset, Conceptual Framework, India.

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ACRONYMS

GDP	Gross Domestic Product
GVA	Gross Value Addition
CREDAI	Confederation of Real Estate Developers' Association of India
RERA	Real Estate Regulatory Authority
K-RERA	Karnataka Real Estate Regulatory Authority
RE(R&D)A	Real Estate (Regulation and Development) Act
ICA	Indian Contract Act, 1871
TPA	Transfer of Property Act, 1882
SRA	Specific Relief Act, 1963
MOFA	Maharashtra Ownership Flats (Regulation of the promotion of construction, sale, management and transfer) Act, 1963
SARFAESI	Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002
CPA	Consumer Protection Act, 2019
IBC	Insolvency and Bankruptcy Code, 2016
GST	Goods and Services Tax
FDW	Fischer-DiPasquale-Wheaton
U.S./USA	United States of America
KPIs	Key Performance Indicators
CIRP	Corporate Insolvency Resolution Process
M/s	Messrs
v	versus
Retd.	Retired
Ltd.	Limited
Ors.	Others
Anr.	Another
Rs	Rupees
Sft	Square feet
ULB	Urban Local Body
Email	Electronic Mail

CEO	Chief Executive Officer
IBM	International Business Machines Corporation
SPSS	Statistical Package for Social Sciences
CFA	Confirmatory Factor Analysis
EFA	Exploratory Factor Analysis
KMO	Kaiser-Meyer-Olkin
CC-RREA	Consumer-centric Residential Real Estate Asset
FLAW	Framework and Interpretation of Law
ELAW	Execution of Law
POLICY	Policy Interventions
IT	Information Technology
Std. Dev	Standard Deviation
Sig.	Significance
R	Interview Respondent
SVAMITVA	Survey of Villages and Mapping with Improvised Technology in Village Areas
NOC	No Objection Certificate
NGT	National Green Tribunal
DC	District Collector
PWD	Public Works Department
RTI	Right to Information
COVID-19	Corona Virus Disease 2019
LEED	Leadership in Energy and Environmental Design
GRIHA	Green Rating for Integrated Habitat Assessment
SWAMIH	Special Window for Completion of Construction of Affordable and Mid-Income Housing
NBFC	Non-Banking Financial Company
HFC	Housing Finance Company
IL&FS	Infrastructure Leasing & Financial Services Limited
DHFC	Dewan Housing Finance Corporation
RBI	Reserve Bank of India
CFO	Chief Financial Officer

BBMP	Bruhat Bengaluru Mahanagara Palike
BMP	Bangalore Municipal Corporation
TMC	Town Municipal Council
CMC	City Municipal Council
STP	Sewage Treatment Plant
KSPCB	Karnataka State Pollution Control Board
N	Total number of valid survey responses
Min	Minimum
Max	Maximum
SD	Standard Deviation
PIL	Public Interest Litigation
RTO	Regional Transport Office
JD	Joint Development
OC	Occupancy Certificate
CC	Completion Certificate
EMI	Equated Monthly Instalment
RO	Recovery Order
DRT	Debt Resolution Tribunal
TDR	Transfer of Development Rights
PE	Private Equity
ECB	External Commercial Borrowing
FAR	Floor Area Ratio
BWSSB	Bangalore Water Supply and Sewerage Board
FSI	Floor Space Index
LIG	Low Income Group
AI	Artificial Intelligence
RTC	Records of Rights, Tenancy and Crops
PLATINUM	Partnership for Land Title Implementation in Urban Management
R&D	Research and Development

CHAPTER 1

INTRODUCTION

1.1 Background

The contribution of construction industry to the economy of a nation and its role in socio-economic development have been addressed by a number of authors and international organizations (Turin, 1973; Ofori, 1990; Hillebrandt, 2000; Lopes, 2011; Ofori, 2012). The advanced estimates of Gross Value Addition (GVA) in 2021-22 by the construction industry was Rs.16,86,587 crores, with a share of 8% of the economy (Government of India, 2022). The construction industry is strongly linked with many economic activities and thereby is highly integrated with a number of sectors of the economy, through both backward and forward linkages. Several writers have dwelled upon the relation of the measures of construction output on the country' level of economic development (Strassmann, 1970; Turin, 1973; Turin, 1978; Wells, 1986; Bon, 1990). Historically, construction industry has been linked with the process of economic growth and development. The economic growth of a nation can be defined as a sustained increase in its population and product per capita. The increase in per capita and global product is related to the construction industry in the sense that various activities of the industry provide facilities indispensable for undertaking activities in, and thus for developing other sectors of the economy, and the construction industry has direct links with the manufacturing industry - the main partner of construction in the process of economic growth and development (Lopes, 2011). A particular feature is that construction is the only sector of the economy that appears twice in the national accounts of any country: as a major component of fixed capital formation and as a sector that contributes to the gross domestic product (Hillebrandt, 2000). Strassmann (1970) argues that construction industry is a major force replacing the manufacturing industry to drive economic growth after the initial stages of development. Mallick (2011) notes that a fall in the growth of the gross domestic product (GDP) of a nation is generally preceded by a fall in the growth of construction sector output. In the analysis of the real growth of the aggregate economy and the real growth of the construction industry,

Wong et al. (2008) found that the direction of causality is from the construction sector, particularly the civil engineering sector to the GDP. Along similar lines, Anaman and Osei-Amponsah (2007) analysed the relationship between the construction industry and the macro-economy in Ghana, based on time-series data from 1968-2004, and found that the construction industry leads economic growth in the country. Chen and Zhu (2008) analysed provincial data on housing investment in three main regions of China and found that there was a bi-directional granger causality between GDP and housing investment for the whole country. In this view, the construction industry, as a major component of the country's physical capital, plays a determinant role in the development process. It is one of the key sectors that governs lion's share of financial resources of any economy and plays a significant role as a stepping stone towards improved social well-being. The sector helps accelerate social and economic development and fight against poverty and unemployment. It has multiple links with various other sectors of economy and therefore is considered as a driver of economic growth, especially in developing economies like India, Pakistan, Vietnam, Indonesia, Malaysia etc. (Khan et al., 2014). Although the direct contribution of construction industry to economic growth is significant, it also contributes to the basic objectives of development including employment creation and income generation and redistribution. Construction sector activity assumes critical importance in all economies in general and the Indian economy in particular as this sector employs a sizeable proportion of unskilled labourers along with skilled labourers. It provides growth impetus to other downstream manufacturing sectors like cement, bitumen, iron and steel, chemicals, bricks, paints, tiles etc. and the upstream manufacturing sectors like shopping complexes and other final output manufacturing industries including the mining industry in the primary sector (Mallick, 2011). The advanced estimates of Gross Value Addition (GVA) in 2021-22 by the construction industry was Rs.16,86,587, with a share of 8% of the economy (Government of India, 2022). Thus, the role of the construction industry as the engine of economic growth of the nation stands undisputed.

Real estate sector in developing economies acts as the backbone of country's housing scenario and has the most significant employment potential for unorganized and skilled human resources (Büdenbender and Aalbers, 2019; Mukherjee et al., 2018). The real

estate sector in India plays a catalytic role in fulfilling the need and demand for housing and infrastructure (Ministry of Housing and Urban Poverty Alleviation, 2014). The advanced estimates of GVA in 2021-22 by the real estate, financial and professional services sector cumulatively amounted to Rs.44,04,086 crores, with a share of 20.9% of the economy (Government of India, 2022). This phenomenal growth of the real estate sector in India can be attributed to favourable demographics, increasing purchasing power of urban population, growing professionalism in the sector and the reforms initiated by government to attract global investors. Further, India's emergence as an attractive off-shoring destination to captive units of major Fortune 500 companies and the entry of professional real estate companies with strong expertise in real estate development have catalysed the industry growth (Annamalai et al., 2014). India's ranking in the Global Real Estate Transparency Index rose up from 39 to 34, from 2014 until 2020, on the back of regulatory reforms, better market data and green initiatives (Jones Lang Laselle, 2020).

Access to adequate housing can be a precondition for the enjoyment of several human rights, including the rights to work, health, social security, vote, privacy or education (United Nations, 2009). Safe, secure and adequate housing is a fundamental need of humans. Housing is a key input in economic, social, and civic development (National Housing Bank, 2013). Being an important economic good in the consumption basket of a household, housing relates to the living of human beings and is tied to their security. Therefore, an improvement in housing status leads to the development of a household in the true sense - both economic and social. Moreover, housing activity is tied with many other sectors of economy, as well as with the life stages of an individual and his/her social network. Improvement in housing, by both qualitative and quantitative parameters, leads to increased welfare of individual and society; not only by providing vital shelter, but also by offering room for improved health, education and nutrition (Nallathiga, 2007). Gopalan and Venkataraman (2015) point out that housing is the largest component of the financial sector as well as the construction industry in India. Housing production is a labour intensive process in India, since the cost of labour is low and the relative cost of capital is high. Different components of a house demand a variety of products supplied by other sectors and skilled persons, creating demand for

a variety of goods and services, thereby generating greater employment. The indirect employment generation that takes place from these backward linkages of the housing sector tends to be very high (Gupta, 1985).

1.2 Problem Statement

Sun et al., (2010) linked the workings of the construction industry with that of the real estate sector and put forth that a better understanding of real estate sector and its key determinants is of strategic significance to construction firms to allocate their resources and direct their efforts effectively. The existence of construction industry is dependent upon the needs of people and firms for shelter or real estate to carry out various activities and that the sustenance of construction industry is based on supply of space to consumers of real estate sector (Raftery, 1991). According to (Barkham, 2012), the level of construction activity is one of the key mechanisms by which changes in real estate prices are transmitted to wider economy. In an analysis of the relationship between the Turkish construction sector and the national economy using time series data, it was identified that the Turkish construction industry which had shrunk by 17.4% in 2001 started to grow after 2002. The primary reason for the same was identified to be significant investments in the housing sector owing to declining interest rates along with increased availability of consumer credit (Gundes, 2010). Similarly, focussing on the role of construction activity in the process of economic growth and structural transformation of the economies of poor countries, (Wells, 1984) relied upon the possibility of using investment in housing construction as a means to stimulate construction industry. Because the products of construction, in the form of housing and community shelter, represent some of the most important and real needs of the people, investment in housing was identified to be able to lead to the creation of a sound construction industry. It is important to bring to light that there exists an absence of similar studies linking the construction industry and the residential real estate sector in the Indian context.

In the real estate sector, residential real estate assets, catering to the fundamental need of humans for shelter require needful attention. In most developed countries, there exist unified standards, clear goals and integrated work leading to many common concepts

regarding housing issues. Addressing housing issues in these countries is not a seasonal task taken up by decision-makers as and when the need and circumstances arise. Rather, housing is seen as an ongoing problem that is taken into consideration by relevant authorities, which in turn work to find and develop solutions and carry out studies, implementation and follow-up (AlQahtany, 2021). The realization that housing was a basic and a merit good, and an important element of social security in a welfare state laid the foundation for greater emphasis on increasing housing stock in owner-segment in some of the most advanced Western European countries ((Preimus, 1995); (Boelhouwer and Van Der Heijden, 1992)) and other developed countries ((Wolfe, 1998); (Carter, 1997); (Mulroy and Ewalt, 1996); (Wexler, 1996); (Dreier and Atlas, 1995)). On the other hand, developing countries have been late in reaching the same realization (Mahadeva, 1996) and there exist stark differences in concepts and standards, ambiguities in goals and large-scale inconsistencies in work as far as housing supply is concerned. The decision-makers in most cases fail to reach a clear picture of the future, resulting in the public remaining in a continuous spiral owing to individual efforts and decisions (AlQahtany, 2021). ‘Shelter for all’, is the philosophy and the most important social concern governing housing policy in India. Despite the state’s commitment to provide a liveable house of reasonable standards to all its citizens, it has largely been a dream. The growth in housing supply has therefore always lagged behind the demand (Tiwari and Parikh, 2000). Likewise, on the demand-side of private housing market, there exist issues deterring the formation of an empowered consumer base with real choices in the housing market ((Maisonneuve and Dek, 2020); (Gopalan and Venkataraman, 2015); (*Neelkamal Realtors Suburban Pvt. Ltd. & Anr v Union of India & Ors*, 2018)).

The World Bank in 1984 proposed a set of measures for all levels of construction industry activities (demand-side, supply-side, institutional set-up and research activities) to improve the efficiency of this important sector of national economy (Lopes, 2011). Efficiency of a sector largely depends upon the market forces of demand and supply in action at any point of time. The close nexus between the housing crisis and the real estate sector of the nation (Rangaswamy, 2016), along with the existent situation of a lag in the output of the housing construction industry in

relation to the rate of formation of new households, calls for an investigation into the issues bottlenecking competitive efficiency (Pugh, 1991) of the delivery-side of private housing market. Likewise, on the demand-side of private housing market, there exists a pressing need to analyse the underlying issues deterring the formation of an empowered consumer base with real choices in the housing market. Therefore, the present study is set in the backdrop of a) the contextual significance of construction industry and real estate sector in the Indian economy b) the persistent lag in supply of assets to Indian housing market, coupled with poor quality of demand for housing assets and c) the absence of studies on interrelationship between the Indian construction industry and the existent crisis in demand and delivery of assets in residential real estate market. The aim of the present research is to a) establish a link between stimulation of construction industry output and the demand and supply side forces of Indian residential real estate market and b) develop improvement frameworks for the demand and supply side forces of housing market. In order to achieve the same, the following key research questions were formulated:

- i) What is the relationship between the workings of residential real estate sector and the stimulation of output demand from construction industry?
- ii) What are the challenges to consumer-centric residential real estate asset (CC-RREA) delivery?
- iii) What are the characteristics of consumer-centric residential real estate asset delivery and consumer-empowered residential real estate asset demand?
- iv) How can residential real estate asset demand and delivery be improved to enhance output demand from construction industry?

1.3 Research Objectives

With the aim of a) establishing a link between stimulation of construction industry output and the demand and supply side forces of Indian residential real estate market and b) developing improvement frameworks for the demand and supply side forces of housing market, the following specific objectives were set:

- i) To examine the workings of the Indian residential real estate sector and develop a conceptual framework to stimulate construction industry output.
- ii) To assess the persistent challenges to consumer-centric residential real estate asset delivery.
- iii) To analyse the existent quality of consumer-centric residential real estate delivery and consumer-empowered residential real estate asset demand.
- iv) To develop improvement frameworks facilitating time-bound, cost-certain and scope-adherent residential real estate asset delivery on the supply side and enhancing consumer skills, consumer awareness, consumer engagement and housing affordability on the demand side, for the benefit of the construction industry.

1.4 Research Scope

The scope of the present study was set to the below mentioned extents:

- 1) Real estate assets being developed for residential purposes alone, namely, plots (land), apartments/flats and standalone units, were considered.
- 2) The notion of consumer-centricity in residential real estate sector was limited to the extent of 'delivery' of assets.
- 3) Mass urban housing supply by private real estate promoters/developers listed with the Confederation of Real Estate Developers' Association of India (CREDAI) – Bengaluru Chapter was alone considered.
- 4) Legislation of higher significance to the aid of consumers of residential real estate assets in India, namely, a) the Real Estate (Regulation and Development) Act, 2016 b) the Consumer Protection Act, 2019 and c) the Insolvency and Bankruptcy Code, 2016, were assigned higher importance in formulating the conceptual framework of the study.
- 5) Physical jurisdiction of the study was limited to the urban metropolitan context of Bengaluru, Karnataka.

1.5 Significance of the Research

The output of the present study shall comprise of a) significant challenges deterring consumer-centric residential real estate asset delivery b) existent quality of the determinant factors of consumer-centric residential real estate asset delivery and consumer-empowered residential real estate asset demand c) improvement frameworks for residential real estate asset demand and delivery sides, for the benefit of the construction industry. The output shall be of significance to different stakeholders of construction industry and residential real estate sector, as brought out in Table 1.1.

Table 1.1: Stakeholder vis-à-vis Significance

Stakeholder	Significance
Consumers	Facilitate making of informed choices as to real estate purchases
Legislators; Law-makers; Policy-makers	Inform priority areas of intervention
Regulatory authorities; Urban local bodies; Parastatals	Indicate pressing issues as to the execution of law and facilitate the correction of the same
Real estate promoters/ developers; Construction service providers and professionals	Indicate professional areas requiring improvements to optimise housing delivery
Academic and research institutes	Indicate areas of further scope of research

1.6 Overview of the Thesis

The outline of this thesis report is as follows:

Chapter 1: Introduction

This chapter provides the background of the study, along with problem statement, objectives, scope and significance of the research.

Chapter 2: Literature Review

The underlying literature for various factors identified on the demand and supply sides of the housing market are presented in this chapter. Additionally, the interfaces of interaction of the residential real estate sector with the construction industry have been elaborated upon.

Chapter 3: Conceptual Framework

This chapter presents the conceptual framework developed to stimulate construction industry output through enhanced efficiency of residential real estate sector in India. The hypotheses underlying the interrelationships between various factors have been elaborated upon.

Chapter 4: Research Methodology

The research methodology adopted in relation to the research objectives of the present study is discussed in this chapter. Qualitative and quantitative techniques of data analysis have been employed. Triangulation of data through questionnaire surveys, interviews and document analysis has been undertaken. Methods adopted to ensure reliability and validity of the research have been discussed.

Chapter 5: Challenges to Consumer-centric Residential Real Estate Asset Delivery

In this chapter, the persistent challenges to consumer-centric residential real estate asset delivery have been identified. The challenges have been categorised to be emanating from the following three sources: i) framework of law ii) execution of law and iii) policy interventions. The top-most factors under each category have been identified through quantitative analysis of survey responses, followed by validation of the same through interviews and document analysis. Additionally, factor analysis has been undertaken to identify underlying dimensions of various factors. Spearman correlation analysis was performed to test the agreement of perceptions between various groups of respondents. Lastly, independent sample T-test was carried out at individual factor level to test the significance of mean difference where factor wise discussion was required.

Chapter 6: Determinant factors of Consumer-centric Residential Real Estate Asset Delivery and Consumer-empowered Residential Real Estate Asset Demand

This chapter dwells upon the deficient factors of consumer-centric residential real estate asset delivery and consumer-empowered residential real estate asset demand. Through the analysis of survey responses, key delays, cost escalators and scope deficiencies on

the supply side of housing market have been identified. On the demand side of the housing market, poor consumer skills, unawareness of consumer legislation, poor consumer engagement and unaffordability have been probed.

Chapter 7: Construction Industry Output Demand Stimulation

From the analysis of survey responses, the different means of stimulation of construction industry output, namely, i) real estate investment-led construction industry stimulation ii) real estate consumption-led construction industry stimulation and iii) real estate speculation-led construction industry stimulation have been presented. Additionally, hypothesis testing has been undertaken to establish the relationships between and within i) the factors deterring consumer-centric residential real estate asset delivery ii) determinants factors of consumer-centric residential real estate asset delivery iii) determinant factors of consumer-empowered residential real estate asset demand and iv) different means of stimulation of construction industry output. The findings indicate significant correlations along the lines of the proposed hypotheses.

Chapter 8: Status of Improvement Requirement in Demand and Delivery of Residential Real Estate Assets

In this chapter, assessment of required level of improvement of factors constituting efficient residential real estate asset demand and delivery has been undertaken through analysis of survey responses. On the delivery side, time-bound delivery of assets has been assessed along two dimensions, namely, i) stakeholder performance and ii) inflow of cash. Cost-certainty in delivery of assets has been assessed along three dimensions, namely, i) budgeting and monitoring ii) financial accessibility and management and iii) regulatory charges and miscellaneous expenses. Scope-adherence in delivery of assets has been assessed along two dimensions, namely, i) validity of project development and exchange and ii) disbursement of project scope. On the demand side, consumer skills have been assessed along five dimensions, namely i) numerical skills ii) understanding of architectural drawings and details iii) technical capabilities iv) legal understandings and v) financial understandings. Awareness of consumer legislation has been assessed along two dimensions, namely, i) knowledge of duties and liabilities and ii) knowledge

of rights and remedies. Consumer engagement has been assessed along the lines of i) due-diligence ii) availing of legal remedies and iii) pro-active involvement with project progress. Lastly, affordability has been assessed along three dimensions, namely, i) pricing of housing stock ii) household income levels and iii) mortgage loans and interest rates. Statistical analysis of survey data along with interview responses and document analysis pointed towards huge scope of improvement in all the identified factors.

Chapter 9: Improvement Frameworks

This chapter presents the improvement frameworks designed for residential real estate market. For the delivery side of residential real estate market, a framework has been developed to capture the loopholes in the interfaces of interaction between major market participants, namely, i) promoters/developers ii) regulatory authorities and judicial/quasi-judicial bodies iii) urban local bodies and parastatals and iv) government. For the demand side of residential real estate market, detailed checklists have been developed to draw the much needed attention of residential real estate consumers towards various factors of pertinence to asset acquisition. The checklist has been developed to cover the following three phases of residential real estate asset acquisition: i) pre-acquisition phase ii) acquisition phase and iii) take-over phase.

Chapter 10: Conclusions and Recommendations

This chapter presents the conclusions of the study. Additionally, contribution to theoretical knowledge, practical implications and limitations of the study together with the scope for further studies have been elaborated upon.

CHAPTER 2

LITERATURE REVIEW AND SYNTHESIS

This chapter presents a review of literature on different means of stimulation of construction industry output, determinant factors of consumer-centric residential real estate asset delivery and consumer-empowered residential real estate asset demand, and deterrents to consumer-centric residential real estate asset delivery,

2.1 Construction Industry Output Demand Stimulation by Real Estate Sector

It is of pertinence to understand the interaction of real estate sector with construction industry. The Fischer-DiPasquale-Wheaton (FDW) real estate model was one of the earliest models that integrated 'space market' with that of 'capital market'. The FDW model conceptualises the interrelationships between the following four markets: i) market for space ii) asset valuation iii) construction sector and iv) stock adjustment (DiPasquale and Wheaton, 1992). It is a static quadrant model that traces the relationships between real estate market and asset market variables as well as the adjustments that take place to establish equilibrium in the supply of and demand for real estate space. With a given stock of real estate space, changes in the macro economy (for example, increases in employment, production, or the number of households; that is, market demand and supply forces) increase the demand for real estate space and given a particular level of real estate space, rents rise. This then gets translated into real estate prices by the asset market. These asset prices, in turn, generate a new and higher level of construction, which eventually leads to a new and greater level of stock of real estate space. Achour-Fischer (1999) describes the FDW-model as an elegant metaphor that integrates the different markets in the built environment, with specific reference to the real estate market, capital market and construction activity.

Primarily, there exist two essential elements in real estate purchasing - one is consumption and the other is investment. The dual motives of housing behaviour, consumption and investment make the analysis of housing purchases quite difficult (Tsou and Sun, 2021). Works by Henderson and Ionnaides (1983), Henderson (1987),

Lin and Lin (1999), Arrondela and Lefebvreb (2001), and Cassidy et al. (2008) have analysed the choice of tenure by separating the demand for housing into service/consumption demand and investment demand. Housing can, therefore, be treated not only as a consumer good that generates a stream of services to satisfy household demands but also as an investment asset that may appreciate in price in the real estate market. This dual role of housing results in its heterogeneity and raises the volatility of price and possibility of overheating of housing market (Hung and Tzang, 2021). Chen et al. (2012) find that as the volatility in the housing market becomes higher, the share of housing consumption value to housing value will be lower for houses with a high utility rental benefit rate. However, the share of investment value increases. This finding implies that housing demanders tend to provide higher weight to investment value than consumption value delivered by houses, which may promote the formation of a housing bubble.

Chen et al. (2012) pointed towards speculative intent in real estate purchase decisions when individuals have more capital in hand, which consequently results in structural changes in real estate prices. Dieci and Westerhoff (2009) developed a simple model of a speculative housing market to improve the understanding of boom and bust housing price cycles. Gao et al. (2020) found that housing speculation had real economic consequences during the boom of the U.S. housing markets in the 2000s by increasing housing prices and fueling local economic expansions, and during the recession by depressing residential construction employment as a result of supply overhang, and by reducing local household demand. Chen and Wang (2021) categorized the influencing factors on house prices into macroeconomic variables and speculation. Mallick and Mahalik (2012) found that rising house prices are significantly compounded by speculative factors.

In addition to investment, consumption and speculation in/of real estate assets by home-buyers, there exists an inflow of money into real estate sector in the form of capital to real estate development firms. Investment in real estate assets may be done by direct or indirect means. The prerequisite for real estate development is fund availability (not necessarily demand); real estate development is a highly leveraged business and

sizeable amounts of capital in the form of either equity or debt are constantly sought (Des Rosiers, 1984). Capital structure, which is the way a firm can use many sources of fund to finance its operation and growth, plays a vital role in real estate firms. Determination of the proportion of mixture of sources such as debt and equity can have significant impact on a firm' performance (Nguyen et al., 2017). While direct investment is related to property purchases in order to obtain current profits in the form of tenancy rent, or as a result of waiting for the value of the investment subject to increase, indirect investment involves obtaining an investment certificate and participating in investment fund entities on the one hand, and capital engagement on the other, and by purchasing shares in business entities acting in the property sector (Klimczak, 2010). Real estate companies that are entrepreneurial in their early phases tend to depend on either external capital (debt or equity) or proceeds from previous developments (retained earnings) to finance developments and/or acquisition (Charney, 2001).

From the above mentioned literature, it can be drawn that construction industry output stands stimulated by residential real estate sector in the following three ways, namely, a) real estate investment-led (includes both property purchase and capital investments into real estate firms) construction industry output demand stimulation b) real estate consumption-led construction industry output demand stimulation and c) real estate speculation-led construction industry output demand stimulation.

2.2 Determinant Factors of Consumer-centric Residential Real Estate Asset Delivery

Efficiency and effectiveness of housing delivery system are the precursors to the availability of affordable housing units in housing market. For the housing market, the delivery system is a process that allows people to meet their basic needs of shelter and involves many inputs and processes, namely, selection of site, financial support, cash flow design, house construction, and the negotiation process of buying and selling (Almi and Husin, 2017).

Dwelling upon the delivery system in construction projects, Thi and Swierczek (2010) based on previous studies, zeroed in on cost, time, technical performance and customer satisfaction as the indicators of project success. In another significant study, Tukel and Rom (2001) found that project managers' primary success measure is quality and their most important objective is meeting customer needs. The priority given to this objective does not change during various stages of a project, regardless of the project type and industry classification. The choice of performance measures, however, is influenced by project type and industry classification. It was further pointed out that the construct of customer-focus is often measured primarily by employing internal performance measures that are used to monitor project progress. The reason for the same being that internal measures are quantifiable as opposed to intangible and subjective measures. Kerzner (1998) aptly summarizes that a project can be considered successful if it meets the internal performance measures of time, cost and technical performance, while also ensuring that the project is accepted by the customers. Along similar lines, Charles et al. (2021) inferred that growing involvement of end-users in project planning and the external environment's corresponding influences advocate for end-user's satisfaction and well-being, beckoning the industry to invest in new and innovative strategies to meet these objectives affecting project success.

The definition of project success is vague and there is no universally accepted criteria used for its measurement (Jha and Iyer, 2007). Lim and Mohamed (1999) define criteria as the set of principles or standards by which judgement is made and which are considered to be the rules of the game. Traditionally, project performance is evaluated using schedule, cost, and quality performances, also known as the 'iron triangle' (Atkinson, 1999). Over the years, a number of researchers have proposed different sets of success evaluation criteria in addition to the iron triangle. Some of the criteria used for evaluating success are: perceived performance; client satisfaction; contractor satisfaction; project management team satisfaction; technical performance; technical innovativeness; efficiency of project execution; managerial and organizational expectations; personal growth; project termination; functionality; and manufacturability and business performance (Baker et al., 1997; Ashley et al., 1987; Freeman and Beale, 1992). Jha and Iyer (2007) categorize the above mentioned criteria

under two broad heads: objective and subjective. The objective evaluation criteria are those which are tangible and measurable, as schedule; cost; quality; safety; and dispute, while the subjective or intangible evaluation criteria would include client satisfaction; contractor satisfaction; and project management team satisfaction. Pollack et al. (2018) argued that the iron triangle needs to be viewed as a didactic device intended to communicate the relationship between time, cost and any other potential criteria. It was held that as a didactic device, it seems that scope, performance, requirements, and quality could all be interchangeable as the third vertex on the iron triangle, and are just of varying relevance depending on the kind of project being assessed. Mellado et al. (2020) put forth that the concept of performance in the construction industry is always debatable, as is its quantification. The usual criteria for measuring success are open to discussion due to the rapid evolution of the industry which has made other measures to emerge along this constant change. Upon analysis, it was found by Mellado et al. (2020) that the top 5 Key Performance Indicators (KPIs), reflective of the construct of performance in the construction industry are time, cost, quality, safety and client satisfaction. The final ranking of KPIs of project performance reinforced that the 'iron triangle' continues to be the most preferred method to measure project performance despite it being widely considered as an age old measure with inherent weaknesses. The fact that a range of KPIs are 'attached' to the iron triangle establishes the primacy of the iron triangle.

Based on the above mentioned extant literature, the intangible objective of consumer-centricity in residential real estate asset delivery can be inferred to be hinging upon primarily three tangible determinant factors reflective of the quality of delivery of real estate assets, namely, a) time-boundness b) cost-certainty and c) scope-adherence. Fig. 2.1 represents the iron triangle for the delivery of residential real estate assets. A delivery lacking in any of the aforementioned determinant factors, undoubtedly fails to be in the interests of consumers invested in their housing assets.

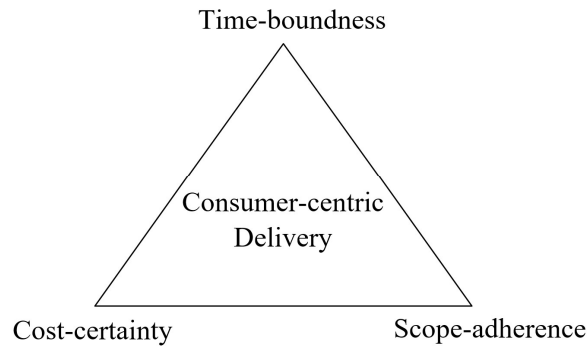


Fig. 2.1: Iron Triangle for the Delivery of Residential Real Estate Assets

2.3 Determinant factors of Consumer-empowered Residential Real Estate Asset Demand

In any industry/sector, advocating for the need to have real choices, accurate information, market transparency and the confidence that comes from effective protection and solid rights of consumers is of paramount importance (Commission of the European Communities, 2007). Ofori (2015) stressed upon the education of the client/consumer as a necessity which could potentially lead to end-purchasers acting as a market force of change. Empowered consumers are capable of making informed choices provided a consumer empowerment regime puts in place necessary tools for consumers to secure the best possible outcome for themselves (Harker et al., 2008).

The empowerment of a consumer is a multifaceted concept encompassing skills, competences and rights, as well as the ability of the consumer to gather and use information and the capacity of the market to provide legal and practical protection devices. In this light, Nardo et al. (2011) proposed an index describing consumer empowerment along three main factors: consumer skills, awareness of consumer legislation and consumer engagement, acknowledging the multifaceted concept of empowerment as in Table 2.1.

Table 2.1: Factors of consumer-empowered demand

Factor	Meaning
Consumer skills	Degree of awareness of purchase decisions
Awareness of consumer legislation	Knowledge of consumer rights
Consumer engagement	Access to advocacy and redressal

The concept of consumer empowerment therefore is built on knowledge, skills and assertiveness, which could be facilitated through various means as consumer education, sharing of valuable information and institutional regulations etc.

In addition to the above mentioned factors constituting an empowered consumer base, it is of importance to understand another key factor of affordability. Sun et al. (2010) states that the development of real estate sector requires for the price mechanism to be perfected. Supervision should be strengthened, and speculation on land should be forbidden. Also, the fees in the process of developing real estate should be low and the efficiency of the promoter/developer should be enhanced. According to Gopalan and Venkataraman (2015), from a national perspective, affordable housing is one of the key indicators of balanced growth in the country. When housing becomes unaffordable, either there is a bubble in the housing market with serious repercussions to economic policy, or there exist other imbalances in the economy. Further, it is pointed out as to how housing is not purely a market thing as there exists a sense of public purpose behind it in the backdrop of deprivation and exclusion in Indian context. Praja Foundation (2015) in its research on urban laws and policies impacting housing, reinforced the urgent need for a policy environment facilitating the creation of affordable housing and rental housing stock in cities by making it a viable business opportunity for promoters/developers and safeguarding the interests of consumers/buyers at the same time. Maisonneuve and Dek (2020) point towards the prevalence of housing shortage among low-income groups despite increases in the stock of quality housing in recent years and assign the reason for the same to high house prices relative to incomes and inaccessible credit. Further, it is argued that the prices are high because of certain structural rigidities in the market, stemming from stringent zoning and land regulations, restrictive floor indices and high transaction costs, in the context of high population density. Various regulations and costly land in urban areas have pushed up the ratio of house prices to annual income, reducing affordability, especially for low-income households. In this context, improving the functioning of housing market and addressing affordability takes centre stage. The significance of affordable housing lies in the multitude of consequent benefits that come with it, namely, poverty reduction, equality of opportunity and more inclusive and sustainable growth.

Synthesizing from the above mentioned literature, consumer-empowered residential real estate asset demand can be inferred to be relying upon the following four determinant factors: a) consumer skills b) awareness of consumer legislation c) consumer engagement and d) affordability of housing.

2.4 Factors deterring Consumer-centric Residential Real Estate Asset Delivery

It is noteworthy that every new real estate project finds its processes being ‘re-invented’ (Reichstein et al., 2005) because no standard set of processes applicable across projects is available. It is also of concern that such processes are executed in an ad-hoc manner, sometimes against the very designs perfunctorily defined at the beginning of a project (Abdullah et al., 2011). It is hardly surprising, therefore, that real estate projects are widely seen as unpredictable for delivery within promised time and budget, or to quality standards expected (Egan, 1998).

The real estate sector in India, apart from its bright achievements and lucrative future ahead, has been spotted with numerous irregularities and is plagued with many anomalies as reported by various leading newsletters and reports from time to time. There exist innumerable cases where builders have launched projects, collected deposits from the public and vanished, sold the same land to multiple buyers, invested funds from one project to launch new projects before completion of the first project, bought and sold units on lands not owned by them or having no clearances from government authorities, delayed possessions, corruptly acquired land and converted its use, paid bribes to officials to gain multiple official clearances, used substandard materials and manipulated scheduled deadlines for getting early payments etc. (Chaudhary and Phoolka, 2019). As early as in the 1980s, it was observed that the absence of appropriate laws and regulations for real estate business and trade had strengthened the position of middlemen. Business operations were underpinned by contacts developed with politicians and bureaucrats at a cost which could easily be passed on to final purchasers of property. Through regular pay-offs and offers of prized investments, the long arm of law was kept at bay, advance information obtained, files cleared promptly, and irregularities condoned (Kumar, 1982). In spite of various measures taken in recent times to regulate the sector, the unorganized nature of real

estate sector comes to the fore time and again because of slack enforcement of regulations, bureaucratic costs of formal operation, and social norms that encourage non-adherence to law as a tool used by small enterprises to compete with large modern players (Farrell, 2004).

Indian cities have some of the most stringent urban land regulations which reduce the elasticity of housing supply and raise prices (Bertaud and Brueckner, 2005; Sridhar, 2010; Brueckner and Sridhar, 2012; Vishwanath et al., 2013; Ellis and Roberts, 2016). In reference to the challenges and bottlenecks associated with getting sustainable development goals operational, Howlader et al. (2019) point towards the presence of political red-tapism, power conflicts, problems in logistics, real estate and land governance issues and inadequate social awareness movements in India. Maisonneuve and Dek (2020) aptly summarise that the Indian housing market is characterised by an excess demand for affordable dwellings, a small rental market and an oversupply of high-end housing, especially in urban areas. House prices are high because of structural rigidities in the market, stemming from stringent zoning and land regulations, restrictive floor indices and high transaction costs in the context of high population density. In addition to the empirically proven supply lags in spite of supply responsiveness, there exist outdated legislation, incompatible planning standards and regulatory policies, all of which contribute to the exacerbation of housing problem faced by Indian cities (Nallathiga, 2005). The main reason for reduction in consumer sentiments toward the real estate sector is that many projects have not been delivered on time owing to different constraints (Baulkaran et al., 2019; CBRE, 2019; IBEF, 2019; PwC, 2019). The promoters/developers are facing huge losses, which directly affect project delivery, and ultimately it is the consumers who are at a loss (Glascock and Kelly, 2007). A major challenge is with respect to promoters/developers transferring money from one project to other, which results in delays in delivery and disputes between consumers and developers. The promoters/developers from their end are trying to stay ahead of competition with less focus on consumer satisfaction because of prevalent malpractices (Rohilla and Goel, 2020; Singh, 2020). Another essential aspect of negligence that is common in developing countries is the absence of well-defined scope in construction projects, followed by design, contracting, execution and

handover of projects (Mei and Hu, 2000; Burtonshaw-Gunn, 2017; Chatterjee et al., 2018; Xia et al., 2018).

In the 2010 Doing Business Report released by the World Bank, which looked specifically into the ease of availing construction permits by real estate promoters/developers, India was ranked 175th among 183 countries (Reddy et al., 2018). According to the Global Real Estate Transparency Index, there exists significant divergence between regulation and enforcement capacity on the ground in 'semi-transparent' and 'low transparency' markets as India (Jones Lang Laselle, 2020). Annamalai et al. (2014) rightly point out that because real estate is not directly traded on a central exchange, the physical real estate market is characterized by relative lack of liquidity, large lot size and high transaction costs with properties that are locationally fixed and heterogeneous. According to Glaeser et al. (2005), regulatory tax along with supply restrictions could arise due to legal bills, lobbying fees, carry costs of invested capital during long delays, or any of the myriad other expenses associated with navigating a city's regulatory maze. Also of importance here is that there exist regulations that prohibit Indian banks from lending for land, and therefore the promoters/developers often borrow through other sources at much higher interest rates, ranging from 22% to 30%. For financing construction (without land), the cost of borrowing ranges between 16% to 18%. Deep et al. (2021) aptly summarize the state of affairs in the Indian real estate sector construction projects by putting forth that low-levels of consumer sentiments are observed owing to a high chance of projects getting delayed because of delayed government approvals, errant project cost estimation and delayed handover because of execution constraints. This leads to overall price rise and higher unit costs that often result in disputes, low return on investments for consumers and higher loan costs. To add on to this, Gandhi et al. (2021) investigated another less well studied source of cost escalation and delay i.e. litigation. Litigation is caused by poorly defined property rights. The low state capacity of Indian courts compounds this problem by making delay and the threat of delay, rather than winning a case, the goal of litigation. Additionally, by having a system of registered sale deeds as opposed to land titles, the real estate market is plagued by innumerable property disputes across

various courts and forums. Weak property rights and costly land acquisition significantly constrain supply (Maisonneuve and Dek, 2020).

In this backdrop, review of existent literature on residential real estate sector pointed towards three broad sources of factors deterring consumer-centric residential real estate asset delivery in India, namely, a) factors emanating from the framework and interpretation of law b) factors emanating from the execution of law and c) factors emanating from policy interventions.

2.4.1 Factors emanating from the Framework and Interpretation of Law

Academic perspectives on the influence of the framework and interpretation of law on residential real estate asset delivery is as tabulated in Table 2.2.

Table 2.2: Literature on the influence of the framework and interpretation of law

Reference	Quote
Lieser and Groh (2014)	- Economic growth, rapid urbanization and compelling demographics attract real estate investment, and a lack of transparency in the framework, administrative burdens of real estate business, socio-cultural challenges and political instabilities reduce international real estate allocations.
La Porta et al. (1997)	- ... the legal environment, as described by both legal rules and their enforcement, matters for the size and extent of a country's capital markets.
Reddy et al. (2018)	- Both the judicial and legislative stance on RE(R&D)A, 2016 has been to ensure strict implementation. While this approach is bound to boost consumer confidence, it has also resulted in a lopsided legal framework that fails to address the most pertinent problems affecting the real estate sector in India.
Almi and Husin (2017)	- The most important factors for successful housing delivery system are financial factors, followed by economic, environmental and social factors, along with project management factors, communication factors, enforcement factors and legislative factors.
Yusof et al. (2012)	- The government needs to enact legislation to provide a win-win situation for all the parties, especially the developers and the buyers.
Rangaswamy (2016)	- The Indian judiciary has demonstrated commendable interest towards right to housing and interpreted this right under the context of right to life provided under article 21 of the constitution.
Nallathiga (2005)	- Addition to housing stock has not been taking place to meet the requirements because of various reasons as prevalence of outdated legislation, outdated planning and development control regulations in urban areas etc. - Outdated legislation, incompatible planning standards and regulatory policies have contributed to the exacerbation of housing problems faced by cities in India. - Many a times, the rigid legislative and operational framework under which they operated was not resulting in better housing, rather was acting against the principle of affordable housing.

Theurillat et al. (2015)	<ul style="list-style-type: none"> - The action and ‘rationality’ of entrepreneurs is determined by a given institutional framework (regulations governing structure and planning, policies regarding economic development, sustainable development etc.) and On this basis, various arrangements are formed around real estate production. - ... real estate markets are often hard to fathom because of the heterogeneity of goods, the decisive importance of local regulations and practices, and the role of local politics.
Ofori (2015)	<ul style="list-style-type: none"> - ... the formulation of policies and legislation for establishing construction industry development agencies... - Elements of success worth emulating despite the uniqueness: firm government commitment, attention paid to housing in overall economic management, a well-organized planning system... - Strategies, policies and programmes must be translated into regulations, initiatives and incentives.

Key pieces of legislation which were probed to identify the factors emanating from the framework of law and contributing to the lack of consumer-centricity in residential real estate asset delivery are as in Table 2.3.

Table 2.3: Key sector-specific legislation

Sl. No.	Statute	Year of enactment
1.	The Indian Contract Act	1871
2.	The Transfer of Property Act	1882
3.	The Specific Relief Act	1963
4.	The Maharashtra Ownership Flats (Regulation of the promotion of construction, sale, management and transfer) Act	1963
5.	The Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act	2002
6.	The Insolvency and Bankruptcy Code	2016
7.	The Real Estate (Regulation and Development) Act	2016
8.	The Consumer Protection Act	2019

Operationalisation of the construct of consumer-centricity through a range of factors and assessment across relevant legislation, reflected the growing sensitivity of law-makers and judiciary, over the years, towards the protection of interests of real estate consumers, as in Table 2.4. However, a probe on the persistent deficiencies in the framework and interpretation of law reflected the pressing need for further structural reforms to elevate consumers to the ranks of other dominant stakeholders as promoters/developers. Of the above mentioned statutes, the top three statutes of significance to real estate asset delivery, namely, the Insolvency and Bankruptcy Code 2016, the Real Estate (Regulation and Development) Act 2016 and the Consumer

Protection Act 2019 when probed for inherent deficiencies in their frameworks, reflected the presence of significant loopholes in their frameworks, which have enabled the sustenance of an imbalance in the design and the power structure of the sector. Table 2.5 – 2.7 present the loopholes in the three statutes. Summarily, the disadvantageous positioning of real estate consumers, as effectuated by deficiencies in the making and interpretation of law, have resulted in the creation of an undesirable tilt in the sector towards promoters/developers as opposed to consumers of residential real estate assets (Krishnamurthy and Mahesh, 2022).

Table 2.4: Factors vis-à-vis Statutes

Factor	ICA	TPA	SRA	MOFA	SARFAESI	IBC	CPA	RE(R&D)A
Expanse of the jurisdiction of law	✓	✓	✓	✓	✓	✓	✓	✓
Provision for gathering accurate project-specific information and details					✓			✓
Curtailment of disbursement of false project-specific information	✓	✓	✓	✓			✓	✓
Remedy for reliance on false project-specific information	✓		✓	✓	✓		✓	✓
Enforcement of specific performance as to the delivery of possession	✓		✓	✓				✓
Restrictions as to variations from sanctioned plans and specifications			✓	✓			✓	✓
Redressal of defects post-handover				✓				✓
Mandatory provisions as to legal transfer of title, physical possession and handover of project documents		✓		✓				✓
Reasonable fairness of contracts/agreement for sale as to scope	✓						✓	✓

Adherence to requirements as to mandatory insurance								✓
Obligations as to the formation of an association or society or co-operative society of allottees or a federation of the same				✓				✓
Prescription on the timing of a valid offer	✓							✓
Permissibility of extension of time			✓	✓				✓
Repercussions of default in delivery of possession post (reasonable) extension of time	✓		✓	✓		✓	✓	✓
Frequency of mandatory update of project status and approvals								✓
Timing of legal transfer of title, physical possession and hand over of project documents				✓				✓
Accountability as to collected funds				✓				✓
Mandatory update of new bookings								✓
Prescription as to mandatory execution of written agreement for sale				✓				✓
Reasonable fairness of contracts/agreement for sale as to pricing and payment schedule	✓						✓	✓
Clearing off of outgoing and penal charges prior to handover of physical possession		✓		✓				✓
Restrictions on mortgage creation and redemption by			✓	✓	✓			✓

promoter/developer								
Implications of delay in handover of possession	✓	✓	✓	✓			✓	✓
Implications of failure to handover possession post reasonable extension of time	✓	✓	✓			✓		✓
Maintenance and preservation of books of accounts by real estate agents								✓
Cumulative no. of factors addressed by the then existent statutes	10	12	15	20	21	21	21	25

Note: ICA = The Indian Contract Act, 1871; TPA = The Transfer of Property Act, 1882; SRA = The Specific Relief Act, 1963; MOFA = The Maharashtra Ownership Flats (Regulation of the promotion of construction, sale, management and transfer) Act, 1963; SARFAESI = The Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002; IBC = The Insolvency and Bankruptcy Code, 2016; CPA = The Consumer Protection Act, 2019; RE(R&D)A = The Real Estate (Regulation and Development) Act, 2016; Y = Yes.

Table 2.5: Loopholes in the framework of the Real Estate (Regulation and Development) Act, 2016

Factor	The Real Estate Regulation and Development Act, 2016	
	Shortcomings in the Framework of Law	Implications
Expanse of the jurisdiction of law	<ul style="list-style-type: none"> - Co-operative housing societies and project land owners, as per the Act, are liable to be treated as 'promoters'. - Joint development agreements transfer development rights to a promoter/developer intending to execute a project. In case of any kind of failure of performance on the part of the promoter/developer under the joint development agreement, the relief to the co-operative housing society/land owner is limited to that provisioned under the SRA, 1963. 	<ul style="list-style-type: none"> - The RE(R&D)A, 2016 being limited in its applicability, does not deal with the issues that crop up between various promoters/developers of real estate projects. Any default on the part of the promoter/developer entities in specific performance of an obligation, under a joint development agreement with a co-operative housing society/land owner, completely falls out of the purview of the Act, ultimately acting to the detriment of consumers invested in the delivery of their assets.

<p>Provision for gathering accurate project-specific information and details</p>	<ul style="list-style-type: none"> - There exists excessive reliance of RERA on project professionals (architects, engineers and chartered accountants) to provide for checks and balances in relation to disbursed project-specific information. - Under the Act, there is a lack of provisioning of direct monitoring of rightful performance of obligation by project professionals. 	<ul style="list-style-type: none"> - The Act provides for an excess of detrimental reliance of RERA on project professionals. - Any kind of penal action involving cancellation/ suspension of registration of project professionals with concerned professional bodies shall require additional efforts directed towards co-ordination with these professional bodies.
<p>Remedy for reliance on false project-specific information</p>	<ul style="list-style-type: none"> - Advances/deposits made by consumers on the basis of information that is false and misleading, disbursed through the limited means of advertisements, prospectus and model apartments, alone can be remedied by the provisions under the Act. 	<ul style="list-style-type: none"> - Limiting the applicability of remedies under the Act to information disbursed only through certain specific mediums effectively results in an absence of a wholesome remedy for consumers of residential real estate assets.
<p>Enforcement of specific performance as to the delivery of possession</p>	<ul style="list-style-type: none"> - The Act fails to lay down ways in which RERA could bring about specific performance as to delivery of possession. - In cases where projects fail to be feasible enough to be taken to completion, the Act fails to prescribe the timely recourse available to consumers. - There is an absence of well-defined time period within which RERA is to take-over a stuck project and facilitate carrying out of remaining development works. This effectively could lead to a lackadaisical approach from RERA' end, even when it has the powers to protect the interests of consumers. 	<ul style="list-style-type: none"> - The Act obligates the authority to ensure specific performance, without laying out details and specifics for the same. - On one hand, this provides for necessary flexibility to RERA to come up with remedies suiting the specifics of the case in hand and the circumstances of physical jurisdiction in which it operates. On the other hand, consumers are positioned to be at a disadvantage till an effective system efficient enough to ensure specific performance is put in place.
<p>Restrictions as to variations from sanctioned plans and project specifications</p>	<ul style="list-style-type: none"> - Variations in sanctioned plans/layout plans/project specifications of individual buildings or common areas within a project affecting only a small lot of consumers could be effectuated by the consent of 2/3rd or more of the total number of consumers. Here the consumers unaffected by such variations, if much larger in number, may jeopardise the interests of a small section of consumers actually affected by such variations. - There exists no provision to facilitate the coming together of consumers of a project. Absence of stipulations on mandatory update of details of individual consumers on the webpage of the project with the authority hampers collective decision-making. 	<ul style="list-style-type: none"> - Variations affecting a section of the consumers, when subjected to the will of the entire lot of consumers, could fail to justify purchase decisions. - Also, provisions strengthening the powers of consumers, subject to their coming together, end up being ineffective in the absence of facilitative infrastructure enabling collective action.

Redressal of defects post-handover	<p>- The Act, by inclusion of a provision to deal with instances of failure to rectify defects by promoters/developers, in effect, makes it permissible to not perform the corrective actions.</p> <p>- The consumers, resultantly, are forced to get the defects rectified from other sources, while also being burdened to take actions to recover compensation from promoters/developers.</p>	<p>- Provisioning for non-performance of rectification of defects within the framework of law acts as an impetus to promoters/developers to abstain from performance of obligations or making payments for rectified works. This being the case, consumers resultantly are embroiled in long-drawn legal battles to recover their dues as arrears of land revenue.</p>
Obligations as to the formation of an association or society or co-operative society of allottees or a federation of the same	<p>- The association of allottees is required to be formed within a certain time period of majority of allottees having 'booked' their units. Since the token amount required to be paid for the purpose of merely booking a unit is less than 10% of total consideration, this could lead to mischievous individuals with no intention of being invested in the project for long or with possible relations to promoters/developers affecting the interests of genuine consumers in any decision-making by the said association of allottees.</p>	<p>- A provision as this, as much as it empowers the coming together of consumers, it could also result in wielding of power in the hands of mischievous elements, thereby affecting the interests of other genuine consumers invested in a project.</p>
Prescription of the timing of a valid offer	<p>- Projects for which RERA fails to grant registration or reject the application for registration, shall be deemed to have been registered. A provision as this, shall always be subject to assessment of application and possible cancellation of registration at a later point of time, as and when complaints arise.</p>	<p>- The interests of consumers invested in a project, post the ascertainment of a valid offer (based on the project' registration with the authority), will be at risk in the face of possible de-registration of the project at a later point of time owing to administrative errors by RERA.</p>
Permissibility of extension of time	<p>- 'Extension of time for a project to not exceed a period one year, in aggregate, unless the circumstances are exceptional' renders the legislation toothless in case the authorities resort to providing a series of extension of time for all circumstances that they deem fit. The framework of law unintentionally blindfolds consumers to expect delivery of their assets within the prescribed time period or at the most within an year in excess, even when there exist deficiencies in the framework of law working against the interests of consumers.</p>	<p>- The provisions relating to extension of time fail to be effective, both when rigid and when excessively flexible. In the present case, the free hand provided to the authority in deciding the permissible extension of time, could jeopardise the expectations and interests of consumers hoping for a timely delivery.</p>

<p>Repercussions of default in delivery of possession post (reasonable) extension of time</p>	<p>- In case of default in delivery, the authority at its discretion can exercise its powers permitting continuance of registration of a project, subject to such further terms and conditions imposed on the concerned promoter/developer, in the interest of allottees.</p> <p>- The terms and conditions imposed, to name a few, could be, 1) mandatory signature of the association of allottees for any transaction related to designated project account 2) appointment of a monitoring agency 3) monitoring of escrow account 4) appointment of individuals/professionals to overview project progress etc.</p> <p>- The terms and conditions imposed by the authority may not necessarily be in consonance with the demands and expectations of association of allottees, ultimately leading to further possible delays in delivery.</p>	<p>- The wide scope of action provided to the authority under the Act may bring about unintentional delays in delivery of projects. The interests of consumers may be hampered by the existent provision allowing for the authority to act at its discretion in what it considers to be of benefit to consumers.</p>
<p>Accountability as to the collected funds</p>	<p>- The amounts withdrawable from the 'designated account' of a project could be arrived at in the following 3 different ways:</p> <p>1). As per the rules of certain RERAs, amount withdrawable = {incurred cost for land + construction + approval + interest}</p> <p>2). The Institute of Chartered Accountants of India specifies the following: amount withdrawable = {(sold area / total area) * (direct cost incurred)} + (indirect cost)</p> <p>3). According to the Act, amount withdrawable is to be in proportion to percentage completion of a project.</p>	<p>- The ambiguity in the choice of method to be adopted for the calculation of withdrawable amount provides for a leeway to promoters/developers to exploit the situation to their own benefit and use such method which allows for the largest amount to be withdrawn from the 'designated account'.</p>
<p>Prescription as to the mandatory execution of written agreement for sale</p>	<p>- The project webpage with RERA does not include any data as to the sale price of units and the amounts collected from consumers up till the date of update of information on the webpage.</p> <p>- This being the case, it becomes difficult to ascertain whether or not the written agreement for sale ought to have been executed between promoters/developers and consumers.</p>	<p>- The lack of supportive data enabling the ascertainment of whether or not a written agreement for sale ought to have been executed between promoters/developers and consumers could result in collection of amounts much higher than that permitted in absence of a written agreement for sale.</p>
<p>Reasonable fairness of contracts/ agreement for sale as to the cost</p>	<p>- The model agreement for sale prescribed by RERA lays down only the basic structure of an agreement for sale.</p> <p>- The specifics as to the timing and value of monetary exchange between</p>	<p>- The model agreement for sale, lacking in aspects that bring about fairness in monetary exchange, put consumers at a disadvantage in the face of huge investments demanded by real estate assets.</p>

	<p>promoters/developers and consumers are left to the discretion of promoters/developers. Milestone payments are often designed to be front-loaded, resulting in collection of amounts in excess of actual progress on ground.</p> <p>- Specifically for cases where the cost of land is much higher than that of construction, the absence of clarity as to the choice of method to be adopted to ascertain withdrawable amount results in withdrawals even in absence of any real progress on the ground.</p> <p>-The amounts chargeable for cancellation of allotment at the will of consumers are often unregulated and purely subject to the discretion of promoters/developers.</p>	
Implication of delay in handover of possession	- In the absence of any kind of detailing of constituents that go into the calculation of compensation amount, there exists an ambiguity in ascertainment of compensations for defaults in performance by promoters/developers.	- The lack of clarity in calculation of compensation amount in the Act could put consumers at a disadvantageous position before adjudicating officer, resulting in award of no compensation.
Implication of failure to handover possession post reasonable extension of time	- RERA having been given wide powers under the Act to ensure completion of projects, can take any action that it deems fit to take projects to completion and the same shall be subject purely to its own discretion.	- The taking-over of a project by RERA, in the absence of a well-defined timeline to turn-around the project and ensure its progress, results in the remedy being ineffective.
Maintenance and preservation of books of account by real estate agent	- The Act merely provisions for maintenance of books of records, with no requirement to mandatorily upload the same on project webpages with RERA. - Real estate agents may adopt a lackadaisical approach as to maintenance of books of accounts.	- The absence of mandatory provisioning for maintenance and scrutiny of books of accounts of real estate agents effectively leads to half-hearted attempts at regulating the sector.

Table 2.6: Loopholes in the framework of the Consumer Protection Act, 2019

Factor	The Consumer Protection Act, 2019	
	Shortcomings in the Framework of Law	Implications
Expanse of the jurisdiction of law	<p>- Immovable properties under the Act are excluded from the category of 'goods'. Housing construction falls under rendering of 'service'.</p> <p>- The scope of remedy-seeking for 'defect' in goods is much wider than that of 'deficiency' in services under the Act.</p>	- The wide range of limitations and exclusions concerning the qualifications of a 'consumer' under the Act effectively reduce the scope of the Act for real estate consumers.

	- Additionally, to the exclusion of the Act are the following: a) developments of the kind other than housing b) developments with no element of construction in them c) contracts of personal service and d) purchases for investment purposes or with a speculative intent.	
Repercussion of default in delivery within the specified time	- The Act, on one hand, provides for a way out to those consumers intending to exit a project, while on the other hand also accommodates those intending to continue with a project. - However, for consumers interested in possession of their units at the earliest, there exists no provision under the Act to direct promoters/developers for timely performance of obligation.	- The lack of the powers under the Act to issue concrete directions aimed at specific performance of obligation acts as a limitation in the framework of law for those consumers awaiting timely possession or at least a speedy possession of their delayed units.
Implications of failure to hand-over possession post reasonable extension of time	- The limited powers under the Act do not facilitate disbursement of directions aimed at specific performance of obligations by promoters/developers.	- The lack of provisioning under the Act for promoters/ developers' specific performance of handover of possession essentially results in there being no remedy for a certain section of consumers.

Table 2.7: Loopholes in the framework of the Insolvency and Bankruptcy Code, 2016

Factor	The Insolvency and Bankruptcy Code, 2016	
	Shortcomings in the Framework of Law	Implications
Expanse of the jurisdiction of law	- Essentially, corporate insolvency resolution process (CIRP) is initiated by consumers of real estate projects wanting the corporate entities behind projects to be wound up/liquidated, owing to their inability to pay outstanding debts - Initiation of insolvency resolution process is not to recover debts. However, insolvency can be resolved by payment of outstanding debts.	- Initiation of corporate insolvency resolution process being the last resort of consumers of real estate assets, it does not guarantee recovery of payments made by them for their real estate assets, nor does it lead to performance of obligation by promoters/developers. Thus, the very consequences that the initiation of actions under the Code brings about, limits the widespread use of the Code by real estate consumers.
Repercussion of default in delivery within the specified time	- The repercussions for default in delivery of assets within the specified time under the Code are neither directives for specific performance of obligation nor mandates for payment of outstanding debts. - The aid of the Code can only be taken subject to following requirements: a) joint filing by a minimum of 10% of total allottees or 100 allottees, whichever is lower. Prescription as this, in the absence of	- The stringent eligibility requirements to make an application under the Code and the consequences that the initiation of corporate insolvency resolution process brings with it limit the suitability of the Code to residential real estate consumers of residential real estate assets.

	<p>means to acquire information about fellow consumers invested in the project, limit the powers of consumers.</p> <p>b) minimum default value of Rs. 1 Crore - For low budget units of small scale projects, this default value may not be feasible enough to be met by consumers of said projects.</p> <p>c) the Code prescribes for there to be no admitted liability/debt on the part of consumers. However, the rules prescribed under RE(R&D)A, 2016 in certain states allow for non-payment of dues to promoters/developers when consumers believe that the promoters/developers have failed to effectively discharge their obligations under the agreement for sale.</p> <p>d). disputes not being raised for the first time before the National Company Law Tribunal.</p> <p>e) investments made with no speculative intent.</p>	
Implications of failure to hand-over possession post reasonable extension of time	- The remedy available under the Code being winding up/ liquidation of corporate entity behind a project, the uncertainty as to the possible amount that could be recovered through initiation of actions under the Code could deter consumers from actively pursuing this recourse.	- The limitations in the framework of the Code, by the virtue of uncertain consequences that can arise by the usage of the Code, result in the Code not being an effective remedy for consumers.

Moving on from the framework of laws to the significance of interpretation of laws, Kalazny (2022) discusses how changes in the approach to interpretation of regulations affect the very implementation of regulations in the real estate sector. Despite many discussions of interpretation, in a variety of legal theoretical contexts, there remains widespread disagreement over the nature of interpretation in law. It may well be the reason interpretation remains a widely contested aspect of legal theory (Patterson, 2005). Interpretative discrepancies caused by incorrect legal interpretations often act as a source of numerous disputes between the stakeholders of real estate sector (Pahl, 2013). Watters and Weng (2003), in the context of the housing bubble in China, investigated the impact of interpretation of law where housing assets are concerned. The Indian judiciary has demonstrated commendable interest towards right to housing and interpreted this right under the context of right to life provided under article 21 of the constitution (Department of Law, 1949). However, certain statutes of significance

to residential real estate asset delivery, when probed along with relevant case laws, have brought to light inherent loopholes in the interpretation of laws by courts and regulatory forums, acting to the detriment of the residential real estate sector in India (Krishnamurthy and Mahesh, 2022). Key case laws which were analysed to identify the factors emanating from the interpretation of law and contributing to a lack of consumer-centricity in residential real estate asset delivery are as in Table 2.

Table 2.8: Reviewed case laws

Sl. No.	Case Law
1.	Neelkamal Realtors Suburban Pvt. Ltd. & Anr v Union of India & Ors (2018)
2.	Pioneer Urban Land and Infrastructure Ltd. & Anr v Union of India & Ors (2019)
3.	Manish Kumar v Union of India & Anr (2021)
4.	Experion Developers Pvt. Ltd. v State Of Haryana & Ors (2020)
5.	M/s Imperia Structures Ltd. v Anil Patni (2020)
6.	Simmi Sikka v M/s Emaar MGF Land Ltd. (2018)
7.	Kutubuddin Amreliwala & Anr v M/s Paradigm Ambit Buildcon (2018)
8.	Avinash Saraf & Anr v Runwal Homes Pvt. Ltd. (2017)
9.	Amol Kadam v Horizon Projects Pvt. Ltd. (2017)
10.	Pioneer Urban Land and Infrastructure Ltd. v Govindan Raghavan (2019)
11.	Brig. (Retd.) Kamal Sood v M/s DLF Universal Ltd. (2007)
12.	Pankaj Sood v Unitech Ltd. (2018)
13.	M/s B. L. International Pvt. Ltd. v Parsvnath Developers Ltd. (2019)
14.	Harbans Singh v Unitech Ltd. (2018)
15.	Madan Lal Kansal v DLF Homes Panchkula Pvt. Ltd. (2019)
16.	Nirrbhey Lall & Anr v Bengal Unitech Universal Infrastructure Pvt. Ltd. & Anr, (2019)
17.	Dr Alka Khera v M/s Omaxe Chandigarh Extension Developers Pvt. Ltd. (2019)
18.	N. Gunasekaran v Jain Housing and Construction Ltd. (2015)
19.	Partha Sarathi Bagchi v Emaar MGF Land Ltd. (2018)

Summarily, 14 factors identified to be emanating from the framework and interpretation of real estate laws and contributing to deficient delivery of residential real estate assets are as tabulated in Table 2.9.

Table 2.9: Deficient factors emanating from the framework and interpretation of law

Sl. No.	Factor
1	Absence of stringent professional repercussions to project professionals involving in malpractice
2	Lack of clear stipulations/directives ensuring revamp of undelivered projects, after takeover by regulatory authority
3	Absence of penal provisions for regulatory authority upon non-performance of statutory obligation of project-takeover and consequent delivery
4	Provisions allowing for variations from sanctioned plans and specifications

5	Lack of exhaustiveness of the terms and conditions of exchange in ‘Model Agreement for Sale’ as prescribed by regulatory authority
6	Drawbacks in provision relating to formation of an association/society/ federation of allottees
7	Framing of counter-productive rules by regulatory authority regarding exemptions from project registration with the authority
8	Ambiguity in calculation of amount withdrawable by promoter/developer from ‘designated project bank account’
9	Absence of statutory prohibitions on front-loading of sale price payable by consumers
10	Lack of clarity in calculation of compensation amount
11	Limited collective expanse (breadth) of existing real estate laws
12	Excessive regulatory and compliance requirements for real estate development
13	Absence of competitiveness in regulatory environment
14	Poor property rights system and transparency in land markets

2.4.2 Factors emanating from the Execution of Law

Academic perspectives on the influence of the execution of law on real estate asset delivery are as tabulated in Table 2.10.

Table 2.10: Literature on the influence of the execution of law

Reference	Quote
Farrell (2004)	- Three factors that contribute to the prevalence and growth of the unorganized sector: slack enforcement of regulations, bureaucratic costs of formal operations, and social norms that encourage non-adherence to laws as a tool used by small enterprises to compete with large modern players.
Srinivasan (2017); Batini et al. (2010)	- There exists high information asymmetry between contracting parties in the unorganised sector, which is likely to lead to a variety of contractual issues. Economists studying the unorganised sector highlight three problems with informality: adverse selection, moral hazard and imperfect contract enforcement.
Almi and Husin (2017)	- The most important factors for successful housing delivery system are financial factors, followed by economic, environmental and social factors, along with project management factors, communication factors, enforcement factors and legislative factors. - ... the government should also tighten enforcement measure in the construction sector so that the house is delivered on time without losing too much time which can cause a defect in the housing quality.
Fauzi et al. (2011)	- The government needs to be stricter in implementing the law and continue to monitor the construction phase of a newly built house so that the house can be delivered within the timeframe.

Nallathiga (2005)	- The monitoring of housing units' construction was neglected, which led to serious 'moral hazard' problems. Bureaucrats, contractors and politicians reaped benefits in some schemes, leaving little for translation into housing units. - Many a times, the rigid legislative and operational framework under which they operated was not resulting in better housing, rather was acting against the principle of affordable housing.
Ofori (2015)	- Elements of success worth emulating despite the uniqueness: firm government commitment, attention paid to housing in overall economic management, a well-organized planning system, a strong and effective implementation agency, appropriate policies firmly enforced, and sound resource management and development of construction firms.
Farooq et al. (2018)	- The evolution of the real estate sector as an industry depends on successful project delivery, enhanced project execution and fewer conflicts among the participants.
Deep et al. (2021)	- An exploration of the body of knowledge resulted in the classification of different types of risks observed in a project life cycle as follows: ... execution risks. - The application of factor analysis resulted in the identification of six risk causing factors, namely lack of efficient planning, execution constraints, external constraints, client-induced constraints, project constraints and partner experience.
Jones Lang Laselle (2020)	A significant divergence between regulation and enforcement capacity remains evident in 'semi-transparent' and 'low transparency' markets.

In the next step, various impediments to the execution of law were captured in 33 factors as in Table 2.11.

Table 2.11: Deficient factors emanating from the execution of law

Sl. No.	Factor	Reference
1	Lack of co-ordinated working of sector regulators, urban local bodies, government agencies and parastatals	Aniekwu et al. (2014); Construction Industry Cost Effectiveness (CICE) Task Force (1983); Dulaimi and Ling (2004); Construction Industry Institute (2008); Construction Taskforce (1998); Mengistu (2019)
2	Absence of single window approval system for projects	Aniekwu (1995); Behera et al. (2015); Ofori (1994); Nhabinde et al. (2012)
3	Non-uniformity in interpretation and adoption of central laws by state governments	Construction Taskforce (1998); Wong et al. (2010)
4	Delays in framing of rules under statutes	Committee on Subordinate Legislation (2016-17) (2017)
5	Dilution of statutes through framing of counter-productive rules	Rwelamila and Ogunlana (2015); Construction Industry Institute (2008); Mengistu (2019)
6	Absence of well-established, standardized grievance redressal procedure	Construction Taskforce (1998); Aniekwu et al. (2014); El-Sayegh (2008); Behera et al. (2015); Rwelamila and Ogunlana (2015)
7	Restrictive nature of procedures, rules and regulations under law	Construction Industry Cost Effectiveness (CICE) Task Force (1983)

8	Inadequate evaluation of applications for project registration with regulatory authority	Milford (2009); Aniekwu et al. (2014)
9	Irregularity by promoters/ developers in filing of project progress on web-page of regulatory authority	Dulaimi and Ling (2004)
10	Regulatory authority' inadequate monitoring of mandatory filing of project progress by promoters	Ofori (1994); Milford (2009); Kumaraswamy and Raza (2014); Aniekwu et al. (2014)
11	Delays in settlement of disputes by judicial and quasi-judicial bodies	Aniekwu (1995); El-Sayegh (2008)
12	Inadequate usage of punitive provisions by judicial/quasi-judicial bodies	Kumaraswamy and Raza (2014); Aniekwu et al. (2014)
13	Complexity and unviability of present system of order/verdict execution	Construction Industry Cost Effectiveness (CICE) Task Force (1983); Construction Industry Institute (2008); Wong et al. (2010); Nhabinde et al. (2012)
14	Lack of pro-activeness of regulatory authority in intervening and/or taking-over undelivered projects	Field and Ofori (1989); Weddikkara and Devapriya (2001); Milford (2009); Kumaraswamy and Raza (2014); Mengistu (2019)
15	Ambiguity in interpretation and application of force-majeure clauses for delays in projects	Construction Taskforce (1998)
16	Inadequate enforcement of strict adherence to stipulated building codes and by-laws	Construction Industry Cost Effectiveness (CICE) Task Force (1983); Rwelamila and Ogunlana (2015)
17	Non-disbursal of precautionary information pertaining to defaulting service providers on web-page of authority, for the benefit of consumers	Ofori (1994); Construction Taskforce (1998); Construction Industry Institute (2008); Milford (2009); Ssegawa-Kaggwa et al. (2013); Kumaraswamy and Raza (2014); Loganathan et al. (2017)
18	Lack of pro-active response of regulatory authority to 'source information' shared about unregistered projects	Ofori (1994); Construction Taskforce (1998); Dulaimi and Ling (2004); Construction Industry Institute (2008); Milford (2009); Kumaraswamy and Raza (2014); Aniekwu et al. (2014); Rwelamila and Ogunlana (2015); Loganathan et al. (2017)
19	Insufficiency of trained manpower at regulatory authorities, judicial/quasi-judicial bodies and urban local bodies	Ofori (1994); Nhabinde et al. (2012); Mengistu (2019)
20	Absence of adequate deterrents to real estate project professionals indulging in malpractice	Ssegawa-Kaggwa et al. (2013); Rwelamila and Ogunlana (2015)
21	Poor due-diligence by lending agencies	Behera et al. (2015)
22	Lack of initiatives promoting out-of-court settlement of disputes	Weddikkara and Devapriya (2001)
23	Inadequate physical infrastructure for execution of law at state/district levels	Dulaimi and Ling (2004); Kumaraswamy and Raza (2014)
24	Inadequacy of information technology (IT) infrastructure and support systems	Aniekwu (1995); Construction Taskforce (1998); Dulaimi and Ling (2004); Construction Industry Institute (2008); Rwelamila and Ogunlana (2015); Mengistu (2019)
25	Complexity in usage of information technology (IT) systems in place	Mengistu (2019)
26	Insufficiency of outreach and awareness programmes for stakeholders	Construction Industry Institute (2008); Milford (2009); Kumaraswamy and Raza (2014)

27	High litigation charges	Gupta (1985)
28	Prevalence of forum-shopping in litigation	Ho (2019)
29	Difficulties arising from changing government officials	Aniekwu (1995)
30	Corruption by bureaucrats/government officials	El-Sayegh (2008); Aniekwu et al. (2014); Mengistu (2019);
31	Presence of political influence on bureaucrats/government officials	Kumaraswamy and Raza (2014); Aniekwu et al. (2014)
32	Presence of bureaucratic red-tapism	Nhabinde et al. (2012); Behera et al. (2015)
33	Influence of promoters/ developers' lobby	Nallathiga (2005); Praja Foundation (2015); Gandhi et al. (2021)

2.4.3 Factors emanating from Policy Interventions

Academic perspectives on the influence of policy interventions on real estate asset delivery are as tabulated in Table 2.12.

Table 2.12: Literature on the influence of policy interventions

Reference	Quote
Nallathiga (2005)	- The current and past state of housing can be better understood when the various approaches taken towards it are understood, which is reflected in policy stance. Until 1990s, there was no comprehensive assessment of the sector.
Theurillat et al. (2015)	- The action and 'rationality' of entrepreneurs is determined by a given institutional framework (regulations governing structure and planning, policies regarding economic development, sustainable development, etc.) and a range of formal relationships (contracts) and informal relationships (contacts). On this basis various arrangements are formed around real estate production.
Ofori (2015)	- Elements of success worth emulating despite the uniqueness: firm government commitment, attention paid to housing in overall economic management, a well-organized planning system, a strong and effective implementation agency, appropriate policies firmly enforced, and sound resource management and development of construction firms.
Praja Foundation (2015)	- There is an urgent need for a policy environment that facilitates the creation of affordable housing and rental housing stock in the city by making it a viable business opportunity for developers and safeguarding the interests of buyers at the same time.
Tiwari and Rao (2016)	- The lack of emphasis on urbanization at the political and policy levels has resulted in the emergence of unplanned cities that lack the basic infrastructure required for better quality of living and work environments for their inhabitants. - The unclear constitutional status of housing has led to the formulation of a 'weak' housing policy, which did nothing to improve the status of housing in the country because there was no binding obligation for the government to deliver affordable housing.

Maisonneuve and Dek (2020)	- Improving affordability of housing with government support requires that housing policy be integrated into a global urban development policy which includes the provision of quality public services, sanitation, urban transport and access to employment opportunities.
Tandel et al. (2016)	- Many factors have contributed to the existing situation, but the most damaging have been rules and policies regulating land supply and real estate development.
Weddikara and Devapriya (2001)	- Demand side determinants of housing: i) government policies...
Fox and Skitmore (2006)	- The key factors associated with construction industry development worldwide are: ... (4) government policies and strategies supporting construction business...
World Bank (1984)	- The structure of the construction industry can be quite different among countries depending on the social and economic environments such as the development state of an economy, government policies and the traditions of doing business
Roulac (1996)	- The confluence of the initiatives and decisions of those who utilize space with those who are involved in creating and controlling it are filtered through a series of transaction interaction forces, including: Public sector policies, priorities and programs.

32 factors identified to be emanating from policy interventions and contributing to deficient delivery of residential real estate assets are as tabulated in Table 2.13.

Table 2.13: Deficient factors emanating from policy interventions

Sl. No.	Factor	Reference
1	Absence of a central agency (along with regional groupings) for managing industry/sector development	Rwelamila and Ogunlana (2015)
2	Absence of 'industry' status to real estate sector	Government of India (2012); Soundararajan (2017)
3	Inadequacy of policy back-up to sector-specific programmes and projects	Tiwari and Rao (2016)
4	Lack of continuity and inter-connectedness in policies, programmes and projects	Tiwari and Rao (2016)
5	Need for decentralized design and implementation of policies	Sengupta (2019)
6	Mismatch between target-consumers of housing policies to demand driving-consumers of housing market	Nallathiga (2005)
7	Mismatch between intended policy-target-consumer groups to actual on-ground policy-beneficiary-consumer groups	Nallathiga (2005)

8	Ineffective monitoring of policy implementation	Gupta (1985); Ofori (1994); Gopalan and Venkataraman (2015); Sengupta et al. (2018); Sengupta (2019); AlQahtany (2021)
9	Inadequacy of direct intervention and subsidies to real estate sector	Soundararajan (2017)
10	High statutory taxes, levies and charges upon real estate transactions	Maisonneuve and Dek (2020)
11	Unaffordability of housing stock to housing policy-target-consumer groups	Gupta (1985); Nallathiga (2005); Government of India (2012); Soundararajan (2017); Maisonneuve and Dek (2020)
12	Housing supply-loss and price-hike created by regulated zoning, floor area ratio restrictions and urban land ceilings	Gupta (1985); Nallathiga (2005); Soundararajan (2017); IDFC (2018); Maisonneuve and Dek (2020)
13	Ineffectiveness of measures aimed at limiting of speculation of land and housing	Government of India (2012); Soundararajan (2017); IDFC (2018); Maisonneuve and Dek (2020); NITI Aayog (2021)
14	Outdated development control regulations	Gupta (1985); Nallathiga (2005); IDFC (2018); Maisonneuve and Dek (2020)
15	Multiplicity of local bodies and parastatals involved in urban housing delivery	IDFC (2018); NITI Aayog (2021)
16	Lack of efficiency in functioning of housing boards and housing corporations	Gupta (1985)
17	Lack of low-cost funding for project land acquisition by promoters/developers	Gupta (1985); Government of India (2012); Soundararajan (2017); IDFC (2018); Maisonneuve and Dek (2020)
18	Lack of ease of access to formal housing finance by varied classes of consumers	Gupta (1985); Nallathiga (2005); Government of India (2012); Soundararajan (2017); IDFC (2018); Maisonneuve and Dek (2020)
19	Lack of ease of access to project finance by promoters/developers	Government of India (2012); Soundararajan (2017)
20	Under-penetration of housing finance companies	Soundararajan (2017)
21	Lack of access to foreign direct investment by real estate sector	Nallathiga (2005); Government of India (2012)
22	Regulated access to external commercial borrowings by real estate sector	Government of India (2012); Soundararajan (2017)
23	Difficulties in sourcing of input commodities (building materials) for real estate development	Gupta (1985)
24	Instability of building material prices	Gupta (1985); Government of India (2012); Soundararajan (2017)
25	Lack of incentive schemes for adoption of sustainable, low cost materials and technologies in construction	Nallathiga (2005)
26	Lack of comprehensiveness of building codes and by-laws	Gupta (1985)
27	Lack of comprehensiveness of professional standards regulating the functioning of real estate professionals	Dulaimi and Ling (2004)
28	Inadequate dissemination of productivity benchmarks, sector-specific standards and developments	Loganathan et al. (2017)
29	Lack of affordable, safe and accessible modes of public transport infrastructure and other basic services	Gupta (1985); Praja Foundation (2015); IDFC (2018); Maisonneuve and Dek (2020); NITI Aayog (2021)

30	Inadequacy of upfront public consultation/ engagement in policy-making	Wong et al. (2010)
31	Insufficiency of stakeholder training and awareness programmes	Construction Industry Cost Effectiveness (CICE) Task Force (1983); Ofori (1994); Construction Taskforce (1998); Dulaimi and Ling (2004); Mengistu (2019)
32	Lack of collaborative forums and research groups for sector reform studies	Construction Industry Institute (2008); Mengistu (2019)

2.5 Chapter Summary

Review of existent literature on Indian residential real estate sector was undertaken to identify that stimulation of construction industry output is facilitated by residential real estate sector in the following ways a) real estate investment-led (includes both property purchase and capital investments into real estate firms) construction industry output demand stimulation b) real estate consumption-led construction industry output demand stimulation and c) real estate speculation-led construction industry output demand stimulation. The determinant factors of consumer-centric residential real estate asset delivery were synthesised as a) time-boundness b) cost-certainty and c) scope-adherence. On the demand-side of the housing market, the determinant factors of consumer-empowered residential real estate asset demand were identified to be hinging upon a) consumer skills b) awareness of consumer legislation c) consumer engagement and d) affordability of housing. The factors deterring consumer-centric residential real estate asset delivery were classified based on their sources, resulting in three categories, namely, a) factors emanating from the framework and interpretation of law b) factors emanating from the execution of law and c) factors emanating from policy interventions.

CHAPTER 3

CONCEPTUAL FRAMEWORK

This chapter presents the conceptual framework of the study, along with hypotheses on the relationships between and within various categories of factors constituting the conceptual framework. The various dimensions of the factors constituting the conceptual framework have been elaborated upon

3.1 Development of Conceptual Framework

The conceptual framework of the study, as illustrated in Fig. 3.1, was developed using a top-down approach. The primary intent of the study being stimulation of construction industry output, it was identified to be enabled by real estate investment, consumption and speculation. In the next step, determinant factors of consumer-centric delivery (time-boundness, cost-certainty and scope adherence) and consumer-empowered demand (consumer skills, awareness of consumer legislation, consumer engagement and affordability) in housing market were identified from review of a wide array of literature. Following this, factors hampering housing delivery were classified as belonging to the framework of law, execution of law and policy interventions. The identified factors were put together to form the conceptual framework.

3.2 Proposed Hypotheses

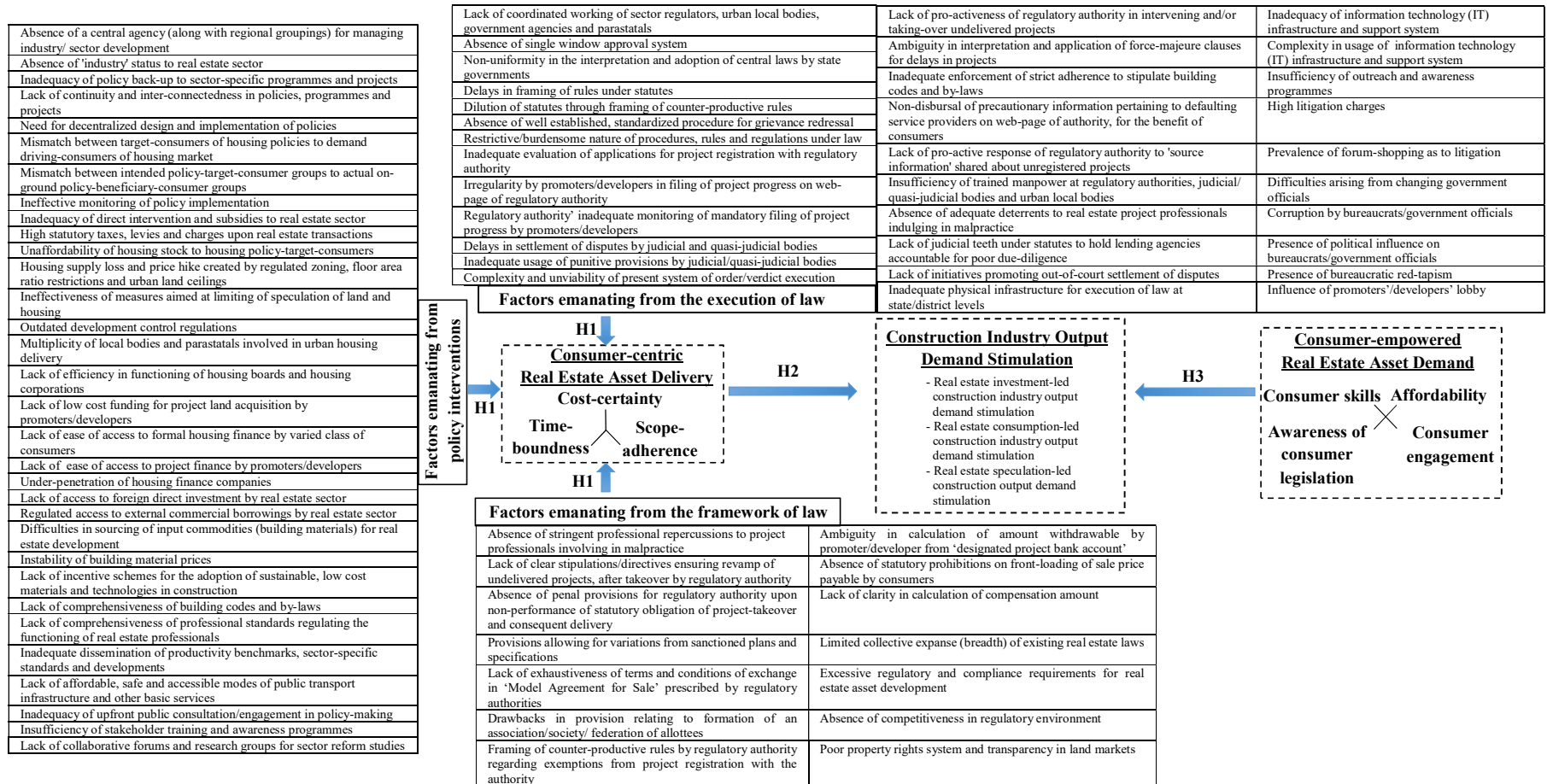
The hypotheses underlying the conceptual framework are as mentioned below:

H1: The factors constituting consumer-centric residential real estate asset delivery have a significant relationship with the factors deterring consumer-centric residential real estate asset delivery.

H2: The factors stimulating construction industry output demand have a significant relationship with the factors constituting consumer-centric residential real estate asset delivery.

H3: The factors stimulating construction industry output demand have a significant relationship with the factors constituting consumer-empowered residential real estate asset demand.

Fig. 3.1: Conceptual framework for stimulation of construction industry



3.3 Dimensions of Construction Industry Output Demand Stimulation

In order to understand the means through which residential real estate sector stimulates output demand from construction industry, it was of pertinence to identify the interfaces of interaction of residential real estate sector with the construction industry. Accordingly, the following dimensions were arrived at, as in Tables 3.1 – 3.4.

Table 3.1: Dimensions of real estate capital investment-led construction industry output demand stimulation

Sl. No.	Dimension
1.	Private equity <i>(Direct investment in shares of a company, outside of stock exchange)</i>
2.	Publicly traded equity <i>(Investment in shares of a company through stock exchange)</i>
3.	Private debt <i>(Refers to loans to companies by private investors and private markets, rather than by banks or public markets)</i>
4.	Publicly traded debt <i>(Refers to loans that have been securitised)</i>

Table 3.2: Dimensions of real estate consumer/buyer investment-led construction industry output demand stimulation

Sl. No.	Dimension
1.	Land
2.	Apartments/Flats
3.	Standalone Residential Units

Table 3.3: Dimensions of real estate consumption-led construction industry output demand stimulation

Sl. No.	Dimension
1.	Low Income Group Housing
2.	Standard Housing
3.	Mid-segment Housing
4.	Premium Housing
5.	Luxury Housing
6.	Super-luxury Housing

Table 3.4: Dimensions of real estate speculation-led construction industry output demand stimulation

Sl. No.	Dimension
1.	Land
2.	Apartments/Flats
3.	Standalone Residential Units

3.4 Dimensions of Determinant Factors of Consumer-centric Residential Real Estate Asset Delivery and Consumer-empowered Residential Real Estate Asset Demand

Moving ahead, it was pertinent to list out various dimensions of the determinant factors of consumer-centric delivery and consumer-empowered demand in the housing market. The factors of time-boundness, cost-certainty, scope-adherence, consumer-skills, awareness of consumer legislation, consumer engagement and affordability were broken down into their dimensions, as illustrated in Table 3.5 – 3.11.

Table 3.5: Dimensions of time-boundness

Sl. No.	Dimension
1.	Delays in approvals and sanctions by urban local bodies (ULBs)
2.	Delayed execution of construction works
3.	Delays in title transfer and physical possession hand-over timeline
4.	Disruptions to project finance disbursal timeline
5.	Disruptions to pre-set sale target timeline of promoters/developers
6.	Delays by consumers/buyers in making payments to promoters/developers at different stages of project development
7.	Delays in timely performance of duties by regulatory authorities, judicial and quasi-judicial bodies

Table 3.6: Dimensions of cost-certainty

Sl. No.	Dimension
1.	Poor project budget estimation and costing practices
2.	Siphoning of consumer cash-inflow
3.	Poor project budget monitoring and control systems
4.	Disruptions to project finance disbursal channels
5.	Deviations by consumers/buyers from staged payment timelines (<i>Refers to the timeline provided by promoters/developers reflecting the amounts collectible from consumers at different stages of development of a project</i>)
6.	Disruptions to pre-set sale target timeline of promoters/developers

7.	Presence of excessive penal and compensatory liabilities upon promoters/developers
8.	Changes in tax regime and regulatory charges <i>(Ex: Regulatory charges for approvals, stamp duty, registration etc.)</i>
9.	Unavoidability of speed money and grease payments <i>(Speed money/grease payments: Payments made to fasten a routine process or service, such as gaining project approvals/permits)</i>

Table 3.7: Dimensions of scope-adherence

Sl. No.	Dimension
1.	Lack of legal validity of project development <i>(Ex: Non-securing of commencement certificate prior to beginning of development works)</i>
2.	Lack of legal validity of exchange <i>(Ex: Absence of completion/occupancy certificate; Non-execution of registered conveyance deed etc.)</i>
3.	Insufficient degree of detail in disbursed scope and specifications
4.	Non-uniformity in disbursed scope and specifications
5.	Unforeseen scope creep during project execution <i>(Scope creep occurs when original goals of a project get expanded during actual execution of works)</i>
6.	Intentional defections and variations from disbursed scope and specifications

Table 3.8: Dimensions of consumer skills

Sl. No.	Dimension
1.	Poor numerical skills and capabilities
2.	Lack of understanding of architectural drawings and details
3.	Poor technical knowledge of project scope and specifications
4.	Lack of understanding of legal terms in allotment letter/agreement for sale/conveyance deed
5.	Poor financial skill-set <i>(Ex: Interest payable/receivable; Monetary liabilities/receivables; Taxes; Charges etc.)</i>

Table 3.9: Dimensions of awareness of consumer legislation

Sl. No.	Dimension
1.	Poor knowledge of duties and liabilities
2.	Poor knowledge of rights and remedies

Table 3.10: Dimensions of consumer engagement

Sl. No.	Dimension
1.	Inadequate due-diligence prior to purchase of assets
2.	Non-availment of legal remedies upon violation of legal rights
3.	Lack of pro-active involvement with project progress

Table 3.11: Dimensions of affordability

Sl. No.	Dimension
1.	Over-pricing of housing stock
2.	Low levels of household income
3.	High mortgage interest rate

3.5 Chapter Summary

The chapter presented the conceptual framework of the study. The hypotheses underlying the conceptual framework were proposed. Following this, the dimensions of various factors making up the conceptual framework were listed out.

CHAPTER 4

RESEARCH METHODOLOGY

The focus of this chapter is on the research design adopted for the present study and the various steps undertaken to attain the objectives of the study, along with justifications for the same. The underlying rationale behind the selected research methodology has been elaborated upon. Various techniques and methods adopted to collect, analyse and interpret data are explained. Lastly, validity and reliability of the research design is discussed.

4.1 Research Approach

Research design is a blueprint of research, dealing with at least four problems: what questions to study, what data are relevant, what data to collect, and how to analyse the results (Philliber et al., 1980) . Research is driven by the research question and all methods, data source, methodology and analysis techniques are determined to answer it validly, accurately and reliably. Research process should be designed critically to select appropriate methodologies which shall be used as a framework for the research work. The fundamental issues in designing any research, and so, underpinning the selection of quantitative, qualitative or combination approaches, concern the research question and constraints and, perhaps most particularly, what is to be measured and the requirements of validity and reliability (Fellows and Liu, 2021). Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. In it we study the various steps that are generally adopted by a researcher in studying the research problem along with the logic behind them. On the other hand, research methods may be understood as all those methods/techniques that are used for conduction of research. Research methods or techniques, thus, refer to the methods the researchers use in performing research operations (Kothari, 2004).

Research can be classified in a number of ways. Based on the purpose of research, there exist following categorization (Yin, 2013):

- Descriptive research: Concerns with the description of the characteristics of a phenomenon under consideration.
- Exploratory research: A methodological approach that is primarily concerned with discovery and with generating or building theory. It is often undertaken to explore aspects of construct under study. Causality of occurrence of a phenomenon is not established here.
- Explanatory research: Here the research in question is intended to explain, rather than simply to describe the phenomena under study. This kind of research deals with causal relationships among variables.

Based on the approach to research, we have the following classification (Fellows and Liu, 2021; Johnson et al., 2007))

- Quantitative research: Adopts ‘scientific method’ in which initial study of theory and literature yields precise aims and objectives with proposition(s) and hypotheses to be tested.
- Qualitative Research: An exploration of the subject is undertaken, sometimes without prior formulations – the object may be to gain understanding and collect information and data such that theories will emerge.
- Mixed-method Research: An intellectual and practical synthesis based on qualitative and quantitative research. It recognizes the importance of traditional quantitative and qualitative research but also offers a powerful third paradigm choice that often will provide the most informative, complete, balanced and useful research results. It relies on qualitative and quantitative viewpoints, data collection, analysis, and inference techniques combined according to the logic of mixed method research to address one’s research question(s).

Based on the purpose of the present research, the research methods employed in relation to the research objectives are as tabulated in Table 4.1.

Table 4.1: Research methods in relation to the objectives

Sl. No.	Objective	Research Method
1.	<ul style="list-style-type: none"> - To examine the workings of the Indian residential real estate sector. - To develop a conceptual framework to stimulate construction industry output. 	<ul style="list-style-type: none"> - Detailed literature review + Document analyses of real estate sector-specific legislation, statutes, regulations, rules, policy interventions, judgements of courts of law and quasi-judicial bodies, publications, and government and industry reports were undertaken to develop the conceptual framework and the underlying hypotheses.
2.	<ul style="list-style-type: none"> - To assess the persistent challenges to consumer-centric residential real estate asset delivery. 	<ul style="list-style-type: none"> - Descriptive exploration and explanatory investigation of the sector to identify enablers, challenges and interventions. - Data collection techniques: <ul style="list-style-type: none"> a) Questionnaire b) Interview (individual & mini focus group) c) Document analysis
3.	<ul style="list-style-type: none"> - To analyse the existent quality of consumer-centric residential real estate delivery and consumer-empowered residential real estate asset demand. 	<ul style="list-style-type: none"> - Quantitative approach was adopted to test the hypotheses. - Both qualitative and quantitative techniques of data collection and analysis were employed.
4.	<ul style="list-style-type: none"> - To develop improvement frameworks for residential real estate asset demand and delivery sides, so as to enhance construction industry output. 	<ul style="list-style-type: none"> - Status of the determinant factors (level of improvement requirement) was measured using questionnaire survey and semi-structured interviews. - Based on the analysis of questionnaire survey responses, interview inputs and relevant documents, improvement frameworks were developed.

Additionally, based on the approach to research, mixed-method approach was adopted. Dainty (2008) persuades those engaged in social science research in construction management to embrace multi-strategy or ‘multi-methodology’ research design in order to better understand the complex network of relationships which shape industry practice. This radical perspective eschews traditional dualisms by suggesting that no single methodology can ever provide a complete picture of the projects and organisations that form the arenas for construction management research. Molina-Azorin (2010) demonstrates how mixed method studies have a greater impact than mono-method studies. Mixed-method approach has the potential to throw new perspectives on research questions, increase the credibility of results, demonstrate

generalizability and provide deeper insights that explain why things take place (Easterby-Smith et al., 2015).

By taking a postmodern stance, Love et al. (2002) suggest that triangulation is an appropriate research approach for extending the scope of theory in construction management research. Triangulation strengthens a study by combining methods. The four basic types of triangulation as per Denzin (1978) are a) data triangulation - the use of a variety of data sources in a study b) investigator triangulation - the use of several different researchers or evaluators c) theory triangulation - the use of multiple perspectives to interpret a single set of data and d) methodological triangulation - the use of multiple methods to study a single problem.

For the present study, flowchart of the adopted methodology is as illustrated in Fig. 4.1 and details on data collection methods and analysis techniques for both quantitative and qualitative approaches are discussed subsequently.

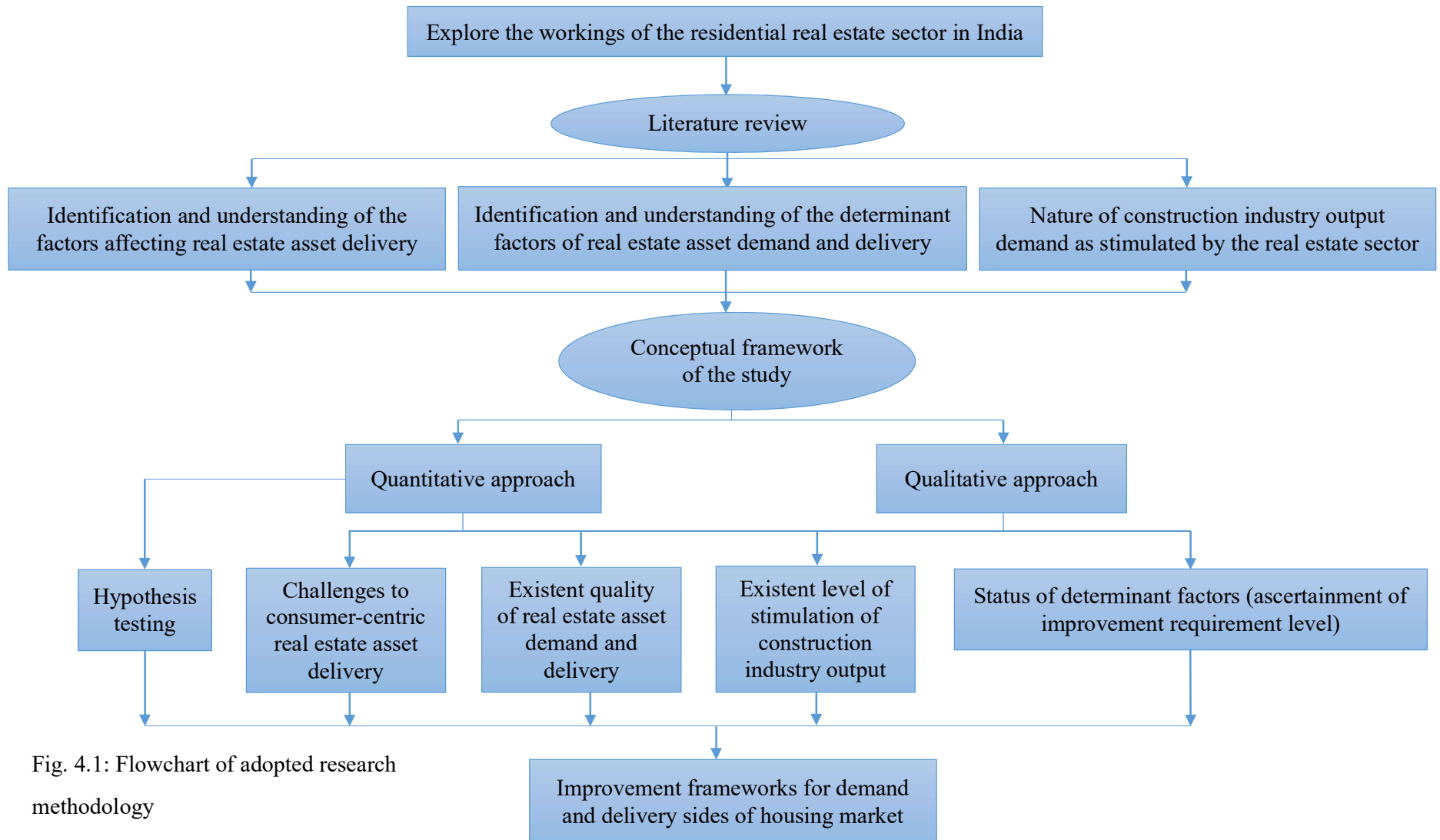


Fig. 4.1: Flowchart of adopted research methodology

4.2 Quantitative Approach

Quantitative approach adopted for this study includes questionnaire development, sampling, data collection methods and analysis techniques.

4.2.1 Questionnaire Development

Questionnaire survey is one the most commonly used data collection techniques. Surveys are usually associated as a research approach with the idea of asking groups of people questions. With an appropriate sample, surveys aim at representation and provide generalized results (Blaxter et al., 2006). Survey research provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population. It includes cross-sectional and longitudinal studies using questionnaires or structured interviews for data collection, with the intent of generalizing from a sample to a population. Based on the sample results, the researcher generalizes or makes claims about the population (Babbie, 1990; Creswell, 2009).

In the present study, questionnaire survey comprised a combination of both self-administered questionnaire and investigator-administered questionnaire. Self-administered questionnaires have two main advantages - easy distribution to a large number of people and anonymity. On the other hand, investigator-administered questionnaires having an investigator present while carrying out the survey benefit from clarifications of questions to respondents (Mitchell and Jolley, 2007; Saunders et al., 2007).

Two questionnaires were developed to meet the research objectives. Questionnaire 1 was designed for residential real estate delivery-side stakeholders. Questionnaire 2 was designed for residential real estate demand-side stakeholders. The questionnaires were developed relying on the factors and their dimensions as identified from literature review. A 5-point Likert scale was adopted, as is generally the case with personality and attitude measurement involving description of the intensity of feelings of respondents towards certain factors (Nunnally and Bernstein, 1994). Likert-type items yield more information than nominal-dichotomous items. Because Likert-type items yield interval data, responses to Likert-type items can be analysed by more powerful statistical tests (Mitchell and Jolley, 2007). The scale was aimed at measuring the

perceptions of residential real estate demand and delivery-side stakeholders to the identified factors on demand and delivery-sides of residential real estate market. Likert-type items give respondents the freedom to choose amongst very low (1), low (2), neutral (3), high (3) or very high (4). The scale was modified where necessary to reflect a) very easy (1), easy (2), neutral (3), difficult (4) and very difficult (5) / highly aware (1), aware (2), neutral (3), unaware (4) and highly unaware (5) / highly engaged (1), engaged (2), neutral (3), unengaged (4) and highly unengaged (5) / highly unrequired (1), unrequired (2), neutral (3), required (4) and highly required (5).

4.2.1.1 Structure of the Questionnaires

Questionnaire 1 had two main sections and a number of sub-sections. Prior to the main sections, the questionnaire required the respondents to provide generic details as name, email ID, profession and experience in the real estate sector/construction industry. Section I had three sub-sections to measure the following i) factors affecting residential real estate asset delivery – pertaining to objective-2 of assessing the persistent challenges to consumer-centric delivery in housing market ii) factors constituting consumer-empowered residential real estate asset demand and consumer-centric residential real estate asset delivery – pertaining to objective-3 of analysing the existent quality of consumer-centric delivery and consumer-empowered demand in housing market and c) factors causing a stimulation of construction industry output – to gain a descriptive understanding of the interface of interaction of residential real estate sector with construction industry. Moving ahead, section II had 3 sub-sections dealing with improvement frameworks for a) time-boundness b) cost-certainty and c) scope-adherence – pertaining to objective-4 of measuring the required level of improvement of residential real estate asset delivery.

Questionnaire 2, on the other hand, was designed for residential real estate demand-side stakeholders. It had four main sections with a number of sub-sections. Prior to the main sections, the questionnaire required the respondents to provide generic details as name, email ID, kind of residential real estate asset that they have purchased, purpose behind the purchase of residential real estate asset and the nature of home-buyer (first-time home-buyer or repeat home-buyer). Following this, section I dealing with consumer skills had five sub-sections, namely, i) numerical skills ii) understanding of

architectural drawings and details iii) technical capabilities iv) legal understandings and v) financial understandings. Section II dealt with awareness of consumer legislation and had two sub-sections, namely, i) knowledge of duties and liabilities and ii) knowledge of rights and remedies. As far as consumer engagement is concerned, it was covered in the three sub-sections of section III, namely, i) due-diligence ii) availing of legal remedies and iii) pro-active involvement with project progress. Lastly, section IV on affordability of housing had three sub-sections, namely, i) pricing of housing stock ii) household income levels and iii) mortgage loans and interest rates. Questionnaire 1 and questionnaire 2 can be referred to in Appendix-I and Appendix-II respectively.

4.2.1.2 Pilot Testing of the Questionnaires

Pilot testing of questionnaires is conducted to reveal inherent weaknesses, if any, of the questionnaires, so that they may prove to be effective in collecting relevant information sought in the research. In case of social research, it is considered advisable to do some field observation and as such a researcher may undertake some sort of preliminary survey or what is often called as a pilot survey. Such a survey brings to light the weaknesses (if any) of the questionnaires and also of the survey techniques (Kothari, 2004). The pilot study serves no function in the final result of the work, other than helping the researchers to design a questionnaire that is likely to yield accurate and reliable data (Easterby-Smith et al., 2015).

In the present study, for questionnaire 1, seven responses were received from a diverse set of stakeholders – promoter/developer, chartered accountant, lawyer/advocate, financier, project manager, broker and real estate researcher. Cronbach alpha values were ascertained to be greater than the recommended value of 0.6 (Hulin et al., 2001). Reliability and internal consistency of the survey instrument was thus found to be acceptable. Certain modifications to the questionnaire were incorporated from the pilot survey exercise and 175 questions in total were finalized for the main survey. As far as questionnaire 2 is concerned, pilot survey was conducted and 10 responses were received from residential real estate purchasers. Cronbach alpha values were once again ascertained to be greater than the recommended value of 0.6 (Hulin et al., 2001). Incorporating certain modifications post the pilot survey, 65 questions in total were finalized for the main survey.

4.2.2 Sampling

When decisions are made that can have significant consequences for people, it is important that those decisions be based on evidence. The full set of cases from which a sample is taken is called the population (Saunders et al., 2007). The term ‘population’ refers to the whole set of entities that decisions relate to, while the term ‘sample’ refers to a subset of those entities from which evidence is gathered. The inference task then is to use evidence from a sample to draw conclusions about the population. Samples are very commonly used, both for research and for policy-making (Easterby-Smith et al., 2015). The objective of sampling is to provide a practical means that facilitates data collection and processing whilst ensuring that the sample is representative (Fellows and Liu, 2021). Generally speaking, the purpose of collecting data from a sample is to enable the researcher to make statements about a larger group that the sample is drawn from (Easterby-Smith et al., 2015).

In the present study, the target population for questionnaire 1 was residential real estate asset delivery-side stakeholders. The physical jurisdiction of the study having been chosen as Bengaluru, one of the premier industry bodies - the Confederation of Real Estate Developers’ Association of India (CREDAI) - Bengaluru Chapter - was approached with a request to grant requisite permission to collect survey responses from real estate promoters/developers listed with it. The population size was deduced based on the number of real estate promoter/developer group registrations with CREDAI - Bengaluru Chapter. As per the website of CREDAI - Bengaluru Chapter as on July 2022, there were a total of 231 promoter/developer groups listed with it. Upon securing the permission to carry out the survey, an online survey link was officially forwarded to all listed promoter/developer groups through the Chief Executive Officer (CEO), CREDAI - Bengaluru Chapter. Of the 231 promoter/developer groups, 171 such groups were identified to be having functional web pages. Within this subset, promoter/developer groups with detailed workplace addresses on their webpages and well within Bengaluru city limits were identified to be 160 in number. These groups were approached with both an online survey link and physical copies of the questionnaire. The survey respondent group included a set of active stakeholders as promoters/developers of residential real estate assets and relevant professionals

working for them, namely, lawyers/advocates, chartered accountants, project managers/cost managers and architects. Additionally, responses from passive stakeholders like financiers, brokers, legislators/policy-makers, real estate regulatory authority/judicial bodies/quasi-judicial bodies and researchers were obtained.

As is the case in personality and attitude measurement, a 5-point Likert scale was chosen (with a hypothetical mean value of 3) to measure the perception and intensity of feelings of respondents towards the factors (Nunnally and Bernstein, 1994). To determine the sample size with a given degree of accuracy, the worst case percentage picking choice of 50% (0.5) (Oyewobi, 2014), 95% confidence level with a significance level of $\alpha = 0.05$; $z = 1.96$ at 95% confidence level and a confidence interval (c) of $\pm 10\%$ (0.1) were chosen to arrive at the minimum sample size of 96.04, rounded off to 100 for the present study.

$$ss = \frac{z^2 \times p(1 - p)}{c^2}$$

where ss = sample size z = standardized variable p = percentage picking a choice expressed as a decimal and c = confidence interval expressed as a decimal.

$$ss = \frac{1.96^2 \times 0.5(1 - 0.5)}{0.08^2} = 96.04$$

In total, responses from professionals working for around 50 developer firms listed with CREDAI - Bengaluru Chapter were obtained. In the event of an absence of a particular stakeholder in-housed in a promoter/developer group, relevant contacts were secured to personally approach the concerned individuals, outside of the promoter/developer groups. About 400 odd questionnaires were distributed, of which 171 responses were secured, with an effective response rate of 42.75%.

As far as questionnaire 2 is concerned, relevant consumer-interest groups in Bengaluru were contacted with a request to circulate the research questionnaire amongst their members. 33 responses were obtained through an online survey form forwarded to major consumer-interest groups operational in the residential real estate market of Bengaluru. Additionally, the Karnataka Real Estate Regulatory Authority (K-RERA)

in Bengaluru, with physical jurisdiction extending across the whole state of Karnataka is empowered to establish a) an adjudicating mechanism for speedy dispute redressal b) an appellate tribunal to hear appeals from the decisions, directions or orders of K-RERA/the Adjudicating Officer. Therefore, survey responses were sought from residential real estate purchasers caught in legal disputes and thereby approaching K-RERA to gain delivery of their residential real estate assets. About 130 odd questionnaires were circulated, of which 97 responses were obtained with an effective response rate of 74.62%.

4.2.3 Questionnaire Administration and Collection

There are a number of different ways in which questionnaires can be administered. They can be sent by post to the intended respondents, who are then expected to complete and return them themselves. They can be administered over telephone or face-to-face, in the latter case becoming much like a highly structured interview. They can also be sent over the internet (Blaxter et al., 2006). Fink (2002) identifies four types of questionnaire administration: self-administered questionnaires, interviews, structured record reviews and structured observations.

Data collection often involves creating a web-based or internet survey and administering it online (Nesbary, 1999; Sue and Ritter, 2007; Creswell, 2009). In the present study, the questionnaires were administered both by hand and as web-based surveys. For real estate delivery-side stakeholders, a Google Form of the questionnaire was created and an online link of the same was mailed to promoter/developer groups listed with the CREDAI-Bengaluru Chapter. The survey form was kept open to receive responses for a time period of 8 months (August 2022 – March 2023). Additionally, physical copies of questionnaires were distributed to promoter/developer groups who were accommodative of the survey and reflected preliminary interest in participating in it. Frequent and timely reminders were made through phone calls and emails. As far as real estate demand-side stakeholders are concerned, a Google Form of the questionnaire was forwarded to consumer interest groups as ‘Forum for People’ Collective Efforts – Karnataka Chapter’. Additionally, social media pages of associations of home-buyers were accessed to find relevant contacts to share the questionnaire amongst large sections of home-buyers. The survey form was kept open to receive responses for a

time period of 3 months (January 2023 – March 2023). Additionally, survey responses were sought from residential real estate asset purchasers caught in legal disputes with promoters/developers and thereby approaching K-RERA to gain delivery of their residential real estate assets.

4.2.4 Analysis and Interpretation Techniques

The techniques of data analysis used in the present study were descriptive statistics (mean and standard deviation), one sample t-test, independent sample t-test, Pearson’s product moment correlation, Spearman’s rank order correlation and factor analysis. IBM SPSS Statistics (version 26) software and Microsoft Excel were used for the analysis.

4.2.4.1 Descriptive Statistics and T-tests

Descriptive statistics is a statistical method used to describe and understand the features of a data set by giving short summaries (Mann, 1991) Mean and standard deviation were utilized to rank different factors. The mean score for each factor was determined using the formula given below (Yamin et al., 1999; Chew et al., 2008).

$$\text{Mean Score} = \frac{5n_5 + 4n_4 + 3n_3 + 2n_2 + 1n_1}{n_5 + n_4 + n_3 + n_2 + n_1}$$

Where:

n_1 = Frequency of respondents who answered “Very low”

n_2 = Frequency of respondents who answered “Low”

n_3 = Frequency of respondents who answered “Moderate”

n_4 = Frequency of respondents who answered “High”

n_5 = Frequency of respondents who answered “Very high”

For the modified scales (with 5-points as i) very easy (1), easy (2), neutral (3), difficult (4) and very difficult (5) ii) highly aware (1), aware (2), neutral (3), unaware (4) and highly unaware (5) iii) highly engaged (1), engaged (2), neutral (3), unengaged (4) and highly unengaged (5) and iv) highly unrequired (1), unrequired (2), neutral (3), required

(4) and highly required (5)), the same above mentioned formula was adopted with necessary changes to the meanings of the 5-points.

Following this, one sample T-test was conducted to identify significant factors, considering a hypothetical mean value of three at 95% confidence interval (Tripathi and Jha, 2018). This was followed by an independent sample T-test to test the significance of mean difference where factor-wise discussion was required (Kang et al., 2018).

4.2.4.2 Correlation Analysis

Correlation is used to measure the strength of linear relationship between two variables. Correlation coefficient ranges from -1 to +1, with zero indicating no relationship and (+) or (-) indicating the direction of relationship (Evans and Basu, 2013). The hypothesised relationships in the conceptual framework of the study, as elaborated in Chapter 3, were tested using correlation analysis. Pearson's product moment correlation coefficient analysis was employed to test the hypotheses. Additionally, to test the agreement between various groups of respondents - promoters/developers, lawyers/advocates, chartered accountants, project managers/cost managers, architects, brokers, financiers, legislators, regulatory authorities and researchers - Spearman's rank order correlation analysis was performed.

4.2.4.3 Factor Analysis

Factor analysis is a statistical approach used to analyse interrelationships among a large number of variables and to explain these variables in terms of their common underlying dimensions (factors). The objective is to find a way of condensing the information contained in a number of original variables into a smaller set of variables (factors) with minimal loss of information (Hair et al., 2010). It is a multivariate statistical procedure that has many uses. Firstly, factor analysis reduces a large number of variables into a smaller set of variables (also referred to as factors). Secondly, it establishes underlying dimensions between measured variables and latent constructs, thereby allowing the formation and refinement of theory. Thirdly, it evaluates the construct validity of a scale, test or instrument (Williams et al., 2010). When dealt with a large number of variables, according to Hair et al., 2010, factor analysis helps study the basic constructs

or the interrelationship of the structure within a large number of variables. This is indicated by variables that are highly correlated with each other and thereby forming components or clusters that are intended to contribute to a common structure.

There are two major classes of factor analysis: exploratory factor analysis (EFA), and confirmatory factor analysis (CFA). In EFA, the investigator has no expectations on the number or the nature of variables and it is exploratory in nature as it allows the researcher to explore the main dimensions to generate a theory or model from a relatively large set of latent constructs often represented by a set of items. On the other hand, in CFA the researcher tests a proposed theory or model and in contrast to EFA, has assumptions and expectations based on priori theory regarding the number of factors, and which factor theories or models best fit (Williams et al., 2010). In this study, EFA was used to identify the underlying dimensions of factors deterring consumer-centric residential real estate asset delivery, factors requiring improvement to enhance the quality residential real estate asset delivery and factors requiring improvement to enhance the quality of residential real estate asset demand.

The objective in determining the number of factors to retain in factor analysis is to choose factors that can adequately represent the data while eliminating statistically or theoretically irrelevant factors (Fabrigar et al., 1999). Many extraction rules and approaches exist including Kaiser's criteria (eigenvalue > 1 rule), the scree test (Cattell, 1966), the cumulative percent of variance extracted, and parallel analysis (Horn, 1965). In the present study, the extraction method used is Principal Component Analysis and the rotation method being varimax with Kaiser normalisation, along with Kaiser Criterion i.e. Eigenvalue exceeding one.

4.3 Qualitative Approach

Qualitative approach adopted for this study includes interviews and document analysis.

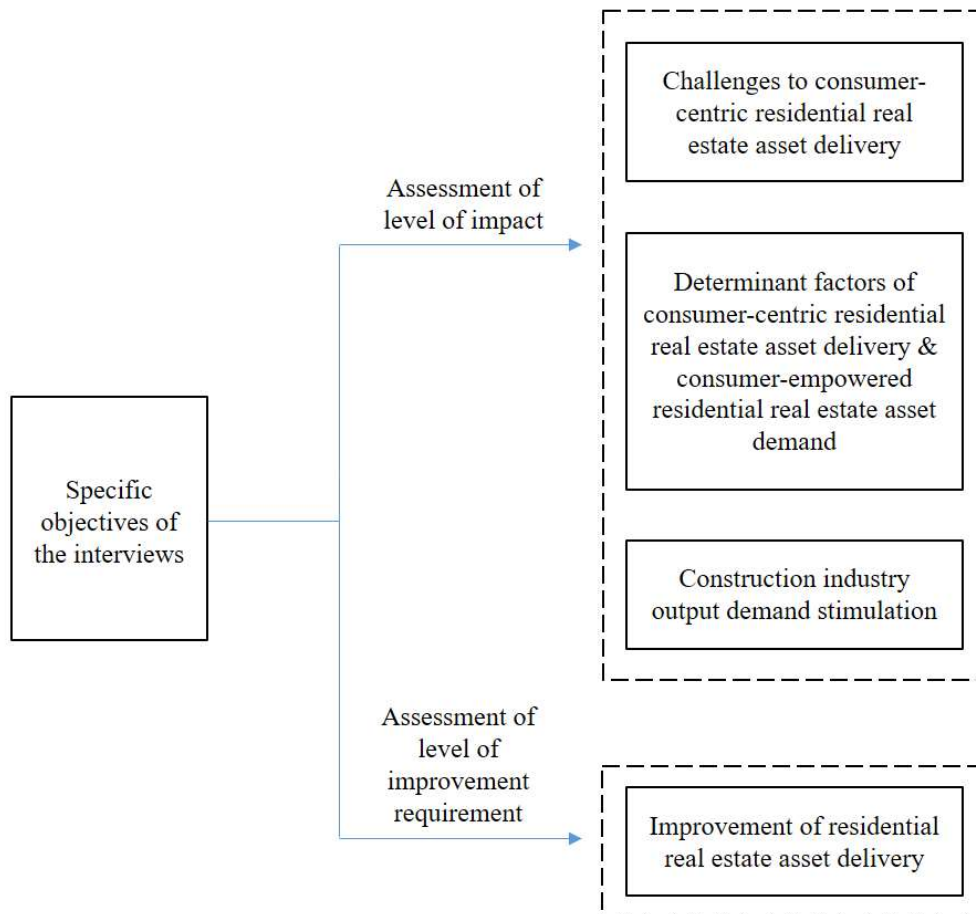
4.3.1 Interview

The interview method of collecting data involves presentation of oral-verbal stimuli and reply in terms of oral-verbal responses. The interview method involves questioning or discussing issues with people. It can be a very useful technique for collecting data

which would likely not be accessible using techniques such as observation or questionnaires (Blaxter et al., 2006). Interviews help explore variables under investigation in greater detail and triangulate findings using quantitative and qualitative data (Hosler and Vesper, 1993). This method can take the form of a) personal interviews and b) telephonic interviews (Kothari, 2004).

Personal interviews, both individual and mini-focus group, were carried out for the present research. Post the first phase of data collection, survey responses were analysed to arrive at preliminary findings. These findings were then used to frame questions for interviews, planned to be conducted in the second phase of data collection. Firstly, a semi-structured interview guide was prepared based on early findings from quantitative analysis of survey responses received in the first phase of data collection spanning from July 2022-October 2022 and document analysis conducted up till that point. The findings related to a) factors deterring consumer-centric residential real estate asset delivery, b) key delays, cost-escalators and scope-deficiencies c) key deficiencies in consumer skills, awareness of consumer legislation, consumer engagement and affordability of housing d) key means of stimulation of construction industry output and e) factors requiring improvement on demand and delivery-sides of residential real estate market. The general framework adopted for the interviews is as shown in Fig. 4.2. Additionally, the interview structure is shown in Appendix. Interview data was analysed based on predefined subthemes as brought out in the general framework of interviews. Interviews were held with 22 professionals coming from varying professional backgrounds. In case of real estate promoters/developers and the professionals working for them, respondents were so chosen that they had a minimum of 10 years of experience in the residential real estate sector. The profile of participants is as shown in Appendix.

Fig. 4.2: Framework for interview



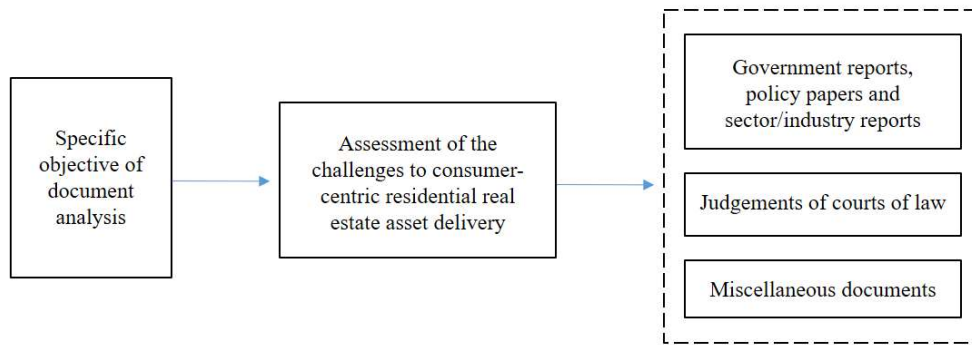
4.3.2 Document Analysis

According to Bowen (2009), document analysis is a process of evaluating documents in such a way that empirical knowledge is produced and understanding is developed. Document analysis is a form of qualitative research in which documents, both printed and electronic archives, are interpreted by researchers to give voice and meaning around an assessment topic. Analysing documents incorporates coding content into themes. Both content analysis and thematic analysis can be undertaken within the wide realm of document analysis.

Having established the context of the study through relevant literature review, document analyses of various sector-specific statutes, regulations, rules, policy papers,

judgements of judicial and quasi-judicial bodies, and miscellaneous documents accessed from activists working within the residential real estate sector of Bengaluru was undertaken. This was used to help develop the survey questionnaire, generate links with the findings from questionnaire survey, prepare the framework for interviews and develop the improvement framework. The adopted framework for document analysis is as in Fig. 4.3.

Fig. 4.3: Framework for document analysis



4.4 Validity and Reliability of Research Design

In addition to triangulation of data (questionnaire, interview and document analysis), techniques adopted to ensure the quality of research are discussed in this section.

4.4.1 Quantitative Approach

Validity is the degree to which an instrument truly measures the concept of interest (Hair et al., 2010). Validity of a measure refers to whether you are measuring what you claim you are measuring (Mitchell and Jolley, 2007). Content validation plays a primary role in development of any new instrument. It provides necessary evidence about the validity of an instrument by assessing the degree to which the instrument measures the targeted construct (Anastasia, 1988). This enables the instrument to be used to make meaningful and appropriate inferences and/or decisions from the instrument scores, given the assessment purpose (Moss, 1995). The measurement factors used in the questionnaires for the present study were developed through an extensive review of literature and were further subjected to pilot tests to ensure content validity. Construct validity of the factors was ascertained by EFA. Here, Kaiser-Meyer-Olkin (KMO) test

was performed to check sampling adequacy and Bartlett's test of sphericity was carried out to assess correlations among measuring factors. Minimum suggested standard for KMO is 0.5 (Hair et al., 2010; Field, 2013). The data to be suitable for analysis, Bartlett's test of sphericity has to be significant (Field, 2013). A factor loading of 0.50 was chosen for the present study as per the recommendations of Hair et al. (2010). Consequently, factor loadings greater than 0.50 were retained in the analysis.

Reliability refers to whether you are getting consistent, stable measurements. Reliable measures are relatively free of random error (Mitchell and Jolley, 2007). Internal consistency, which is a measure of reliability (Revicki, 2014), describes the extent to which all the items in a test measure the same concept or construct and hence it is connected to the inter-relatedness of the items within the test. Internal consistency should be determined before a test can be employed for research or examination purposes to ensure validity (Tavakol and Dennick, 2011). Cronbach's alpha is a measure of internal consistency (Oyewobi, 2014). A Cronbach's alpha value greater than or equal to 0.6 is considered acceptable for a survey instrument to be reliable (Hair et al., 2010). The value of alpha is affected by the number of variables in a construct (Nunnally and Bernstein, 1994). If the test length is too short, the value of alpha gets reduced and vice versa. Additionally, low value of alpha could also be resulting from poor inter-relatedness between items. In such cases, items with low correlations (approaching zero) should be discarded (Tavakol and Dennick, 2011). In the present study, Cronbach' alpha value was ascertained for the research constructs on both the demand and delivery sides of residential real estate market. In a few cases where Cronbach's alpha value was ascertained to be less than 0.6 (minimum acceptable value), correlation analyses were conducted to test inter-relatedness between the factors. Owing to significant correlations amongst the factors under the constructs, lower alpha values were ascertained to be due to lesser number of items under the constructs.

4.4.2 Qualitative Approach

The present research relied on data from three sources - questionnaire surveys, interviews and document analyses. Post the first phase of data collection, survey responses were analysed to arrive at preliminary findings. These findings were then

used to frame questions for interviews, planned to be conducted in the second phase of data collection. Additionally, relevant documents as a) transcripts of parliamentary debates and discussions on Lok Sabha Digital Library b) case laws and Bengaluru-specific RE(R&D)A, 2016' implementation status on K-RERA website c) electronic copy of judgements of Supreme Court and High Courts d) policy papers from government websites and e) articles in relevant real estate journals of repute were secured. Triangulation of data helped enhance research validity. The checklists and improvement frameworks developed for the demand and delivery side stakeholders of residential real estate sector were validated through brief interviews conducted at the end of the present study with select professionals from the list of 22 professionals interviewed earlier as a part of qualitative research undertaken for the present study.

4.5 Profile of Respondents

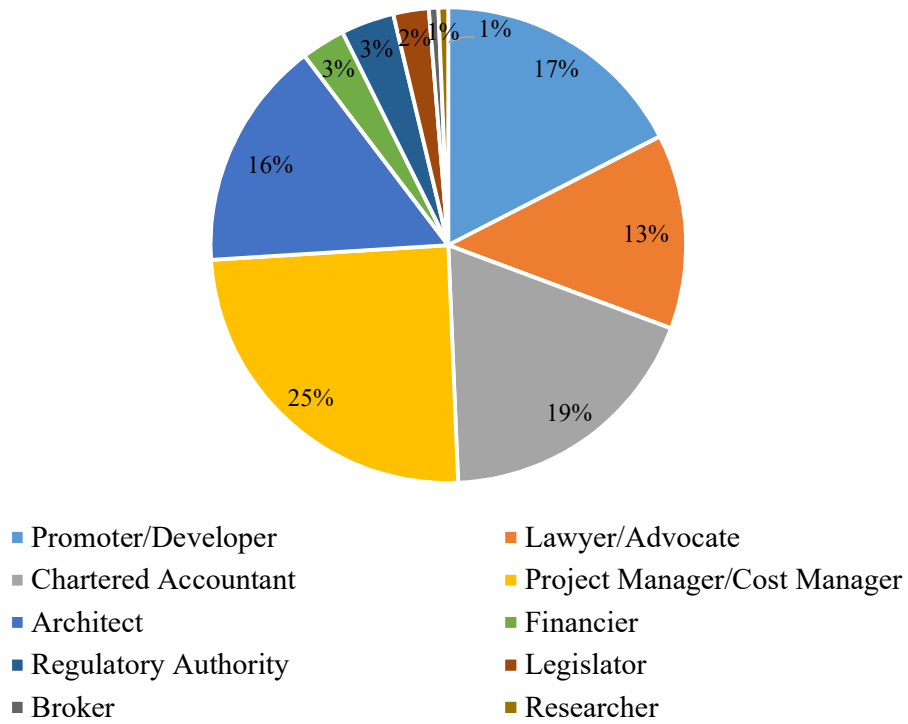
4.5.1 Real Estate Delivery-side Respondents

A total of 171 responses were received from the real estate delivery-side stakeholders for the questionnaire 1, of which 166 valid responses were subsequently subjected to statistical analyses. Overall profile of respondents to questionnaire 1 is as summarized in Table 4.2 and Fig. 4.4.

Table 4.2: Profile of respondents to questionnaire 1

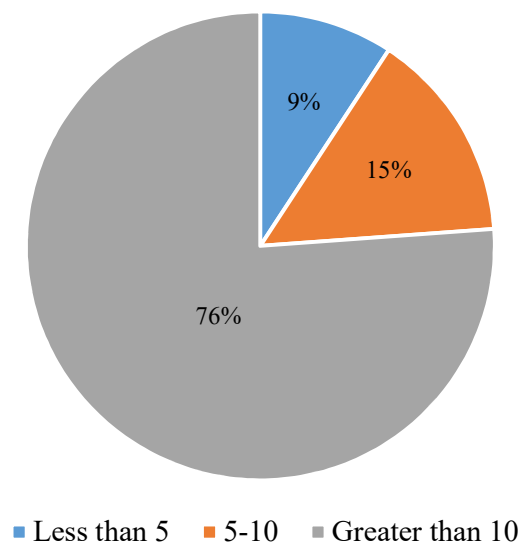
Sl. No.	Category of Respondent	No. of responses	Response %
1.	Promoter/Developer	29	17.47
2.	Chartered Accountant	31	18.67
3.	Lawyer/Advocate	22	13.25
4.	Project Manager/Cost Manager	41	24.7
5.	Architect	26	15.66
6.	Legislator	4	2.4
7.	Regulatory Authority	6	3.61
8.	Financier	5	3.01
9.	Broker	1	0.6
10.	Researcher	1	0.6

Fig. 4.4: Pie-chart of profile of survey respondents to questionnaire 1



Additionally, pie-chart of professional experience of survey respondents to questionnaire 1 is as illustrated in Fig. 4.5.

Fig. 4.5: Pie-chart of professional experience of survey respondents to questionnaire 1



4.5.2 Real Estate Demand-side Respondents

As far as questionnaire 2 is concerned, 97 responses were secured through offline survey mode, while 33 responses were received through online survey mode, making up to a total of 130 responses. Classifications based on the kind of residential real estate asset purchased are as in Fig. 4.6 – 4.7.

Fig. 4.6: Pie-chart of housing segment to which survey respondents to questionnaire 1 belong

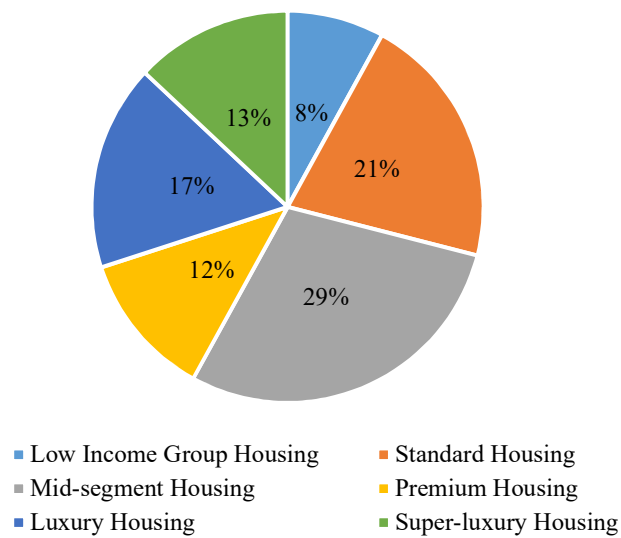
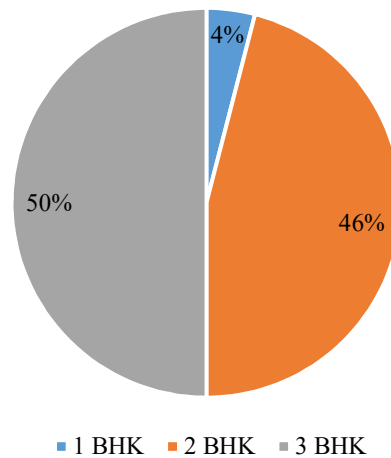


Fig. 4.7: Pie-chart of housing typology to which survey respondents to questionnaire 1 belong



4.6 Chapter Summary

Research design is driven by research questions. Considering the objectives of the present study, a mixed methods approach was adopted. As proposed by Creswell (2009), the study begins with a broad survey in order to generalize results to a population and then in the second phase focuses on qualitative, open-ended interviews to collect detailed views from participants. Additionally, triangulation of data was carried out through questionnaire surveys, interviews and document analyses. As suggested by Johnson et al. (2007), at the data collection stage, qualitative data was used to facilitate the data collection process. During the data analysis stage, quantitative data was used facilitate the assessment of generalizability of qualitative data and shed new light on qualitative findings. On the other hand, qualitative data played an important role in interpreting, clarifying, describing, and validating quantitative results.

CHAPTER 5

CHALLENGES TO CONSUMER-CENTRIC RESIDENTIAL REAL ESTATE ASSET DELIVERY

This chapter presents the challenges to consumer-centric residential real estate asset delivery in India. As elaborated in the chapter on literature review (Chapter 2) and conceptual framework of the study (Chapter 3), challenges to consumer-centric residential real estate asset delivery emanate from three broad sources: framework and interpretation of law, execution of law and policy interventions. Firstly, reliability of the survey instrument was assessed using the Cronbach alpha test as tabulated in Table 5.1. Descriptive analysis of the identified factors was undertaken to assess the level of impact of factors. One sample T-test yielded factors of significance to deficient delivery of housing assets. The study encompassing a wide array of stakeholders, Spearman's rank order correlation analysis was conducted to determine the general perception of the stakeholders towards the identified challenges of the sector. Independent sample T-test was deemed necessary to test the significance of mean difference where factor-wise discussion was required. Lastly, factor analysis was conducted using principal component analysis with varimax orthogonal rotation and the Kaiser criterion method (eigenvalue exceeding one) was used to select the factors. Results of tests for appropriateness of data for factor analysis - KMO and Bartlett's test of sphericity - are as summarised in Table 5.1. Insights gained from interviews of relevant professionals of residential real estate sector have been elaborated upon. Lastly, analysis of relevant government documents/reports/papers, along with legal case laws and sector-specific reports enabled triangulation of data.

Table 5.1: Challenges to CC-RREA delivery: Results of tests for reliability of survey instrument and appropriateness of data for factor analysis

Sl. No	Sources of factors	Cronbach alpha	KMO	Bartlett' test of sphericity
1	Framework and interpretation of law	0.782	0.680	Significant
2	Execution of law	0.936	0.885	Significant
3	Policy interventions	0.943	0.897	Significant

5.1 Factors emanating from the Framework and Interpretation of Law

Mean values, relative rankings and standard deviations of the factors are as tabulated in Table 5.2. The top three factors in terms of impact are a) poor property rights system and transparency in land markets b) excessive regulatory and compliance requirements for real estate asset development and c) absence of competitiveness in regulatory environment. One sample T-test, as tabulated in Table 5.3, was performed to chalk out significant factors. A total of seven factors turned out to be significant from the identified fourteen factors under the category of framework and interpretation of law. Independent sample T-test was carried out at individual factor level to test the significance of mean difference where factor wise discussion was required, as presented in Table 5.4. Spearman' rank order correlation test reflects consensus on the level of impact of factors between real estate promoters/developers and the professional working for/with them, namely, lawyers/advocates ($\rho=0.71$), chartered accountants ($\rho=0.58$), project managers/cost managers ($\rho=0.80$) and architects ($\rho=0.28$). Strong agreement of perceptions is observed amongst the professionals working for real estate promoters/developers, while they differ significantly from the perceptions of real estate brokers. Additionally, the perceptions of real estate promoters/developers, along with the professionals working for/with them, are largely found to be less correlated with that of legislators/policy-makers and regulatory authority, while being more correlated with the perceptions of real estate sector-specific researchers and financiers. Results of Spearman rank order correlation test are as presented in Table 5.5.

Table 5.2: Descriptive statistics: Framework and interpretation of law

Factor	Mean	SD	Rank
Poor property rights system and transparency in land markets	3.68	1.16	1
Excessive regulatory and compliance requirements for real estate asset development	3.48	1.24	2
Absence of competitiveness in regulatory environment	3.43	1.24	3
Lack of clear stipulations/directives ensuring revamp of undelivered projects, after takeover by regulatory authority	3.41	1.14	4
Absence of penal provisions for regulatory authority upon non-performance of statutory obligation of project-takeover and consequent delivery	3.32	1.25	5

Absence of stringent professional repercussions to project professionals involving in malpractice	3.20	1.15	6
Limited collective expanse (breadth) of existing real estate laws	3.15	1.19	7
Provisions allowing for variations from sanctioned plans and specifications	3.04	1.22	8
Lack of clarity in calculation of compensation amount	3.04	1.37	9
Drawbacks in provision relating to formation of an association/society/federation of allottees	3.03	1.30	10
Framing of counter-productive rules by regulatory authority regarding exemptions from project registration with the authority	2.96	1.25	11
Absence of statutory prohibitions on front-loading of sale price payable by consumers	2.90	1.25	12
Ambiguity in calculation of amount withdrawable by promoter/developer from 'designated project bank account'	2.84	1.30	13
Lack of exhaustiveness of the terms and conditions of exchange in 'Model Agreement for Sale' as prescribed by regulatory authorities	2.63	1.20	14

Table 5.3: One sample T-test: Framework and interpretation of law

Factor	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Absence of stringent professional repercussions to project professionals involving in malpractice	0.027	0.20	0.02	0.38
Lack of clear stipulations/directives ensuring revamp of undelivered projects, after takeover by regulatory authority	0.000	0.41	0.24	0.58
Absence of penal provisions for regulatory authority upon non-performance of statutory obligation of project-takeover and consequent delivery	0.001	0.32	0.13	0.51
Provisions allowing for variations from sanctioned plans and specifications	0.702	0.04	-0.15	0.22
Lack of exhaustiveness of the terms and conditions of exchange in 'Model Agreement for Sale' as prescribed by regulatory authorities	0.000	-0.37	-0.55	-0.18
Drawbacks in provision relating to formation of an association/society/federation of allottees	0.766	0.03	-0.17	0.23
Framing of counter-productive rules by regulatory authority regarding exemptions from project registration with the authority	0.664	-0.04	-0.23	0.15

Ambiguity in calculation of amount withdrawable by promoter/developer from 'designated project bank account'	0.110	-0.16	-0.36	0.04
Absence of statutory prohibitions on front-loading of sale price payable by consumers	0.294	-0.10	-0.29	0.09
Lack of clarity in calculation of compensation amount	0.734	0.04	-0.17	0.25
Limited collective expanse (breadth) of existing real estate laws	0.106	0.15	-0.03	0.33
Excessive regulatory and compliance requirements for real estate asset development	0.000	0.48	0.29	0.67
Absence of competitiveness in regulatory environment	0.000	0.43	0.24	0.62
Poor property rights system and transparency in land markets	0.000	0.68	0.50	0.86

Table 5.4: Independent sample T-test: Framework and interpretation of law

	Lawyer/ Advocate	Chartered Accountant	Project Manager/ Cost Manager	Architect	Financier	Regulatory Authority	Legislator
Promoter/ Developer		FLAW4, FLAW8, FLAW10		FLAW9, FLAW10, FLAW11	FLAW4, FLAW10	FLAW12, FLAW13	
Lawyer/ Advocate		FLAW8, FLAW11	FLAW3	FLAW10		FLAW12	
Chartered Accountant			FLAW9	FLAW1, FLAW6, FLAW7, FLAW8, FLAW9, FLAW11	FLAW6, FLAW7	FLAW4, FLAW8, FLAW9, FLAW12, FLAW13	FLAW8
Project Manager/ Cost Manager				FLAW6, FLAW8, FLAW10, FLAW11	FLAW9, FLAW6, FLAW10	FLAW3, FLAW7, FLAW12, FLAW13	FLAW8
Architect					FLAW9, FLAW11	FLAW7, FLAW11, FLAW12, FLAW13	
Financier						FLAW4, FLAW7, FLAW9, FLAW12, FLAW13	FLAW9, FLAW10, FLAW14
Regulatory Authority							FLAW7, FLAW12, FLAW13

Table 5.5: Spearman' rank order correlation test: Framework and interpretation of law

	Researcher	Regulatory Authority	Legislator	Financier	Broker	Architect	Project Manager/ Cost Manager	Chartered Accountant	Lawyer/ Advocate
Corporate Strategy	0.75	-0.15	-0.43	0.31	-0.34	0.64	0.62	0.64	0.47
Lawyer/ Advocate	0.46	0.05	-0.14	0.28	-0.44	0.69	0.56	0.71	
Chartered Accountant	0.62	-0.01	-0.43	0.52	-0.47	0.74	0.75		
Project Manager/ Cost Manager	0.57	-0.22	-0.32	0.48	-0.34	0.84			
Architect	0.54	-0.22	-0.14	0.34	-0.42				
Broker	-0.33	-0.05	0.10	-0.09					
Financier	0.41	-0.23	-0.43						
Legislator	-0.16	0.08							
Regulatory Authority	-0.28								

Factor analysis of significant factors yielded two components with 51.78% of cumulative variance explained, as in Table 5.6. The components are named as *lacunae in regulatory prescription* (component 1) and *deficiencies in legal and regulatory framework* (component 2).

Table 5.6: Factor analysis: Framework and interpretation of law

Factors emanating from the framework and interpretation of law	Component	
	1	2
Lack of clear stipulations/directives ensuring revamp of undelivered projects, after takeover by regulatory authority	0.712	
Absence of penal provisions for regulatory authority upon non-performance of statutory obligation of project-takeover and consequent delivery	0.680	
Lack of exhaustiveness of the terms and conditions of exchange in 'Model Agreement for Sale' as prescribed by regulatory authorities	0.669	
Absence of stringent professional repercussions to project professionals involving in malpractice	0.637	
Poor property rights system and transparency in land markets		0.730
Excessive regulatory and compliance requirements for real estate asset development		0.599
Absence of competitiveness in regulatory environment		0.598
Variance explained %	27.665	24.119
Cumulative variance explained %	51.784	

Lastly, considering the fact that respondents to the questionnaire had varied levels of experience (<5 years, 5-10 years and >10 years), difference in mean levels of the respondent groups was ascertained. It was found that there exists a significant difference in mean responses between a) respondent groups with 0-5 years' experience and 5-10 years' experience ii) respondent groups with 0-5 years' experience and >10 years' experience. Summarily, the respondent group with 0-5 years' experience had significantly different opinions from that of the respondent groups with >5 years' experience. In the case of professionals with <5 years of experience, owing to lesser professional experience and exposure to the real estate sector, such a difference in perception was understood to be a natural outcome

5.2 Factors emanating from the Execution of Law

Mean values, relative rankings and standard deviations of the factors are as summarised in Table 5.7. The top-most challenges as far as execution of law is concerned are a) corruption by bureaucrats/government officials b) absence of single window approval system for projects c) presence of political influence on bureaucrats/government officials and d) presence of bureaucratic red-tapism. Of the thirty-three factors, one sample T-test yielded thirty factors as significant, as in Table 5.8. Independent sample T-test, as in Table 5.9, enabled factor-wise analysis, leading to ascertainment of significant differences in means of a large number factors, especially between real estate regulatory authority/legislators and promoters/developers along with the professionals working for them. Additionally, statistically significant mean differences were observed for a number of factors between financiers, real estate regulatory authority and legislators. Spearman' rank order correlation test reflects consensus on the level of impact of factors between real estate promoters/developers and the professionals working for/with them. Similar to the category of framework and interpretation of law, real estate sector-specific researchers and financiers share strong positive correlations with real estate promoters/developers and the professionals working for/with them. Likewise, low to negative correlations are observed between real estate regulatory authority/legislators/brokers and real estate promoters/developers,

along with the professionals working for/with them. Results of Spearman rank order correlation test are as presented in Table 5.10.

Table 5.7: Descriptive Statistics: Execution of law

Factor	Mean	Std. Dev	Rank
Corruption by bureaucrats/government officials	4.20	1.09	1
Absence of single window approval system for projects	4.19	1.10	2
Presence of political influence on bureaucrats/government officials	4.15	1.07	3
Presence of bureaucratic red-tapism	4.15	1.05	4
Lack of coordinated working of sector regulators, urban local bodies, government agencies and parastatals	3.97	1.06	5
Delays in settlement of disputes by judicial and quasi-judicial bodies	3.93	1.08	6
Difficulties arising from changing government officials	3.85	1.14	7
Absence of well-established, standardized grievance redressal procedure	3.77	1.09	8
Insufficiency of outreach and awareness programmes for stakeholders	3.71	1.13	9
Lack of pro-activeness of regulatory authority in intervening and/or taking-over undelivered projects	3.66	1.25	10
Non-uniformity in interpretation and adoption of central laws by state governments	3.66	1.16	11
High litigation charges	3.63	1.02	12
Absence of adequate deterrents to real estate project professionals indulging in malpractice	3.61	1.09	13
Restrictive nature of procedures, rules and regulations under law	3.59	1.20	14
Insufficiency of trained manpower at regulatory authorities, judicial/quasi-judicial bodies and urban local bodies	3.57	1.17	15
Dilution of statutes through framing of counter-productive rules	3.55	1.16	16
Lack of initiatives promoting out-of-court settlement of disputes	3.54	1.15	17
Influence of promoters'/developers' lobby	3.53	1.22	18
Delays in framing of rules under statutes	3.51	1.21	19
Complexity and unviability of present system of order/verdict execution	3.49	1.25	20
Inadequate usage of punitive provisions by judicial/quasi-judicial bodies	3.49	1.14	21
Ambiguity in interpretation and application of force-majeure clauses for delays in projects	3.48	1.24	22
Inadequate physical infrastructure for execution of law at state/district levels	3.46	1.18	23
Lack of pro-active response of regulatory authority to 'source information' shared about unregistered projects	3.45	1.20	24

Complexity in usage of information technology (IT) systems in place	3.45	1.18	25
Lack of judicial teeth under statutes to hold lending agencies accountable for poor due-diligence	3.41	1.11	26
Inadequacy of information technology (IT) infrastructure and support systems	3.35	1.24	27
Prevalence of forum-shopping in litigation	3.34	1.15	28
Regulatory authority' inadequate monitoring of mandatory filing of project progress by promoters/developers	3.30	1.23	29
Inadequate evaluation of applications for project registration with regulatory authority	3.19	1.20	30
Non-disbursal of precautionary information pertaining to defaulting service providers on web-page of authority, for the benefit of consumers	3.17	1.15	31
Inadequate enforcement of strict adherence to stipulated building codes and by-laws	3.16	1.22	32
Irregularity by promoters/developers in filing of project progress on web-page of regulatory authority	2.89	1.26	33

Table 5.8: One Sample T-test: Execution of law

Factor	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Lack of co-ordinated working of sector regulators, urban local bodies, government agencies and parastatals	0.000	0.97	0.81	1.13
Absence of single window approval system for projects	0.000	1.19	1.02	1.36
Non-uniformity in interpretation and adoption of central laws by state governments	0.000	0.66	0.48	0.83
Delays in framing of rules under statutes	0.000	0.51	0.32	0.69
Dilution of statutes through framing of counter-productive rules	0.000	0.55	0.38	0.73
Absence of well-established, standardized grievance redressal procedure	0.000	0.77	0.60	0.93
Restrictive nature of procedures, rules and regulations under law	0.000	0.59	0.41	0.77
Inadequate evaluation of applications for project registration with regulatory authority	0.046	0.19	0.00	0.37
Irregularity by promoters/developers in filing of project progress on web-page of regulatory authority	0.244	-0.11	-0.31	0.08

Regulatory authority' inadequate monitoring of mandatory filing of project progress by promoters/developers	0.002	0.30	0.11	0.48
Delays in settlement of disputes by judicial and quasi-judicial bodies	0.000	0.93	0.76	1.09
Inadequate usage of punitive provisions by judicial/quasi-judicial bodies	0.000	0.49	0.32	0.67
Complexity and unviability of present system of order/verdict execution	0.000	0.49	0.30	0.69
Lack of pro-activeness of regulatory authority in intervening and/or taking-over undelivered projects	0.000	0.66	0.47	0.85
Ambiguity in interpretation and application of force-majeure clauses for delays in projects	0.000	0.48	0.29	0.67
Inadequate enforcement of strict adherence to stipulated building codes and by-laws	0.087	0.16	-0.02	0.35
Non-disbursal of precautionary information pertaining to defaulting service providers on web-page of authority, for the benefit of consumers	0.052	0.17	0.00	0.35
Lack of pro-active response of regulatory authority to 'source information' shared about unregistered projects	0.000	0.45	0.27	0.64
Insufficiency of trained manpower at regulatory authorities, judicial/quasi-judicial bodies and urban local bodies	0.000	0.57	0.39	0.75
Absence of adequate deterrents to real estate project professionals indulging in malpractice	0.000	0.61	0.45	0.78
Lack of judicial teeth under statutes to hold lending agencies accountable for poor due-diligence	0.000	0.41	0.24	0.58
Lack of initiatives promoting out-of-court settlement of disputes	0.000	0.54	0.37	0.72
Inadequate physical infrastructure for execution of law at state/district levels	0.000	0.46	0.28	0.64
Inadequacy of information technology (IT) infrastructure and support systems	0.000	0.35	0.16	0.54
Complexity in usage of information technology (IT) systems in place	0.000	0.45	0.27	0.63
Insufficiency of outreach and awareness programmes for stakeholders	0.000	0.71	0.54	0.88
High litigation charges	0.000	0.63	0.47	0.78
Prevalence of forum-shopping in litigation	0.000	0.34	0.17	0.52

Difficulties arising from changing government officials	0.000	0.85	0.67	1.02
Corruption by bureaucrats/government officials	0.000	1.20	1.04	1.37
Presence of political influence on bureaucrats/government officials	0.000	1.15	0.99	1.31
Presence of bureaucratic red-tapism	0.000	1.15	0.99	1.31
Influence of promoters'/developers' lobby	0.000	0.53	0.34	0.72

Table 5.9: Independent sample T-test: Execution of law

	Lawyer/ Advocate	Chartered Accountant	Project Manager/ Cost Manager	Architect	Financier	Regulatory Authority	Legislator
Promoter/ Developer	ELAW3, ELAW8, ELAW13, ELAW28, ELAW29, ELAW30		ELAW14, ELAW17	ELAW10, ELAW12, ELAW14, ELAW15	ELAW2, ELAW9, ELAW19	ELAW2, ELAW3, ELAW4, ELAW5, ELAW7, ELAW8, ELAW13, ELAW14, ELAW28, ELAW30, ELAW31, ELAW32, ELAW33	ELAW1, ELAW2, ELAW4, ELAW30, ELAW31, ELAW32
Lawyer/ Advocate		ELAW8	ELAW8, ELAW13, ELAW29	ELAW6, ELAW8, ELAW13	ELAW2, ELAW8, ELAW28	ELAW2, ELAW3, ELAW4, ELAW5, ELAW7, ELAW12, ELAW14, ELAW30, ELAW31, ELAW32, ELAW33	
Chartered Accountant				ELAW7, ELAW12, ELAW17	ELAW2, ELAW8	ELAW2, ELAW3, ELAW4, ELAW5, ELAW6, ELAW7, ELAW8, ELAW12, ELAW13, ELAW14, ELAW15, ELAW20, ELAW24, ELAW27, ELAW28, ELAW30, ELAW31, ELAW32, ELAW33	ELAW1, ELAW2, ELAW4, ELAW32
Project Manager/ Cost Manager				ELAW17	ELAW8, ELAW19	ELAW2, ELAW3, ELAW4, ELAW5, ELAW6, ELAW7, ELAW8, ELAW11, ELAW12, ELAW13, ELAW14, ELAW15, ELAW18, ELAW28, ELAW30, ELAW31, ELAW32, ELAW33	ELAW2, ELAW29, ELAW30, ELAW31
Architect					ELAW2, ELAW8, ELAW16, ELAW17	ELAW2, ELAW3, ELAW4, ELAW5, ELAW6, ELAW7, ELAW8, ELAW12, ELAW13, ELAW14, ELAW15, ELAW20, ELAW27, ELAW28, ELAW30, ELAW31, ELAW32, ELAW33	ELAW9, ELAW17, ELAW30, ELAW32
Financier						ELAW2, ELAW3, ELAW4, ELAW5, ELAW7, ELAW8, ELAW12, ELAW13, ELAW14, ELAW15, ELAW18, ELAW19, ELAW20, ELAW24, ELAW28, ELAW30, ELAW31, ELAW32, ELAW33	ELAW1, ELAW2, ELAW4, ELAW9, ELAW30, ELAW31, ELAW32, ELAW33
Regulatory Authority							ELAW3, ELAW5, ELAW7, ELAW8, ELAW9, ELAW12, ELAW13, ELAW14, ELAW15, ELAW18, ELAW20, ELAW23, ELAW28, ELAW30

Table 5.10: Spearman' rank order correlation test: Execution of law

	Researcher	Regulatory Authority	Legislator	Financier	Broker	Architect	Project Manager/ Cost Manager	Chartered Accountant	Lawyer/ Advocate
Corporate Strategy	0.75	-0.15	-0.43	0.31	-0.34	0.64	0.62	0.64	0.47
Lawyer/ Advocate	0.46	0.05	-0.14	0.28	-0.44	0.69	0.56	0.71	
Chartered Accountant	0.62	-0.01	-0.43	0.52	-0.47	0.74	0.75		
Project Manager/ Cost Manager	0.57	-0.22	-0.32	0.48	-0.34	0.84			
Architect	0.54	-0.22	-0.14	0.34	-0.42				
Broker	-0.33	-0.05	0.10	-0.09					
Financier	0.41	-0.23	-0.43						
Legislator	-0.16	0.08							
Regulatory Authority	-0.28								

Factor analysis of significant factors under the category of execution of law yielded seven components with 64.76% of cumulative variance explained, as in Table 5.11. The components are named as *vested interests of individual stakeholders* (component 1), *inconsistencies in execution of law* (component 2), *inadequacies in preventive and curative dispute resolution mechanisms* (component 3), *inefficiencies in execution of law* (component 4), *lack of ease of access to information* (component 5), *lackadaisical approach towards adherence to project duration* (component 6) and *procedural hurdles to efficient litigation system* (component 7).

Table 5.11: Factor analysis: Execution of law

Factors emanating from the execution of law	Component						
	1	2	3	4	5	6	7
Corruption by bureaucrats/government officials	0.837						
Presence of political influence on bureaucrats/government officials	0.821						
Presence of bureaucratic red-tapism	0.814						
Absence of single window approval system for projects	0.558						
Influence of promoters'/developers' lobby	0.522						
Restrictive nature of procedures, rules and regulations under law		0.760					
Dilution of statutes through framing of counter-productive rules		0.623					
Delays in framing of rules under statutes		0.621					
Non-uniformity in interpretation and adoption of central laws by state governments		0.609					
Absence of well-established, standardized grievance redressal procedure		0.501	0.506				
Absence of adequate deterrents to real estate project professionals indulging in malpractice			0.655				
Lack of initiatives promoting out-of-court settlement of disputes			0.644				
Lack of judicial teeth under statutes to hold lending agencies accountable for poor due-diligence			0.644				
Regulatory authority' inadequate monitoring of mandatory filing of project progress by promoters/developers				0.765			
Complexity and unviability of present system of order/verdict execution				0.587			
Delays in settlement of disputes by judicial and quasi-judicial bodies				0.541			
Inadequate evaluation of applications for project registration with regulatory authority				0.535			
Inadequate usage of punitive provisions by judicial/quasi-judicial bodies				0.513			
Inadequacy of information technology (IT) infrastructure and support systems					0.823		
Complexity in usage of information technology (IT) systems in place					0.758		
Insufficiency of outreach and awareness programmes for stakeholders					0.569		
Ambiguity in interpretation and application of force-majeure clauses for delays in projects						0.778	

Lack of pro-activeness of regulatory authority in intervening and/or taking-over undelivered projects						0.758	
High litigation charges							0.666
Prevalence of forum-shopping in litigation							0.653
Variance explained %	12.292	11.500	9.576	9.341	8.743	7.600	5.711
Cumulative variance explained %	64.763						

Similar to the factors emanating from the framework of law, professionals with <5 years of experience, owing to lesser professional experience and exposure to the real estate sector were identified to be differing in their perceptions from those with >5 years of experience.

5.3 Factors emanating from Policy Interventions

Descriptive statistics i.e. mean values, relative rankings and standard deviations of the factors are as summarised in Table 5.12. The top-most policy interventions deterring consumer-centric housing delivery are a) high statutory taxes, levies and charges upon real estate transactions b) instability of building material prices c) lack of incentive schemes for adoption of sustainable, low cost materials and technologies in construction and d) outdated development control regulations. One sample T-test established the significance of thirty-one factors of the thirty-two factors identified under the category of policy interventions, as in Table 5.13. Factor-wise analysis through independent sample T-test, as in table 5.14, displayed significant differences in means for a number of factors between a) real estate regulatory authority and promoters/ developers along with professionals working for them and b) real estate regulatory authority and financiers. Along the lines of framework and interpretation of law and execution of law, Spearman' rank order correlation test, as in Table 5.15, signified consensus on the level of impact of policy interventions between real estate promoters/developers, the professionals working for them and the financiers. On the other hand, low to negative correlations are observed between real estate regulatory authority/legislators/brokers and real estate promoters/developer, along with the professionals working for/with them.

Table 5.12: Descriptive Statistics: Policy interventions

Factor	Mean	Std. Dev	Rank
High statutory taxes, levies and charges upon real estate transactions	4.04	1.02	1
Instability of building material prices	3.93	1.07	2
Lack of incentive schemes for adoption of sustainable, low cost materials and technologies in construction	3.93	1.02	3
Outdated development control regulations	3.70	1.06	4
Housing supply-loss and price-hike created by regulated zoning, floor area ratio restrictions and urban land ceilings	3.69	1.06	5
Lack of low-cost funding for project land acquisition by promoters/developers	3.64	1.12	6
Ineffective monitoring of policy implementation	3.64	1.05	7
Inadequacy of upfront public consultation/engagement in policy-making	3.61	1.04	8
Multiplicity of local bodies and parastatals involved in urban housing delivery	3.60	1.15	9
Lack of efficiency in functioning of housing boards and housing corporations	3.59	1.11	10
Unaffordability of housing stock to housing policy-target-consumer groups	3.59	1.16	11
Inadequacy of direct intervention and subsidies to real estate sector	3.58	1.10	12
Need for decentralized design and implementation of policies	3.55	1.08	13
Absence of 'industry' status to real estate sector	3.55	1.24	14
Ineffectiveness of measures aimed at limiting of speculation of land and housing	3.55	1.17	15
Lack of collaborative forums and research groups for sector reform studies	3.54	0.99	16
Insufficiency of stakeholder training and awareness programmes	3.54	1.00	17
Lack of affordable, safe and accessible modes of public transport infrastructure and other basic services	3.53	1.10	18
Regulated access to external commercial borrowings by real estate sector	3.53	1.07	19
Lack of continuity and inter-connectedness in policies, programmes and projects	3.52	1.04	20
Lack of comprehensiveness of building codes and by-laws	3.46	1.14	21
Lack of access to foreign direct investment by real estate sector	3.45	1.16	22
Mismatch between target-consumers of housing policies to demand driving-consumers of housing market	3.45	1.13	23
Inadequacy of policy back-up to sector-specific programmes and projects	3.43	1.07	24
Lack of comprehensiveness of professional standards regulating the functioning of real estate professionals	3.42	1.04	25
Lack of ease of access to project finance by promoters/developers	3.36	1.19	26
Lack of ease of access to formal housing finance by varied classes of consumers	3.33	1.21	27

Absence of a central agency (along with regional groupings) for managing industry/sector development	3.32	1.13	28
Mismatch between intended policy-target-consumer groups to actual on-ground policy-beneficiary-consumer groups	3.32	1.14	29
Inadequate dissemination of productivity benchmarks, sector-specific standards and developments	3.25	1.07	30
Under-penetration of housing finance companies	3.23	1.13	31
Difficulties in sourcing of input commodities (building materials) for real estate development	2.96	1.16	32

Table 5.13: One sample T-test: Policy interventions

Factor	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Absence of a central agency (along with regional groupings) for managing industry/sector development	0.000	0.32	0.15	0.49
Absence of 'industry' status to real estate sector	0.000	0.55	0.36	0.74
Inadequacy of policy back-up to sector-specific programmes and projects	0.000	0.43	0.26	0.59
Lack of continuity and inter-connectedness in policies, programmes and projects	0.000	0.52	0.37	0.68
Need for decentralized design and implementation of policies	0.000	0.55	0.39	0.72
Mismatch between target-consumers of housing policies to demand driving-consumers of housing market	0.000	0.45	0.27	0.62
Mismatch between intended policy-target-consumer groups to actual on-ground policy-beneficiary-consumer groups	0.000	0.32	0.14	0.49
Ineffective monitoring of policy implementation	0.000	0.64	0.48	0.80
Inadequacy of direct intervention and subsidies to real estate sector	0.000	0.58	0.41	0.75
High statutory taxes, levies and charges upon real estate transactions	0.000	1.04	0.88	1.19
Unaffordability of housing stock to housing policy-target-consumer groups	0.000	0.59	0.41	0.77
Housing supply-loss and price-hike created by regulated zoning, floor area ratio restrictions and urban land ceilings	0.000	0.69	0.53	0.85
Ineffectiveness of measures aimed at limiting of speculation of land and housing	0.000	0.55	0.37	0.73

Outdated development control regulations	0.000	0.70	0.54	0.87
Multiplicity of local bodies and parastatals involved in urban housing delivery	0.000	0.60	0.42	0.77
Lack of efficiency in functioning of housing boards and housing corporations	0.000	0.59	0.42	0.76
Lack of low-cost funding for project land acquisition by promoters/ developers	0.000	0.64	0.47	0.82
Lack of ease of access to formal housing finance by varied classes of consumers	0.001	0.33	0.15	0.52
Lack of ease of access to project finance by promoters/developers	0.000	0.36	0.17	0.54
Under-penetration of housing finance companies	0.008	0.23	0.06	0.41
Lack of access to foreign direct investment by real estate sector	0.000	0.45	0.27	0.62
Regulated access to external commercial borrowings by real estate sector	0.000	0.53	0.37	0.69
Difficulties in sourcing of input commodities (building materials) for real estate development	0.639	-0.04	-0.22	0.14
Instability of building material prices	0.000	0.93	0.77	1.10
Lack of incentive schemes for adoption of sustainable, low cost materials and technologies in construction	0.000	0.93	0.77	1.08
Lack of comprehensiveness of building codes and by-laws	0.000	0.46	0.29	0.64
Lack of comprehensiveness of professional standards regulating the functioning of real estate professionals	0.000	0.42	0.26	0.57
Inadequate dissemination of productivity benchmarks, sector-specific standards and developments	0.003	0.25	0.09	0.42
Lack of affordable, safe and accessible modes of public transport infrastructure and other basic services	0.000	0.53	0.36	0.70
Inadequacy of upfront public consultation/engagement in policy-making	0.000	0.61	0.45	0.77
Insufficiency of stakeholder training and awareness programmes	0.000	0.54	0.38	0.69
Lack of collaborative forums and research groups for sector reform studies	0.000	0.54	0.39	0.69

Table 5.14: Independent sample T-test: Policy interventions

	Lawyer/ Advocate	Chartered Accountant	Project Manager/ Cost Manager	Architect	Financier	Regulatory Authority	Legislator
Promoter/ Developer	POLICY10		POLICY12, POLICY15, POLICY17, POLICY18, POLICY19		POLICY11, POLICY18, POLICY20, POLICY21	POLICY1, POLICY2, POLICY3, POLICY4, POLICY6, POLICY7, POLICY8, POLICY9, POLICY10, POLICY11, POLICY12, POLICY13, POLICY14, POLICY15, POLICY16, POLICY17, POLICY19, POLICY20, POLICY21, POLICY22, POLICY24, POLICY25, POLICY27, POLICY30, POLICY32	POLICY8, POLICY10, POLICY17
Lawyer/ Advocate		POLICY10, POLICY21		POLICY10	POLICY10, POLICY18, POLICY23	POLICY1, POLICY3, POLICY6, POLICY10, POLICY11, POLICY12, POLICY13, POLICY14, POLICY16, POLICY22, POLICY24, POLICY25, POLICY27, POLICY29, POLICY30, POLICY32	POLICY25
Chartered Accountant			POLICY15, POLICY18, POLICY19		POLICY11, POLICY18, POLICY20, POLICY21, POLICY23	POLICY2, POLICY3, POLICY6, POLICY7, POLICY8, POLICY9, POLICY10, POLICY11, POLICY12, POLICY13, POLICY14, POLICY15, POLICY16, POLICY17, POLICY21, POLICY22, POLICY24, POLICY30, POLICY32	POLICY10
Project Manager/ Cost Manager				POLICY18	POLICY11, POLICY20	POLICY1, POLICY2, POLICY3, POLICY6, POLICY10, POLICY13, POLICY14, POLICY16, POLICY22, POLICY25, POLICY27, POLICY30, POLICY32	
Architect					POLICY18, POLICY20	POLICY2, POLICY3, POLICY6, POLICY9, POLICY10, POLICY11, POLICY12, POLICY13, POLICY14, POLICY15, POLICY16, POLICY17, POLICY22, POLICY24, POLICY30, POLICY32	POLICY10
Financier						POLICY1, POLICY3, POLICY4, POLICY6, POLICY7, POLICY10, POLICY11, POLICY12, POLICY13, POLICY14, POLICY18, POLICY22, POLICY26, POLICY27, POLICY29, POLICY30, POLICY32	POLICY10, POLICY11, POLICY14
Regulatory Authority							POLICY30

Table 5.15: Spearman' rank order correlation test: Policy interventions

	Researcher	Regulatory Authority	Legislator	Financier	Broker	Architect	Project Manager/ Cost Manager	Chartered Accountant	Lawyer/ Advocate
Corporate Strategy	0.25	-0.02	-0.13	0.41	0.25	0.57	0.46	0.77	0.28
Lawyer/ Advocate	0.26	0.24	0.40	0.58	-0.01	0.47	0.50	0.24	
Chartered Accountant	0.14	0.31	-0.06	0.26	0.16	0.68	0.42		
Project Manager/ Cost Manager	0.30	0.04	0.20	0.47	0.21	0.61			
Architect	0.14	0.14	0.01	0.46	0.14				
Broker	0.21	0.02	-0.08	0.33					
Financier	0.47	0.13	0.40						
Legislator	0.31	0.36							
Regulatory Authority	-0.03								

Factor analysis of significant factors under the category of policy interventions yielded six components with 63.14% of cumulative variance explained, as in Table 5.16. The components are named as *poor housing policy design and implementation* (component 1), *inefficiency in economic policy design and levels of governance* (component 2), *poor accessibility to finance* (component 3), *poor research and development* (component 4), *non-optimisation of material and manpower input* (component 5) and *stagnant development control regulations* (component 6).

Table 5.16: Factor analysis: Policy interventions

Factors emanating from policy interventions	Component					
	1	2	3	4	5	6
Mismatch between target-consumers of housing policies to demand driving-consumers of housing market	0.713					
Mismatch between intended policy-target-consumer groups to actual on-ground policy-beneficiary-consumer groups	0.698					
Inadequacy of policy back-up to sector-specific programmes and projects	0.683					
Absence of a central agency (along with regional groupings) for managing industry/sector development	0.654					
Need for decentralized design and implementation of policies	0.614					
Lack of continuity and inter-connectedness in policies, programmes and projects	0.587					
Ineffective monitoring of policy implementation	0.578					
High statutory taxes, levies and charges upon real estate transactions		0.751				
Multiplicity of local bodies and parastatals involved in urban housing delivery		0.631				
Lack of low-cost funding for project land acquisition by promoters/ developers		0.628				
Lack of efficiency in functioning of housing boards and housing corporations		0.582				
Unaffordability of housing stock to housing policy-target-consumer groups		0.551				
Inadequacy of direct intervention and subsidies to real estate sector		0.524				
Lack of ease of access to formal housing finance by varied classes of consumers			0.804			
Lack of ease of access to project finance by promoters/developers			0.777			
Under-penetration of housing finance companies			0.707			
Lack of access to foreign direct investment by real estate sector			0.639			
Regulated access to external commercial borrowings by real estate sector			0.541			
Lack of collaborative forums and research groups for sector reform studies				0.779		
Lack of affordable, safe and accessible modes of public transport infrastructure and other basic services				0.741		

Insufficiency of stakeholder training and awareness programmes				0.731		
Inadequacy of upfront public consultation/engagement in policy-making				0.723		
Instability of building material prices					0.727	
Lack of incentive schemes for adoption of sustainable, low cost materials and technologies in construction					0.661	
Lack of comprehensiveness of building codes and by-laws					0.654	
Lack of comprehensiveness of professional standards regulating the functioning of real estate professionals					0.526	
Housing supply-loss and price-hike created by regulated zoning, floor area ratio restrictions and urban land ceilings						0.544

Lastly, as in the case of factors emanating from the framework and interpretation of law and execution of law, professionals with <5 years of experience were identified to be differing in their perceptions from those with >5 years of experience for the reasons mentioned in the earlier sections.

5.4 Findings from Interviews and Discussions

Interviews and discussions were centred around the preliminary findings from the first phase of data collection. One of the focus points of the interviews was the challenges to consumer-centric residential real estate asset delivery. Semi-structured interviews were conducted to get the viewpoints of interviewees and an attempt was made to map the discussions to the subthemes of the present research through a series of follow-up questions. The broad themes of analysis were the perceived sources of factors deterring consumer-centric residential real estate asset delivery: framework of law, execution of law and policy interventions.

5.4.1 Framework of Law

Under the framework of law, discussions were centred around a) poor property rights system and transparency in land markets b) excessive regulatory and compliance requirements for real estate asset development and c) absence of competitiveness in regulatory environment.

5.4.1.1 Poor property rights system and transparency in land markets

According to researchers (R5, R6) in the Indian real estate sector, historically, land has never been a commodity of exchange. The Registration Act, 1908 and the Indian Stamp Act, 1899 were the legislation that commodified land. The said legislation laid down rules relating to transactions in land. Especially with family and inheritance laws having changed over the years, promoters/developers as R4 believe poor property rights system to be indeed an issue for the real estate sector. Elaborating on the same, R12 explains the following:

“In the times of kings and kingdoms, there existed ‘taamra pathra’ (copper plates) bearing records of land transactions. However, these have not been digitised. Tehsildars and revenue officers are a huge cause of this problem. Registration Act, 1908 and Transfer of Property Act, 1882 work together. The Registration Act, 1908 has been violated time and again. The sub-registrar is supposed to actually satisfy himself that the person who has come to him for registration of property is the authorised owner and is legally entitled to execute the transfer of property. Earlier, people used to fake identities. But now, we have a biometric system, so there is no excuse. The biometric system exists to validate transfer of property, so it is impossible to impersonate somebody else. When the ownership of a property changes, the sub-registrar is supposed to note down the particulars (signature + biometrics) of the latest authorised owner of the property. But this is being universally violated by the sub-registrars. Karnataka Registration Rules, 1965 specify that if a person is not entitled to execute a document, the sub-registrar office has to refuse execution and also note down the reason for refusal. Both of these are not happening at present. Also, such a person has to be handed over to the police for trying to grab a property not rightfully belonging to him, which again is not being followed.”

When enquired on why tehsildars and revenue officers not note down the particulars (signature + biometrics) of latest authorised owners of properties, R12 responds as follows:

“Because then the builder even after handing over the property to home-buyers, can still come back to the sub-registrar’ office and make changes to sale transactions retroactively. Sub-registrars intentionally allow for modification of basic document of registration even when it is supposed to be locked.”

Reflecting on the role of banks in providing project finance and housing loans to consumers, the systemic inefficiencies were brought to light as below:

“For any kind of amendment to the basic document - Deed of Declaration - the builder needs the approval of all of the home-buyers. Following this, all such home-buyers need to go the sub-registrar’ office and sign on the modified document. Now there’s a twist in the tale! When a home-buyer has taken a housing loan to purchase an apartment, he is not the decision maker. The bank manager is the one who has to agree. Why? Because the property is mortgaged as a collateral with the bank. All of the apartment owners and bank managers need to be party to such an amendment. But this is not followed anywhere. Why? Banks are hands-in-gloves with builders in this. They do not press for it.

The TPA, 1882, the Registration Act, 1908 and the KOFA, 1972 work in tandem. TPA, 1882 relies on the Registration Act, 1908 to note down the transfer of properties. The Registration Act, 1908 puts into execution the concept of ‘transfer’. Banks simply take the original sale deed, keep it with them without any registration, without noting down anything on paper, without going to the sub-registrar’ office and without asking the sub-registrar to note down that the title is now held by the banks. When you go to the sub-registrar and ask “Who is the actual owner of the property? Is there any lien created on the property?”, he is supposed to let you know that the property has got a certain number of lenders, along with the total amount of lien on the property. Lien is actually supposed to be registered against the property papers at the sub-registrar’ office. But this data is not available for verification by home-buyers. Why? This is because banks never go to the sub-registrar and register the property since they have to pay stamp duty for the same. This process of registration is by-passed by both banks and consumers. The only thing which keeps the banks

assured is the original copy of sale deed. But, this is not a valid document because there is no stamp duty paid on the same.

By keeping your original sale deed with themselves, the banks have cornered you, in spite of having not paid the stamp duty or the registration fee. Banks thus work in their own interest. On one hand, banks work in silos, while on the other hand, sub-registrars work in their own interest and allow any kind of person to walk in and make documents. Bank managers have to go to the sub-registrar along with the loan-seeker and both of them have to create a lien and register the document. The banker cannot actually insist on keeping the original copy of the sale deed from the loan-seeker, which is wrong under law. This is an easy route that the banks have taken. Because the property is not registered with the sub-registrar office, the sub-registrar therefore has no record of whether there exists a lien on the property, which in turn facilitates the creation of multiple titles on the real estate asset. This does a lot of damage to the economy in real terms. These property disputes are running since years. Courts are also a party to this. Banks actually have to do their due-diligence i.e. go and check whether on the site there actually is a building in place or not. However, banks do not really do that. This is a matter that needs serious investigation to unearth some skeletons.”

Elaborating that the root of property disputes in Karnataka lies in ineffective implementation of KOFA, 1972, R12 explains the following:

“KAOA, 1972 asks sub-registrars to open a new kind of book. The Registration Act, 1908 talks about 4 specific kinds of books i.e. books for 1) movable properties 2) immovable properties 3) birth and death 4) miscellaneous. There is a problem here for apartments. Apartment definition exists at two different levels: a) apartment complex as a whole and b) a particular apartment unit which is bought. Now ‘apartment complex as a whole’, where is it defined if you talk in reference to the Registration Act, 1908? There is no provision for registration of land + common areas (complex level). Land is already registered in one of the books (immovable property book) and that is not converted now into an aggregated property submitted to the provisions of KAOA, 1972.

Somebody has to make such an entry somewhere. The absence of 'Book No. 5' at the sub-registrar' office leading to non-subjection of the aggregated property (land + complex) to the provisions of KAOA, 1972 is at the root of the problem! This cannot be incorporated in 'Book No.4 (miscellaneous)' itself because the said book has the provision of only a single entry for such registration. Therefore, promoters/developers mortgage such land even after constructing the apartment complex and executing the sale deeds for apartments. Even if evident that the aggregated property (land + complex) should now be belonging to home-buyers, the sub-registrars' documents reflect otherwise. So, now the builder can very well go to a bank and say that he still owns the land and can thus secure loan by mortgaging it."

Bringing to light the intention of promoters/developers in investing in disputed lands, R13 explains the following:

"One needs to observe closely what kind of properties promoters/developers are investing in and developing. Large number of promoters/developers invest in disputed lands. This is solely because disputed lands are cheaper in comparison to lands with no disputes. Now who is to be blamed? There exist so many such property disputes having arisen out of sales made on fraudulent grounds. Promoters/developers know that such disputed lands could lead to legal issues in courts of law. But, for promoters/developers, to invest and develop such disputed lands is a profitable venture, while on the other hand it is the home-buyers who are at a loss."

R14 having worked for the central government at various capacities in policy-making and implementations reveals the following.

"We do not have a conclusive property titling system in India. Title is derived by evidence from a number of evidentiary documents. The sale deed does not guarantee title. It only conclusively proves that you have paid tax on the transaction. The property khata extract only says that you are listed in the list of properties that are taxable by the corporation or the panchayath. There is no concept of title deed in India. In 2011, the Government of India and the Ministry

of Urban Development came out with what was called as 'platinum' – a draft model of guaranteed land titling. A framework law was prepared for guaranteed land titling. Where do you want to put guaranteed land titling into force and how to strategize the transition path? – These are the important questions that need to be thought over now to re-introduce investigation into guaranteed land titling. The fear among naysayers that the whole country will be immersed in property disputes if a conclusive property titling system is put in place is a false assertion. Inheritance laws are such that entitlement of inheritance can be easily ascertained through a mathematical formula. There exists a mathematical sequence of from whom to whom the title should pass.”

When probed on whether the existent situation is purely due to the lack of political will to clarify transactions associated with land, R14 responds in the following manner.

“No. Politicians alone cannot be blamed for this. There exists huge vested interest of judiciary, of politicians who do not understand this and also of the whole ecosystem that generates income out of uncertain land titles.”

Promoters/developers as R1,2 discuss a central sector scheme of Ministry of Panchayati Raj named SVAMITVA – Survey of Villages and Mapping with Improved Technology in Village Areas. The scheme aims towards establishment of clear ownership of property in rural inhabited ('abadi') areas, by mapping of land parcels using drone technology and providing 'record of rights' to village household owners with issuance of legal ownership cards (property cards). However, promoters/developers agree in general that the sector is plagued with poor land records and that digitisation of land records has been happening at a slow pace with no large coverage.

As far as the opinions of researchers (R5,6) that Registration Act, 1908 and the Indian Stamp Act, 1899 have done more wrong than any good, real estate sector-specific researchers as R12 explain the following:

“There exists no much merit in this. If a train derails, it is not because one has put tracks for it. Something as mandatory as biometric verification when gets by-passed, it reflects serious wrongs in the process of registration. The offices

of the sub-registrars are not taken to task for such intentional mishaps. I have heard a sub-registrar telling the following: "It is the khatha which is the main document which tells you that the property belongs to you." In reality, 'Deed of Declaration' and 'Sale Deed' are actually the two documents that reflect ownership of a property. Without the 'Deed of Declaration', there exists no foundation for the 'Sale Deed' held by individual apartment/flat owners. Deed of declaration is supposed to include within it a number of details like how many units of residence are present in an apartment complex, what is the area of each unit, how much is the common area etc. This deed of declaration is missing in almost 90% of the cases. Deed of declaration is mentioned in KAOA, 1972. KOFA, 1972 and KAOA, 1972 are to be read together. Without the deed of declaration, the individual units can never have a saleable title. There are three conditions to be met for an apartment to have a saleable title: 1) submission of the entire complex through a deed of declaration to the provisions of KAOA, 1972 2) sale deed and 3) khatha. But submission of the entire residential complex through a deed of declaration to the provisions of KAOA, 1972 is not practical. Why? Because if the document has to be modified, all the people having ownership need to come together (including the bank managers). This is not possible to be executed practically. Here the change has to be through consensus and not through majority. Now, none of this happens because there exists no deed of declaration in most cases with details of all apartments. This is precisely the underlying reason behind what facilitates builders in selling the same apartment to multiple home-buyers. This is where the non-compliance starts. The builders are the biggest crooks. In such a case, if the Registration Act, 1908 also did not exist, things would have been even messier!"

Moving on to officials (R16-R21) working at the Karnataka Real Estate Regulatory Authority (K-RERA), it was brought to light that gaining BBMP khatha is a major challenge. It is still not mechanised/made online in Bengaluru, while villages in the outskirts of Bengaluru have an online system. Clear sale deeds for properties are often not available. There exists a lack of awareness amongst home-buyers about the necessary documentation that comes with home-buying. There has been poor

implementation of existent laws related to property registration. Land disputes are high in the state of Karnataka. Land records have not been made completely online yet. The sub-registrars do not verify transactions associated with properties while registering them. Land disputes arise primarily due to documentation problems. There is an absence of khatha for revenue sites. Also, there exists poor due diligence by home-buyers. Often, plots under litigation are bought by home-buyers lured by low prices. Post the payment of booking amount, re-sale of property transfers the trouble of litigation from one home-buyer to another, keeping the home-buyers engaged in years of litigation. Existent land records in Karnataka are from the times of the British rule. Karnataka Land Revenue Act, 1964 is the governing act for land revenue administration. Primarily, there exist two types of land a) agricultural land, falling under the state revenue department and b) non-agricultural land, under the purview of municipalities. Under the RE(R&D)A, 2016, prima-facie verification is undertaken of land records uploaded by promoters/developers in applications for project registration. There is no detailed check of such documents. Thus, this could possibly lead to unavoidable disputes at later stages of project development. The revenue system at present is the one that has been in place since a long time. There are often issues with respect to old survey numbers and new survey numbers of properties, boundary demarcation etc.

5.4.1.2 Excessive regulatory and compliance requirements for real estate asset development

Real estate promoters/developers and the professionals working for/with them (R1, R2, R7 and R8) complain about the long timelines to secure approvals from government bodies and departments.

“Almost a year’ timeline is required for securing approvals. There exist too many windows. In Dubai, for example, it takes roughly 30% of the average time taken in India. Something must have been going right there, which is not the case with India!”

On the other hand, real estate sector activists (R12, 13) and retired government professionals (R14) are of the following opinion:

“There are exactly 7 permissions/NOCs to be secured (including conditional approvals). These 7 NOCs exist for a specific purpose. The fact here is that none of the 7 government departments vested with the responsibility of according approvals/NOCs have an operating checklist based on which applications need to be approved/rejected. Without a checklist, there is no requirement to be rational in granting approvals. Because there exists no checklist, there exists no clarity as to whether a particular real estate development can actually be carried out or not. These checklists must be in public domain so that the public can actually ascertain whether or not the projects they are invested in are such that they are fit to get all of the approvals/sanctions.

The builders are actually aware of the fact that there should not be any development carried out in a particular part of the city (like outskirts) because of certain restrictions (NGT etc.). But since they want to mint some money, they engage in it and thus end up constructing and selling apartments without any real provision of basic services. Government departments (local gram panchayath etc.) are party to such illegal developments. Therefore, sub-registrars, banks, gram panchayaths, municipalities and municipal corporations are all hand-in-gloves with promoters/developers in turning the real estate market disadvantageous to home-buyers.”

Real estate researchers (R5,6) concur on the present situation of excessive regulatory and compliance requirements for real estate asset development in Bengaluru. On the other hand, officials working for K-RERA (R16-R21) justify the number of permissions required to be secured for real estate developments, while also agreeing with the need to simplify the whole process.

“Securing of many permissions is required, else promoters/developers will be let loose, which would eventually act to the detriment of home-buyers. Reasonable number of permissions are required to be obtained. More importantly, none of the permissions are redundant in nature. In the strictest sense of the word, approvals/permissions are majorly for two aspects i) building development and ii) fire safety. Rest of the approvals/permissions are primarily

to secure services as water, sewage disposal, electricity etc. Indeed, the process is cumbersome, but very much required as well. Different departments specialise in their tasks. All experts cannot be housed in one department. Our system in itself is based upon individual expertise of each department.”

Some of the officials responded positively to the single window approval system, as below:

“It is important to first get all the departments associated with granting approvals/permissions to real estate developments under one single large umbrella, post which the whole system could be made online. For example, land conversion, at present, has got a single window approval system in place. The success of this system can be replicated in all aspects of real estate asset development.

Introduction of single window approval system would still require significant amount of time to pass. At present, for land use conversion, there exists a completely online system with one single application directed to multiple departments involved in the process of land use conversion. If no decision is taken on such an application within specified time period as prescribed under the 'sakala' scheme, there shall be grant of 'deemed' conversion. Likewise, a similar system should be put in place for all kinds of approvals/sanction related to real estate asset development. A number of states have developed single window approval systems for real estate projects. It is of pertinence to bring together different planning authorities under one single roof, from wherein there should be a flow of information to RERA. NOC securing should be made completely online, without any physical contact. Also, first and foremost, approvals for building plans need to be provided before any other NOC is granted. Getting town planning authorities and revenue departments under one single roof could greatly ease the process of providing approvals and sanctions. Single window approval system is practically a little difficult to execute. It is not impossible, but comes with a cost to the public exchequer.”

Some activists (R13, R14) hold the home-buyers accountable for their lackadaisical approach towards home-buying.

“When home-buyers are told that requisite project approvals are taken, in spite of promoters/developers not having taken them, the home-buyers easily believe such promoters/developers without asking for any document to be furnished. This is the case with all categories of home-buyers, including the ones who go for premium, luxury and super-luxury housing. In spite of having adequate resources in hand to get all property checks done, if the same is not being undertaken by such classes of home-buyers, to be expecting due-diligence from low and middle income group home-buyers is futile.”

5.4.1.3 Absence of competitiveness in regulatory environment

‘Regulatory competition’ refers to competition amongst lawmakers to bring in changes and adaptations in law to improve business environment.

Real estate promoters/developers (R1, R2 and R4) are of the opinion that there is a lot of stagnancy in regulatory environment. Too many levels of governance (panchayat level, municipality level etc.) is identified to be a hassle. Real estate researchers (R5, R6) put forth that specifically with respect to real estate consumer framework, there has been an absence of competitiveness in regulatory environment and that the requirements of consumers of real estate assets have failed to find meaningful interventions in the existing framework of law.

The adjudicating officer under K-RERA (R21) explains the following:

“Absence of competitiveness in regulatory environment is a reality for the real estate sector in Karnataka. For example, execution of recovery orders under the RE(R&D)A, 2016 has largely suffered from a lack of competitiveness in regulatory system. The present system of order execution requiring reliance on the District Collector (DC) has largely been ineffective. Provisions under law for execution powers vested with RERA and physical infrastructure for execution of law by RERA should be made available/facilitated. Further,

reliance on temporary staff at RERA should be done away with through appointment of greater number of permanent staff.”

In contrast, one of the officials working at K-RERA (R16-R21) pointed towards execution of law taking precedence over the framework and interpretation of law as below:

“‘License raj’ of earlier years has now given way to ‘Inspector raj’. Therefore, of more significance is the execution of law, along with the people vested with the powers to execute laws. Primary issue here is with respect to execution of laws, and not particularly the laws themselves.”

Other officials (R16 and R18) working at K-RERA were of the opinion that the fact that we have had 105 constitutional amendments in the 76 years of independence, which is one of the highest in the world, reflects that changes are being introduced. The huge geographical area of India affects competitiveness in regulatory environment to an extent. As far as the RE(R&D)A, 2016 is concerned, the law is understood to be new and still finding its roots. Timely amendments are required to be brought in. However, when all the sections of the existing law in itself have not been enforced to their full strength at present, bringing-in of amendments is agreed to take some time.

5.4.2 Execution of Law

Under execution of law, discussions were centred around a) corruption by bureaucrats/government officials b) absence of single window approval system for projects and c) presence of bureaucratic red-tapism

5.4.2.1 Corruption by bureaucrats/government officials

Real estate promoters/developers (R1, R2, R4, R7 and R8) talk about corruption being specifically prominent in the state of Karnataka. Promoters/developers categorically put forth that extremely high charges are being paid by them to bureaucrats/government officials to get their files cleared. Speed money is claimed to be charged at a certain Rs/sft and that even after pay-out issues still persist. Additionally, they cite the ‘schedule of rates’ handbook released by public works department (PWD) as an

example to prove inflation in rates (inclusive of speed money and grease payments) for many building materials and works.

Real estate sector researchers (R5 and R6) point towards 'land' being a state subject in India and thereby being highly prone to corruption. One of the researchers (R12) points towards massive scale of violations at the sub-registrar offices to cater to mafias and fly-by night operators in the real estate sector. Researcher R13 rightfully pointing towards 'discretionary powers' in according approvals, states the following:

“‘Discretionary power’ comes to play here. If every document required for any type of project registration or approval/sanction is provided, for how long can delays be caused by government authorities? There exists ‘sakala’ right now. Within 30 days, government offices are supposed to respond to all applications. If the applications are not cleared within the specified time period of 30 days, there exists a system of appeal as well. When a promoter/developer purchases land and starts constructing a building upon it without taking approvals, it is very easy for government authorities and departments to come across the same and ensure no further construction takes place. However, because of the role of speed money and grease payments, unauthorised buildings get constructed and occupied. Corruption exists because there is someone paying up because of having played foul!”

Ex-bureaucrats (R14) having occupied government offices, point towards a range of issues as brought out below:

“Promoters/developers benefit from corruption by bureaucrats/government officials. There are about 20-22 touch points from the point that a promoter/developer identifies a piece of land to when occupancy certificate is secured. In each of these touch points if there were no corruption, the prices of flats would come down by about 20% (a ballpark figure). People fall prey to bribes in spite of computerization. Why? Because of rampant ignorance and passive-aggressive nature of home-buyers. Additionally, promoters/developers’ agents pick up money and collect them in the way of consultation charges. People pay up because they do not want any trouble, even though there are very

good people in the registration department who have actually created systems by which you can go there and get your property registered without paying any bribe. Things have slowly improved with the 'kaveri' software over a period of time. But in spite of the existence of these systems, people still pay bribes. We are habituated to paying bribes and believe that some adverse consequence will hit us if we do not pay up."

On the other hand, those working for consumer interest groups (R15) shed light on the duties and liabilities of promoters/developers:

"Promoters/developers had signed up for this prior to getting into real estate business. It is a part and parcel of life in India! In such a case, it must have been sheer lack of prudence on the part of promoters/developers to get into a business that they cannot effectively manage. Eventually it is the home-buyers who are at the receiving end of things! Why can't promoters/developers include the extended timeline required for obtaining approvals in the very project development timeline stated before RERA. Additionally, if some promoter/developer is paying up, it is important to acknowledge that the promoter/developer is doing so only because he is on the wrong side of the law. As simple as that!"

Bureaucrats working for K-RERA refused to comment on the presence of corruption in government offices.

5.4.2.2 Absence of single window approval system for projects

Real estate promoters/developers (R1, R2 and R7) opine that approvals/NOCs for real estate development are required to be secured from a number of departments and that there exists sheer lack of political will to bring all these departments under one single window. Real estate sector-specific researchers concur with promoters/developers and put forth that there exist too many departments dealing with real estate development and that there exists a lack of expertise in all these departments. Additionally, the lack of interaction between different departments further deteriorates the situation, leading to a crying need for coordinated efforts.

Real estate activists as R13 differ from the viewpoints of real estate promoters/developers and researchers as follows:

“Securing project approvals is not cumbersome right now. There are mere 7 authorities whose approval needs to be taken. For any application made, within 3 months you would either get the grant of approval or objection. This is not at all an issue. All applications fall under ‘sakala’.

As far as one single authority to deal with all the 7 authorities is concerned, one authority is not empowered or competent enough to look into all affairs. In 1995, a single window approval system was created in Karnataka. However, complications in providing approvals had only increased back then. These approvals/sanctions are subject matters of specific departments; therefore, the single window authority would have to eventually send the application to concerned government board/department. So, in what way would setting up of a single window approval system really help?”

Likewise, ex-bureaucrats (R14) dismiss single window approval system as the root of all problems associated with real estate development in Karnataka.

“I am a little afraid of single window because look at the number of violations that happen. I would imagine about 60-70% of properties in Bengaluru (conservatively) to be violating all set back rules. The next question therefore is whether the setback rules are themselves outdated. That is something that needs to be checked. I can imagine ‘Avenue Road’ to be congested because it was built back in time. But, why do you have to build places like that on the periphery of Bengaluru? If you go to all revenue layouts in Bengaluru, there is no lung space, no parks, nothing at all. People build right up to the wall! This being the case, the government should just consult the people of India and check if they really want such a low quality of life. If yes, then the setback requirements should be relaxed. So, if you are asking for a single window approval system before improving enforcement and vigilance network and before even rationalising the setback system, what is even the point of having such a system in place? Single

window can itself become corrupt as well! Therefore, in my opinion, single window approval system is an extremely simplistic way of looking at things.”

Lastly, government officials and bureaucrats working at K-RERA raise a number of pertinent questions relating to single window approval system:

“Single window approval system comes with practical hurdles as far as execution is concerned. Would it house officials of all different departments under one single roof? Or would it have specialised officers within it dealing with different government bodies/departments? How would these officials coordinate with different departments, when ultimately it is these independent government bodies/departments taking decisions? Also, would not there be a lack of expertise in such a single window approval system?”

5.4.2.3 Presence of bureaucratic red-tapism

Promoters/developers (R1, R2, R3, R4, R7 and R8) dwell upon the issue of bureaucratic red-tapism in the residential real estate sector of Bengaluru. However, real estate researchers (R13) take a more pragmatic stance and put forth that if a promoter/developer is not pushing for exercise of ‘discretionary powers’ by bureaucrats and government officials, then bureaucratic red-tapism is a matter to be challenged in courts of law as no one is stopped from filing a writ of mandamus seeking timely approvals.

Government officials and bureaucrats working at K-RERA (R16-R21) agree that the presence of bureaucratic red-tapism is an issue in the Indian context. However, they believe that the suggestion to do away with regulation in its entirety is nothing but lobbying by real estate promoters/developers. Importantly, they also suggest that the issue can be solved to a great extent by disconnecting the link between functionaries and beneficiaries in the process of real estate asset development. The physical contact between bureaucrats and promoters/developers needs to be broken. Efficient usage of information technology (IT) systems can be the very first step in this direction. Additionally, they point towards sheer shortage of workers at K-RERA. Sanctioned number of workers are claimed to have not been recruited. There are backlogs in recruitment. To add on to this, the process of recruitment in itself is agreed upon to be

time-taking. Similar situation exists as far as ‘sakala’ and ‘RTI’ are concerned. Lastly, excessive paperwork in many of the departments is identified to be hampering efficient functioning of these departments. However, some bureaucrats justify the same by stating that large amounts of paper work are required to accord approvals to real estate projects. Financial literacy in India stands at a mere 27%. In such a situation, paper work and bureaucratic procedures are held to be of contextual significance.

5.4.3 Policy Interventions

Under policy interventions, discussions were centred around a) high statutory taxes, levies and charges upon real estate transactions b) instability of building material prices and c) lack of incentive schemes for adoption of sustainable, low cost materials and technologies in construction.

5.4.3.1 High statutory taxes, levies and charges upon real estate transactions

Real estate promoters/developers (R1, R2, R4 and R7) state that statutory taxes, levies and charges upon real estate transactions are indeed high. They refer to the instance of lowering of property stamp duty and registration charge by governments during COVID-19 as an example to demonstrate how such tweaks can help revive real estate demand. However, there is also a sense of agreement to the fact that high taxation is a necessity/requirement to provide good infrastructure, which could in turn facilitate the growth of the residential real estate market. Also, considering the size of the population of India, it is understood that maintenance of such high levels of taxation is perhaps a necessity. Certain incentives and rate cuts are provided by governments to stimulate demand during a lull. Other than that, the same is not often implemented by governments, as charges upon real estate transactions account for a huge share of government revenue.

Real estate sector-specific researchers (R5, R6) also opine that taxes, levies and charges upon real estate transactions make up for a huge source of income to governments. However, they point towards the segment of affordable housing and state that there has been significant lowering of taxation in it to promote growth. Having said this, the researchers agree that, in general, there needs to be lowering of statutory taxes, levies and charges upon real estate transactions. This, however, is not supposed to be generic

lowering, rather it needs to be specific in nature, catering to particular segments. They also suggest that instead of lowering statutory taxes, levies and charges, the same 'offsetting of expenses' could also be brought about by lowering the costs associated with delays in approvals and sanctions by urban local bodies.

In contrast, some of the researchers (R13) reflect on the ineffectiveness of measures like lowering of stamp duty and registration charges by citing the following pertinent reasons:

“How would these taxes and levies and their rise/fall even affect promoters/developers? These fluctuations do not really affect the demand for housing, as claimed otherwise by promoters/developers. Home-buyers would anyway invest in housing when they have made up their minds. Suppose the taxation is brought down to 0%, would housing demand increase largely because of that? Of course not! Home-buyers buy because they want housing and have the requisite money for the same, and not because stamp duty and registration charge are low.

Lowering of stamp duty and registration charge during COVID-19 was largely to reduce burden on home-buyers. It was not meant to stimulate demand. As simple as that. As mentioned earlier, suppose taxation is brought down to 0%, would promoters/developers let home-buyers enjoy that cut? Of course not! Housing prices would still remain the same, with promoters/developers taking a greater share of profits. For example, if the sale price quoted in the agreement for sale is inclusive of taxation and following that if there is reduction in taxation, then the sale price would still remain the same. It is just that the promoter/developer would now get a greater share of profit. So, essentially promoters/developers are looking for extra profits when they demand for reduction of taxes, levies and charges upon real estate transactions. Homebuyers stand to gain no benefit from all of this.

More importantly, lowering of taxes does not push people to buy. Instead, i) having money in hand and ii) the desire for a residential asset for oneself are what make people buy properties.”

Additionally, the intent behind promoters/developers' lobbying for lowering of taxation for real estate transactions is brought to light as below:

“Promoters/developers want the apartments in under-construction properties to get registered. So, lowered taxes and charges are a bait to get home-buyers to register their sale deeds by paying up the entire consideration amount at the earliest for under-construction properties. Promoters/developers want to just encash faster money. As simple as that! Often times, tactics as this make many home-buyers buy under-construction properties and pay 100% of sale price and get the sale deed executed, resulting in there being absolutely no incentive for promoters/developers to complete projects.”

Likewise, ex-bureaucrats as R14, agree with real estate researchers on the ineffectiveness of measures as lowering statutory taxes, levies and charges upon real estate transactions.

“Real estate transactions are not taxed enough. They just seem to be high simply because of high corruption levels. If all of corruption was reduced and consequently the time-frame of construction projects was reduced, people would not mind paying that much of tax. Everybody would benefit from the same. The only people who would not benefit are the ones who are a part of the corrupt ecosystem! Property tax is hardly mopping up any revenue for the governments. You are paying a pittance! In fact, property tax is a regressive tax. The richer you are, the lesser you pay per sft.”

Along similar lines, government officials and bureaucrats working at K-RERA (R16-R21) state that taxes and charges on real estate transactions are a source of revenue for governments to be eventually spending upon basic infrastructure like roads, electricity, sanitation etc. Taxation at present levels is deemed reasonable and necessary to run the economy.

5.4.3.2 Instability of building material prices

Real estate promoters/developers (R1, R2, R3 and R4) state that a) steel b) cement and c) fuel are the three major drivers of costs for real estate projects. Fluctuations in these

materials has a domino effect on the finances of real estate projects. The international market for steel, copper and crude has a huge role to play in such fluctuations of material prices. The rates are so volatile that they change every day, affecting energy-intensive sectors as the real estate sector.

Real estate researchers (R5 and R6) believe that fluctuation in building material prices is an issue primarily because of the regulated market of India. Buying and selling in open market is believed to help lower the costs of building materials. On the other hand, government officials and bureaucrats working at K-RERA (R16-R21) opine that restrictions on building material prices is not reasonable as the play of demand and supply is hard to regulate in any country and that appreciation of building material prices is positive to any economy in the long run. Additionally, R18 shares that the rates of building materials at any point of time are a result of a number of factors like changes in costs of crude oil, labour, transportation etc. To add on to this, frequent changes in taxation of different building materials under the Goods and Services Tax (GST) affects the feasibility of housing projects. Therefore, there is an agreement to the fact that building material prices are largely subject to market conditions. Such fluctuations in input prices exist for all trades, with the building construction industry being no exception. To add on to this, the risk of entrepreneurship is understood to be inevitable in any industry/sector. Having said this, there is an agreement of perceptions as far as curbing of illegal hoarding of building materials is concerned as such hoardings alter demand-supply relationship in markets, leading to abnormal rise in price of building materials and eventually affecting the very affordability of housing.

5.4.3.3 Lack of incentive schemes for adoption of sustainable, low cost materials and technologies in construction

Researchers in the real estate sector (R5 and R6) point towards the lack of R&D in real estate sector and construction industry as below:

“There is a sheer lack of R&D in real estate sector and construction industry. We have mostly had 'peripheral start-ups', for example, start-ups dealing with waste water treatment, rain water harvesting etc. The fundamental issue here is about start-ups dealing with wants, rather than needs! Another aspect of

concern here is with respect to 'mass housing vs sustainable construction'. High rise-high density housing demands high strength and consequent reliance on high cost materials."

Promoters/developers (R1, R2 and R4) elaborate that something as basic as formwork used in the construction industry and the real estate sector, if improved with technological interventions, can greatly enhance the efficiency of the industry/sector. Earlier, buildings with LEED or GRIHA certification had some benefits accruable to promoters/developers. However, there exist no such incentives to promoters/developers at present to adopt green building materials and technologies.

Government officials and bureaucrats working at K-RERA (R16-R21) concur on the need for more research in this direction. Additionally, they state the following regarding subsidies for residential real estate sector:

"Subsidies exist at present for residential real estate sector, especially for building materials like bamboo, mud blocks, aerated blocks etc. However, more push is needed like how it has been for the electric vehicle segment. For stalled real estate projects, there is a provision of availing funds under the 'Special Window for Completion of Construction of Affordable and Mid-Income Housing (SWAMIH)'. It is also of importance to understand that not every kind of real estate development or promoter/developer can be incentivised through this scheme.

Likewise, slum boards are building a number of low-cost housing projects. A push towards sustainable, low cost materials and technologies is required. However, it is important to not compromise on the quality of real estate developments in the process."

5.5 Document Analysis and Discussion

In addition to the analysis of various sector-specific statutes, regulations and rules, document analysis of various government reports, policy papers, sector/industry reports, judgements of judicial and quasi-judicial bodies, and miscellaneous documents

accessed from activists working within the residential real estate sector of Bengaluru was undertaken.

5.5.1 Government Reports, Policy Papers and Sector/Industry Reports

In the Discussion on the motion for consideration of the Real Estate (Regulation and Development) Bill - 2016, 2016, it was identified that the law of torts in India being very weak in comparison to other western countries acts to the detriment of consumers of residential real estate assets. Additionally, delays in disbursement of justice by courts and regulatory forums were brought to light. In a written reply to the questions raised in the parliament of India, the total number of pending cases before various courts in the country was pegged at 4,87,99,450 as on 16th March, 2023 (Government of India, 2023). The total number of pending cases in the state of Karnataka as of 2nd August 2023 was 20,90,473 (National Informatics Centre, 2023).

In the thirtieth report on the Real Estate (Regulation and Development) Bill, 2013 , discussions pertaining to the Consumer Protection Act, 1986 brought to light the fact that consumer forums are available to buyers in real estate market. However, the recourse being only curative, the Act ends up being inadequate to address all the concerns of home-buyers (Ministry of Housing and Urban Poverty Alleviation, 2014).

In the twenty-first report on the rules/regulations framed under the Real Estate (Regulation and Development) Act - 2016, the persistent situation of delays in framing of rules under the statute have been highlighted. Dilution of rules by various states and union territories has been brought to light. Further, the need for awareness programmes for home-buyers has been assigned importance to usher in consumer-empowered residential real estate asset demand (Committee on Subordinate Legislation (2016-17), 2017).

In a report on the Indian real estate sector by one of the leading promoter/developer groups in India, dilution of the RE(R&D)A, 2016 blurring the vision and intent of the Act was brought to light. Owing to 'land' being a state subject, the Act when enacted granted powers to state governments to draft rules for carrying out the provisions of the Act. However, the law has been identified to have not been implemented in its true spirit in many states, keeping loopholes for developers to slip out. A number of tweaks

have been adopted by various state governments. For example, ongoing projects have been excluded from the ambit of RE(R&D)A, 2016 in a few states. Additionally, trimming of penalty has been brought about for compounding offences, along with tweaking of escrow account rules to act to the aid of promoters/developers. On the other hand, reduced funding by banks to promoters/developers has led to over-dependency on Non-Banking Financial Companies (NBFCs)/Housing Finance Companies (HFCs). Infrastructure Leasing & Financial Services Limited' (IL&FS) crisis and its rippling effect led to the Reserve Bank of India (RBI) dictating NBFCs to lower their exposure to the real estate sector which further dried up funding for the sector. Importantly, residential projects have been identified to not interest private equity players owing to delays in projects, lower margins and defaults in pay-outs (Anarock, 2019).

CREDAI had brought to the notice of legislators the issues pertaining to delayed government approvals and sanctions. During the discussions on the Real Estate (Regulation and Development) Bill, an appeal was made through the parliament to all state governments and urban local bodies to be proactive in according approvals. 'Perform' and 'Reform' were proposed to go hand-in-hand. However, slow pace of approvals and sanctions continue to bottleneck the real estate sector even to this day (Government of India, 2016; Gandhi et al., 2021).

Praja Foundation (2015) in its 'Handbook on Urban Laws and Policies that Impact Housing', attributed shortage of housing to the absence of intrusive housing policies in India. Firstly, the caste system in India is identified to be very much alive and flourishing. The hierarchies of birth are argued to have now been replaced by the hierarchies of wealth. These encourage segregation by class into gated communities of the well-off and ghettos of the poor or of minorities. Localities are identified to be increasingly segregated by religion. In contrast, it was argued that in a country as Singapore, 'intrusive' housing policies have led to 85% of the population living in public housing estates, where maximum proportions are set for different ethnic groups. Additionally, for the acuteness of housing shortage in the Indian context, it was believed that there is a lack of grasp of the pioneering role that transport systems can play in opening up new land for development. For example, in Mumbai, the Thane Creek road bridge in the 1970s opened up the possibility of Navi Mumbai, and the railway bridge

that followed greatly expanded that capacity. But post that, it is asserted that there has been no major opening up of land, either in the same direction or in other directions. Opening up of access to new lands is argued to have a crucial role in effectively addressing housing issues. Enlargement of land area that can be reached by rapid transit is identified as the single most important contribution necessary to address housing problems in India.

Further, the powerful driving force that decides not only what is to be built, but also what policies should be in place in regard to housing and urban development - the promoters/developers' lobby - has been identified to be spurring (or diluting, as the need may be) virtually every single policy that affects housing or the way cities develop. The greed for extortionate profits is claimed to have further dashed the hopes of owning a shelter by home-buyers and consumers.

5.5.2 Judgements of Courts of Law

Various case laws in connection with the issues faced by the stakeholders of residential real estate sector in India have been discussed in this section.

5.5.2.1 Bikram Chatterjee vs Union of India

In *Bikram Chatterji v Union of India & Ors* (2019), the writ petitions pertained to the projects of various companies of Amrapali Group in Noida and Greater Noida. In this case, it was held that for real estate business to survive in India, it has to be answerable to the public and has necessarily to uphold the trust reposed in promoters/developers. It is a matter relating to housing needs and such an activity is of public importance owing to the real estate sector playing a pivotal role in fulfilment of needs of housing infrastructure.

It was argued that real estate business had developed and survived mainly on the money invested by home-buyers. A large number of projects in Noida and Greater Noida had not been completed by promoters/developers owing to large scale siphoning of home-buyers' money. The Amrapali Group had admitted that in its six projects, there was transfer/diversion of money amounting to Rs.2765 crores. In the forensic audit, it was identified that home-buyers' money was diverted to 23 groups of companies created by

the Amrapali group of companies. The promoters had created a web of more than 150 companies for routing of funds and creation of assets. The directors and shareholders of these companies were 'benami' and were in fact the trusted junior employees of promoters/developers. The funds were transferred from one company to another and to third and to fourth and so on, thereby absolutely confusing any person trying to find the real trail of money, since there were more than 100 companies through which these funds had been routed over a period of time. There was jugglery of accounting transactions, in connivance with the Chief Financial Officer (CFO) and statutory auditors, where sales had been shown by way of part completion method and the relevant cost was also debited to that part completed sale by changing the accounting method which was being followed by the Amrapali group of companies in the earlier years. Thus, the company had been regularly taking cash from various home buyers but not recording those cash entries in the books of accounts. Additionally, certain companies were created merely for the purpose of purchasing raw materials. The group floated several companies through its directors, staff and trusted partners to solely divert home-buyers' funds.

The role of banks and financial institutions was thrown light upon in the forensic audit and it was found that they had financed the promoter/developer certain loans on the condition that the disbursed money would be invested in real estate projects, however, they had also permitted the money to be used for other purposes. The whole process of transfer of funds from one company to another company to a third company and so on and so forth on the same dates would not have been possible without the active support of the bankers. The bankers had turned a blind eye to multiple transfers of funds from one account to another.

Home buyers were cheated by making of false promises/claims. The promoters/developers indulged in a range of illegal activities. For example, selling of flats which were not even a part of the master plan of the projects or unapproved in the master plan, double booking of the same flat in the names of different customers, diversion of funds to other companies/directors through payment of professional fees, booking of bogus bills of Rs.837 crores, selling flats at undervalued prices in books of accounts and receiving differential market value in cash, paying commission and brokerage on bogus

booking of flats and granting of inter-corporate deposits of Rs.3000 crores to related entities and Rs.500 crores to unrelated entities/trusted partners for ultimately diverting funds to unapproved uses.

The group treated money received from home buyers as its own capital and used this money for investing in exclusively personal purposes. The group had made false promises to lure the public to invest in its projects, purposefully delayed construction, cheated homebuyers over their rightful title of flats, trapped homebuyers in rental returns, sold flats at exorbitantly low prices and recovered market price in cash from home-buyers, among other unfair means. Similarly, it collaborated with several other third parties and invested in other projects and built a cycle of returns.

Summarily, homebuyers' funds were diverted to the extent of Rs.5619.47 crores to other companies/directors as below:

- (i) through payment of professional fee to directors - Rs.100.53 crore;
- (ii) by way of booking of bogus bills including commission - Rs.842.42 crore;
- (iii) by sale of flats at undervalued prices in books of accounts and receiving differential market value in cash - Rs.321.21 crore;
- (iv) by way of granting inter corporate deposits to related entities and unrelated entities/trusted partners for ultimately diverting funds to unapproved uses.

5.5.2.2 Imperia Structures Ltd. vs Anil Patni

In *M/s Imperia Structures Ltd. v Anil Patni* (2020), it was brought to light that the agreement for sale forwarded by promoter/developer was a fixed set of papers, which was asked to be signed by home-buyers and no modification was entertained by promoters/developers. Requests for modification of one sided clauses in agreement for sale were rejected by promoters/developers and any further persistence from home-buyers often resulted in cancellation of allotment and forfeiture of earnest money. It is pertinent to note in this case that the promoter/developer had not filed any substantial evidence to support his contention that delay in delivery of assets had occurred due to force majeure events. Many a times, demonetization, unavailability of contractual

labour, delay in approvals and sanctions had been wrongly considered and conveyed as force majeure events.

An important point raised in the case was that merely because the registration of the project under the RE(R&D)A, 2016 was valid till 31-12-2020, it did not defer the entitlement of a certain section of allottees to maintain an action. The reason for the same being that for the purposes of section 18 of RE(R&D)A, 2016, project period had to be reckoned in terms of the agreement for sale and not in terms of the date of registration of the project with the RERA. Thus, consideration of entitlement of the complainants was adjudged to rightfully happen in light of the terms of the agreement for sale.

5.5.2.3 Manish Kumar vs Union of India

In *Manish Kumar v Union of India & Anr* (2021), the plight of home buyers as persons investing their life time savings in pursuit of residential real estate assets and thereby holding a weaker position in comparison to promoters/developers was reflected on. The lack of a platform for exchange and availability of information pertaining to fellow allottees was brought to light here. Allottees were rightfully identified as being spread all over the world. It was argued that “there is an information asymmetry. There is no published data available of the status of allotted units. No builder shares this information. It is impossible for the buyers to obtain this information.” As a result, the coming together of home-buyers to form an association/society/federation of allottees was identified to remain at the mercy of promoters/developers.

5.5.2.4 Neelkamal Realtors

In *Neelkamal Realtors Suburban Pvt. Ltd. & Anr v Union of India & Ors* (2018), the constitutional validity of the RE(R&D)A, 2016 was probed. It was held that some regulation of vital industries was required, instead of mere self-regulation by market forces. Regulatory measures were felt necessary to promote basic well-being of individuals in need. It was held that sizable section of allottees in real estate projects invest their hard earned money, life savings, borrowed money, money obtained through loan from various financial institutions with a hope that sooner or later they would get the possession of their apartment/flat/unit. However, huge sums of money collected

from allottees were identified to have not been fully utilized for the projects or the amounts collected from the allottees were diverted to other sectors than the concerned projects.

The biggest fallouts affecting the sector were identified as a) delays in project completion b) diversion of funds collected from home-buyers c) one-sided contracts due to power asymmetry d) renegeing on contractual commitments by both promoters/developers and home-buyers and e) constraints in financing and investment options available to the sector, thereby affecting its long-term growth.

5.5.3 Miscellaneous Documents

5.5.3.1 Submission of Properties to Provisions of Karnataka Apartment Ownership Act

Prior to allowing for booking in any real estate project, a promoter/developer is bound to prepare and register the following documents to satisfy KAOA, 1972 and KOFA, 1972:

1. A registered Deed (often called the 'Deed of Declaration' or DoD).
2. Association's By-laws
3. Association's Code of Conduct
4. Deed of Apartment for all apartments

These documents need to be mandatorily registered with the sub-registrar, under the Registration Act, 1908 in Karnataka. However, this significant step is not adhered to by promoters/developers. As a result, apartments fail to acquire a saleable title. In other words, a developer cannot sell such apartments to the public. If a property is not submitted to the provisions of KAOA, 1972, home-buyers can merely buy a certain share in the property (akin to buying shares of a company), but cannot claim ownership of an apartment in the property. Ownership of a percentage share in the property differs from the ownership of a specific apartment. Only the whole property can be sold as a single unit. It is not legal to buy or sell any apartment separately. As a result, buying or selling of individual apartments by promoters/developers is a void contract which cannot be enforced in the courts of law (Aras, 2021).

5.5.3.2 Role of Owners' Association

According to the RE(R&D)A, 2016, the association of allottees must be mandatorily formed within 3 months of the day when the booking exceeds 50% of the apartments being sold in a project. Initially, the association of allottees is not a registered body. As per the definition laid out in KAOA,1972 'association of apartment owners' refers to all of the apartment owners acting as a group in accordance with the by-laws and the deed of declaration. Owing to the presence these two documents, the association of apartment owners is a legal entity of 'association of persons' ('AOP') type. As a result, when one purchases an apartment, one automatically becomes a member of the 'association' and there exists no need for a separate registration process. Formation of an association of allottees needs to followed up by holding of elections and forming a management committee (MC), so that the MC can start monitoring the project even while the building is in early stages of construction. It is of pertinence to bring to light the fact that, given the legal lacunae, it is impossible to form a registered body of home-buyers under any available Act in India as of date (Aras, 2021).

5.5.3.3 Owning of Apartments

As far as ownership of apartments is concerned, when a customer books an apartment, he makes a down-payment (typically 20% of the apartment's sale price) and also enters into registered sale agreement and construction agreement with the promoter/developer. These documents are legal contracts, in which the promoter/developer promises to develop and transfer the apartments and the amenities to home-buyers, for the consideration mentioned in the payment schedule. Post this, home-buyers make staged payments to promoters/developers to aid the ongoing process of construction. Additionally, home-buyers often indulge in alterations and customisations of apartments to suit their preferences. In such a backdrop, it can be understood that the ownership explicitly passes to the customers. Therefore, till the handover of apartments, promoters/developers own the apartments in a property, but the apartments are 'encumbered'. As a result, is it pertinent to note that from the day the booking opens, promoters/developers' ownership starts diluting, one apartment at a time (Aras, 2021).

5.5.3.4 B- Khatha

In 2007, seven city municipal councils (CMCs), one town municipal council (TMC) and 111 villages were merged with the Bangalore Municipal Corporation (BMP) to form the Bruhat Bengaluru Mahanagara Palike (BBMP). Legally, the by-laws which were applicable within the core city were not required to have been followed in the new areas brought within the limits of BBMP. As a result, the legal status of the properties in those newly merged areas was required to be independently assessed prior to collection of property tax. In such a situation, the cash-strapped BBMP resorted to opening a B-register to document all properties in the newly designated areas falling within BBMP limits, including the illegal ones. Following this, a tax-declaration form (called as 'Form IV') was devised, allowing owners to declare their properties, based on which the amount of tax leviable would be adjudged by the BBMP. However, of importance here is the fact that in the said form BBMP declares to not accept the claim of the person paying the tax over the property, nor does it accept that the property meets legal requirements. Thus, the 'B-register' of BBMP paved way for the 'B-khata' extracts in exchange for hefty bribes. Additionally, it is important to understand that the B-khata system allows multiple people to file 'Form IV' for the same property (Aras, 2021).

5.5.3.5 Legal troubles with Sewage Treatment Plants (STPs)

As far as STPs re concerned, the Karnataka State Pollution Control Board (KSPCB) claims to merely test the treated sewage to check if it meets the standards of approval. The ascertainment of adherence to design and operational requirements prior to take-over of STP is deemed to rest with the association of allottees. This violates clause 7.1(f) of Water Act, 1974, which clearly specifies that inspection of STPs is a function of KSPCB. Additionally, it is important to understand that promoters/developers often palm off dysfunctional STPs to association of allottees. The reason for the same being that in the initial phases of occupancy of apartments, testing of STPs happens at partial load. As a result, when the number of occupants swells at a later point of time, STPs often encounter problems in their functioning. Perplexingly, the STP-approval process is completely disconnected from other approvals and sanctions. BBMP by-laws do not require an NOC from KSPCB in order to grant building license and commencement

certificate. This lack of coordination between KSPCB and BBMP produces a strange result i.e. even if an apartment has an occupancy certificate, its STP may not be approved (Aras, 2021).

5.6 Chapter Summary

Factors emanating from the framework of law, execution of law and policy interventions, and contributing to deficient delivery of residential real estate assets in India were subjected to various kinds of statistical analyses. Key factors bottlenecking the delivery of assets in the housing market were ascertained. T-tests - one sample T-test and independent sample T-test - along with Spearman' rank order correlation analysis were conducted. Factor analysis of the factors under the framework of law yielded two components, namely, *lacunae in regulatory prescription* (component 1) and *deficiencies in legal and regulatory framework* (component 2). Under the execution of law, the components from factor analysis were *vested interests of individual stakeholders* (component 1), *inconsistencies in execution of law* (component 2), *inadequacies in preventive and curative dispute resolution mechanisms* (component 3), *inefficiencies in execution of law* (component 4), *lack of ease of access to information* (component 5), *lackadaisical approach towards adherence to project duration* (component 6) and *procedural hurdles to efficient litigation system* (component 7). As far as policy interventions are concerned, six components were arrived at from factor analysis, namely, *poor housing policy design and implementation* (component 1), *inefficiency in economic policy design and levels of governance* (component 2), *poor accessibility to finance* (component 3), *poor research and development* (component 4), *non-optimisation of material and manpower input* (component 5) and *stagnant development control regulations* (component 6). Across various categories of factors i.e. framework of law, execution of law and policy interventions, a broad sense of consensus could be observed between real estate promoters/developers and the professionals working for/with them (namely, lawyers/advocates, chartered accountants, project managers/cost managers and architects). Owing to their operations from and exposure to specifically the delivery side of real estate market, agreement of perceptions in interviews and document analysis was understood to be a natural outcome. On the other hand, significant difference in perceptions of real estate

regulatory authority and legislators with that of real estate promoters/developers and the professionals working for/with them corroborates the operations of said stakeholders within different spheres of Indian real estate market. The varied intentions and objectives of the associated parties, though operating within the same market i.e. real estate, comes to the fore here. Drawing from this learning, an improvement framework for the delivery-side of real estate market has been developed with four broad categorisation of stakeholders i.e. promoters/developers (along with the professionals working for/with them), regulatory authorities, urban local bodies/parastatals and government, as in Chapter 10.

CHAPTER 6

DETERMINANT FACTORS OF CONSUMER-CENTRIC RESIDENTIAL REAL ESTATE ASSET DELIVERY & CONSUMER-EMPOWERED RESIDENTIAL REAL ESTATE ASSET DEMAND

This chapter assesses the determinant factors of consumer-centric residential real estate asset delivery and consumer-empowered residential real estate asset demand in India. Firstly, reliability of the survey instrument was assessed using the Cronbach alpha test as tabulated in Table 6.1. Descriptive analysis of different dimensions of factors has been undertaken to assess their level of impact on stimulation of construction industry output. One sample T-test yielded key delays, cost-escalators and scope-deficiencies on the delivery side and key deficiencies in consumer skills, awareness of consumer legislation, consumer engagement and affordability on the demand side. Insights gained from interviews with relevant professionals of residential real estate sector have been elaborated upon.

Table 6.1: Determinant factors of CC-RREA demand and CE-RREA delivery: Result of test for reliability of survey instrument

Sl. No	Determinant Factors of Demand and Delivery	Cronbach alpha
1	Time-boundness	0.773
2	Cost-certainty	0.819
3	Scope-adherence	0.829
4	Consumer skills	0.827
5	Awareness of consumer legislation	0.92
6	Consumer engagement	0.841
7	Affordability	0.646

6.1 Impact of Determinant Factors of Consumer-centric Residential Real Estate Asset Delivery

Determination of the impact of the determinant factors requires for identification of the dimensions of factors through which construction industry stands stimulated. Time-

boundness in residential real estate asset delivery has seven dimensions attached to it, namely, i) delays in approvals and sanctions by urban local bodies (ULBs) ii) delayed execution of construction works iii) delays in title transfer and physical possession hand-over timeline iv) disruptions to project finance disbursement timeline v) disruptions to pre-set sale target timeline of promoters/developers vi) delays by consumers/buyers in making payments to promoters/developers at different stages of project development and vii) delays in timely performance of duties by regulatory authorities, judicial and quasi-judicial bodies. Cost-certainty in the execution of residential real estate projects has nine relevant dimensions, namely, i) poor project budget estimation and costing practices ii) siphoning of consumer cash-inflow iii) poor project budget monitoring and control systems iv) disruptions to project finance disbursement channels v) deviations by consumers/buyers from staged payment timelines vi) disruptions to pre-set sale target timeline of promoters/developers vii) presence of excessive penal and compensatory liabilities upon promoters/developers viii) changes in tax regime and regulatory charges and ix) unavailability of speed money and grease payments. As far as scope-adherence in residential real estate asset delivery is concerned, the following six dimensions were identified, namely, i) lack of legal validity of project development ii) lack of legal validity of exchange iii) insufficient degree of detail in disbursed scope and specifications iv) non-uniformity in disbursed scope and specifications v) unforeseen scope creep during project execution and vi) intentional defections and variations from disbursed scope and specifications. Perceived impact of these dimensions of determinant factors on stimulation of construction industry output is as summarized in Table 6.2 – 6.4.

Table 6.2: Descriptive Statistics: Delays

Dimension	N	Min	Max	Mean	SD	Rank
Delays in approvals and sanctions by urban local bodies (ULBs)	166	1.00	5.00	3.97	1.09	1
Delays in timely performance of duties by regulatory authorities, judicial and quasi-judicial bodies	166	1.00	5.00	3.73	1.00	2
Disruptions to pre-set sale target timeline of promoters/developers	166	1.00	5.00	3.49	1.00	3
Delayed execution of construction works	166	1.00	5.00	3.49	1.04	4

Delays in title transfer and physical possession hand-over timeline	166	1.00	5.00	3.40	1.10	5
Delays by consumers/buyers in making payments to promoters/developers at different stages of project development	166	1.00	5.00	3.31	1.10	6
Disruptions to project finance disbursal timeline	166	1.00	5.00	3.27	1.14	7

Table 6.3: Descriptive Statistics: Cost-escalators

Dimension	N	Min	Max	Mean	SD	Rank
Unavoidability of speed money and grease payments	166	1	5	3.79	1.07	1
Changes in tax regime and regulatory charges	166	1	5	3.61	1.13	2
Presence of excessive penal and compensatory liabilities upon promoters/developers	166	1	5	3.32	1.17	3
Disruptions to pre-set sale target timeline of promoters/developers	166	1	5	3.31	1.03	4
Deviations by consumers/buyers from staged payment timelines	166	1	5	3.26	1.10	5
Siphoning of consumer cash-inflow	166	1	5	3.21	1.21	6
Disruptions to project finance disbursal channels	166	1	5	3.14	1.12	7
Poor project budget estimation and costing practices	166	1	5	3.11	1.10	8
Poor project budget monitoring and control systems	166	1	5	3.02	1.14	9

Table 6.4: Descriptive Statistics: Scope-deficiencies

Dimension	N	Min	Max	Mean	SD	Rank
Unforeseen scope creep during project execution	166	1.00	5.00	3.27	1.12	1
Lack of legal validity of exchange	166	1.00	5.00	3.25	1.15	2
Lack of legal validity of project development	166	1.00	5.00	3.10	1.11	3
Intentional defections and variations from disbursed scope and specifications	166	1.00	5.00	3.07	1.09	4
Insufficient degree of detail in disbursed scope and specifications	166	1.00	5.00	2.91	1.03	5
Non-uniformity in disbursed scope and specifications	166	1.00	5.00	2.86	1.08	6

Following this, one sample T-test of different dimensions of factors was carried out to arrive at key delays, cost-escalators and scope-deficiencies in the Indian housing market, as tabulated in Tables 6.5 – 6.7.

Table 6.5: T-test: Delays

Dimension	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Delays in approvals and sanctions by urban local bodies (ULBs)	0.000	0.97	0.80	1.14
Delayed execution of construction works	0.000	0.49	0.34	0.65
Delays in title transfer and physical possession hand-over timeline	0.000	0.40	0.23	0.57
Disruptions to project finance disbursal timeline	0.003	0.27	0.09	0.44
Disruptions to pre-set sale target timeline of promoters/developers	0.000	0.49	0.34	0.65
Delays by consumers/buyers in making payments to promoters/developers at different stages of project development	0.000	0.31	0.14	0.48
Delays in timely performance of duties by regulatory authorities, judicial and quasi-judicial bodies	0.000	0.73	0.58	0.88

Table 6.6: T-test: Cost-escalators

Dimension	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Poor project budget estimation and costing practices	0.204	0.11	-0.06	0.28
Siphoning of consumer cash-inflow	0.025	0.21	0.03	0.40
Poor project budget monitoring and control systems	0.786	0.02	-0.15	0.20
Disruptions to project finance disbursal channels	0.099	0.14	-0.03	0.32
Deviations by consumers/buyers from staged payment timelines	0.003	0.26	0.09	0.43
Disruptions to pre-set sale target timeline of promoters/developers	0.000	0.31	0.16	0.47
Presence of excessive penal and compensatory liabilities upon promoters/developers	0.001	0.32	0.14	0.50
Changes in tax regime and regulatory charges	0.000	0.61	0.44	0.79
Unavoidability of speed money and grease payments	0.000	0.79	0.63	0.95

Table 6.7: T-test: Scope-deficiencies

Dimension	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Lack of legal validity of project development	0.264	0.10	-0.07	0.27
Lack of legal validity of exchange	0.005	0.25	0.08	0.43
Insufficient degree of detail in disbursed scope and specifications	0.261	-0.09	-0.25	0.07
Non-uniformity in disbursed scope and specifications	0.101	-0.14	-0.30	0.03
Unforeseen scope creep during project execution	0.003	0.27	0.09	0.44
Intentional defections and variations from disbursed scope and specifications	0.393	0.07	-0.09	0.24

6.2 Impact of Determinant Factors of Consumer-empowered Residential Real Estate Asset Demand

Consumer skill in residential real estate asset delivery has five dimensions attached to it, namely, i) lack of understanding of legal terms in allotment letter/agreement for sale/conveyance deed ii) poor technical knowledge of project scope and specifications iii) poor financial skill-set iv) lack of understanding of architectural drawings and details and v) poor numerical skills and capabilities. As far as awareness of consumer legislation is concerned, there exist five dimensions attached to it, namely, i) lack of awareness of relevant legal forums and commissions to access remedies ii) lack of knowledge of existent remedies upon violation of legal rights iii) lack of awareness of limitations in existent legal framework iv) poor knowledge of duties and liabilities of different stakeholders and v) lack of awareness of existent spectrum of legal rights. Engagement of consumers in residential real estate acquisition has six dimensions attached to it, namely, i) difficulties in getting pronounced judicial orders executed ii) non-exercise of collective-will through formation of an association/society/federation of allottees iii) inability to overcome procedural hurdles to availing of remedies iv) non-availment of legal remedies upon violation of legal rights v) inadequate due-diligence prior to purchase of assets and vi) absence of timely enquiries of project progress. Lastly, affordability of housing has three dimensions attached to it, namely, i) low levels of household income ii) high mortgage interest rate and iii) over-pricing of

housing stock. Perceived impact of these dimensions of determinant factors on stimulation of construction industry output is as summarized in Tables 6.8 – 6.11.

Table 6.8: Descriptive Statistics: Consumer Skills

Dimension	N	Min	Max	Mean	SD	Rank
Lack of understanding of legal terms in allotment letter/agreement for sale/conveyance deed	166	1.00	5.00	3.14	1.11	1
Poor technical knowledge of project scope and specifications	166	1.00	5.00	3.04	1.09	2
Poor financial skill-set	166	1.00	5.00	2.97	1.11	3
Lack of understanding of architectural drawings and details	166	1.00	5.00	2.97	1.14	4
Poor numerical skills and capabilities	166	1.00	5.00	2.67	1.03	5

Table 6.9: Descriptive Statistics: Awareness of Consumer Legislation

Dimension	N	Min	Max	Mean	SD	Rank
Lack of awareness of relevant legal forums and commissions to access remedies	166	1.00	5.00	3.17	1.12	1
Lack of knowledge of existent remedies upon violation of legal rights	166	1.00	5.00	3.13	1.08	2
Lack of awareness of limitations in existent legal framework	166	1.00	5.00	3.11	1.03	3
Poor knowledge of duties and liabilities of different stakeholders	166	1.00	5.00	3.05	1.01	4
Lack of awareness of existent spectrum of legal rights	166	1.00	5.00	3.04	1.02	5

Table 6.10: Descriptive Statistics: Consumer Engagement

Dimension	N	Min	Max	Mean	SD	Rank
Difficulties in getting pronounced judicial orders executed	166	1.00	5.00	3.40	1.11	1
Non-exercise of collective-will through formation of an association/ society/ federation of allottees	166	1.00	5.00	3.39	1.11	2
Inability to overcome procedural hurdles to availing of remedies	166	1.00	5.00	3.22	1.13	3
Non-availment of legal remedies upon violation of legal rights	166	1.00	5.00	3.10	1.10	4
Inadequate due-diligence prior to purchase of assets	166	1.00	5.00	3.04	1.28	5
Absence of timely enquiries of project progress	166	1.00	5.00	2.72	1.17	6

Table 6.11: Descriptive Statistics: Affordability

Dimension	N	Min	Max	Mean	SD	Rank
Low levels of household income	166	1.00	5.00	3.59	1.10	1
High mortgage interest rate	166	1.00	5.00	3.58	1.18	2
Over-pricing of housing stock	166	1.00	5.00	3.55	1.10	3

One sample T-test of different dimensions of determinant factors of consumer-empowered residential real estate asset demand was carried out to arrive at key deficiencies in consumer skills, awareness of consumer legislation, consumer engagement and affordability in the Indian housing market, as in Tables 6.12 – 6.15.

Table 6.12: T-test: Consumer Skills

Dimension	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Poor numerical skills and capabilities	0.000	-0.33	-0.48	-0.17
Lack of understanding of architectural drawings and details	0.734	-0.03	-0.20	0.14
Poor technical knowledge of project scope and specifications	0.670	0.04	-0.13	0.20
Lack of understanding of legal terms in allotment letter/ agreement for sale/ conveyance deed	0.110	0.14	-0.03	0.31
Poor financial skill-set	0.728	-0.03	-0.20	0.14

Table 6.13: T-test: Awareness of Consumer Legislation

Dimension	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Poor knowledge of duties and liabilities of different stakeholders	0.539	0.05	-0.11	0.20
Lack of awareness of existent spectrum of legal rights	0.594	0.04	-0.11	0.20
Lack of knowledge of existent remedies upon violation of legal rights	0.116	0.13	-0.03	0.30
Lack of awareness of relevant legal forums and commissions to access remedies	0.046	0.17	0.00	0.35
Lack of awareness of limitations in existent legal framework	0.178	0.11	-0.05	0.27

Table 6.14: T-test: Consumer Engagement

Dimension	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Inadequate due-diligence prior to purchase of assets	0.671	0.04	-0.15	0.24
Absence of timely enquiries of project progress	0.002	-0.28	-0.46	-0.10
Non-availment of legal remedies upon violation of legal rights	0.232	0.10	-0.07	0.27
Inability to overcome procedural hurdles to availing of remedies	0.014	0.22	0.04	0.39
Difficulties in getting pronounced judicial orders executed	0.000	0.40	0.23	0.57
Non-exercise of collective-will through formation of an association/society/federation of allottees	0.000	0.39	0.22	0.56

Table 6.15: T-test: Affordability

Dimension	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Over-pricing of housing stock	0.000	0.55	0.38	0.72
Low levels of household income	0.000	0.59	0.42	0.76
High mortgage interest rate	0.000	0.58	0.40	0.76

6.3 Findings from Interviews and Discussions

The findings from quantitative analysis of data gathered in the first phase of data collection were borrowed to raise points of discussion in interviews conducted in the second phase of data collection. The focus of the interviews was on key delays, cost escalators and scope-deficiencies on the demand side, while on the delivery side of the housing market the discussions were centred around key deficiencies in consumer skills, lack of awareness of consumer legislation, drawbacks in consumer engagement and unaffordability of housing.

6.3.1 Time-boundness

Under time-boundness of housing delivery, discussions were centred around a) delays in approvals and sanctions by ULBs b) delays in timely performance of duties by

regulatory authorities, judicial and quasi-judicial bodies and c) disruptions to pre-set sale target timeline of promoters/developers.

6.3.1.1 Delays in approvals and sanctions by ULBs

The collective opinion of the respondents was that the RE(R&D)A, 2016 has failed as a legislation in enabling timely sanction of permissions underpinning residential real estate asset development. The law has failed to get approvals and sanctions by urban local bodies for real estate development under its ambit. With respect to Bengaluru, delays in approvals and sanctions by urban local bodies is a major issue unlike that in Chandigarh, Gujarat and Tamil Nadu where there exists much efficiency in the functioning of urban local bodies. Promoters/developers as R8 state that the movement of files for approval from one table to another just does not happen easily in Bengaluru, Karnataka.

However, real estate activists as R15 raise a relevant point of concern:

“Major promoters/developers in and around Bengaluru have been in business since long. In such a situation, to be saying that one is not aware of how long it might take to get approvals is mere escapism. Can the time-frame for approvals (however delayed be it) be not factored in the project timeline calculation? Why are the home-buyers told that they would get their homes delivered in 2 years, when in reality the promoter/developer could have easily factored in all uncertainties and mentioned a timeline of 3 or 4 years instead?”

Promoters/developers prefer to not factor in delays in approvals and sanctions in the calculation of project duration. The reason being that projects with longer completion timelines are less enticing for home-buyers.

Financiers as R9,10 raise concerns over limited number of sub-registrar offices and benches of courts of law. Bureaucrats working at K-RERA state that promoters/developers often do not submit all the required documents for grant of approval at once.

6.3.1.2 Delays in timely performance of duties by regulatory authorities, judicial and quasi-judicial bodies

It was brought to light by promoters/developers as R4 that the judiciary is often hound by a large number of frivolous public interest litigations (PILs). The judicial forums in India have been over-burdened owing to specific reasons as a) filing of a large number of cases irrespective of their legal merit b) shortage of manpower c) less number of benches of courts of law and d) lax approach of advocates/lawyers/chartered accountants in appearing for hearings. In relation to over-burdening of judicial forums, real estate sector-specific researchers (R5,6) are of the below mentioned stance:

“Of importance here is the number of benches of judicial and quasi-judicial bodies. For example, in Karnataka, we have the Real Estate Regulatory Authority, the Adjudicating Officer and the Real Estate Appellate Tribunal in Bengaluru, with the responsibility of dealing with real estate disputes arising throughout the physical jurisdiction of the state. This overburdening of judicial forums acts to the detriment of those awaiting timely justice.”

On the other hand, some activists (R12, 14) are of the following opinion:

“In any court case, when the final order is passed, the content of judgment copies is not worth even a week’ time. The number of judges and courts has little implication on timely disbursal of justice. We create a problem for ourselves by being extremely lax in our regular day-to-day processes and then say that we should improve ourselves by setting timelines. That is not the way to go. Time period to dispose cases as specified in statutes is not possible to adhered to owing to the inefficiency of judiciary and the lackadaisical approach of lawyers/advocates/chartered accountants.”

As far as securing compensation and consequent withdrawal from real estate investments by home-buyers is concerned, an important point of concern was raised by some activists (R13):

“A lot of advocates are provoking people to go ahead with compensation. Now if everybody goes for a compensation, what about the ‘shelter’ that you had

desired for in the first place? If everybody' demand is for a shelter, it is understandable. But, if everybody' demand is for compensation, then that would deter any promoter/developer from completing a project. Instead of that, if home-buyers claim that they want a shelter and if they understand that delays incidentally enable them to claim compensation, then that would help with the completion of stalled projects. Here, the mistake lies with home-buyers and advocates who guide home-buyers. The primary intent should be wanting the handover of assets, with claims for compensation/penalty being secondary. This change in attitude is necessary to make promoters/developers actually put in efforts and complete projects in hand. 90% people want shelter, but they are not being guided well.

The biggest problem according to me is that 10% of home-buyers are mostly agents and speculative investors (mostly with multiple bookings in a project). They are the ones taking the entire project for a ride. Additionally, it is not that promoters/developers are unaware of it. They are very well aware of it. It is these agents and speculative investors who are creating problems deterring timely completion of projects. So imagine, if out of 100 early buyers, if 20 early buyers behave this way, is it possible for a promoter/developer to complete a project? A promoter/developer works on a thin margin in the initial phases of a project. As the promoter/developer reaches the end of the project, he works on a profitable margin. Now, these bulk buyers book in bulk in the initial phases, pay part money and then wish to withdraw – In such cases, real estate projects do not even get bootied properly.”

Activists as R15 fighting for the home-buyers are of the opinion that when law-makers come up with a statute, they come with tight timelines for disposal of cases after having considered the urgency of matters at the time of drafting of the law. To be expecting the same urgency in disposal of cases is impractical. Additionally, delays in disbursal of justice is not an isolated case of the RE(R&D)A, 2016 and holds true for many other statutes.

The bureaucrats (R16-21) working at K-RERA hold the following views:

“Often times, information sought by the regulatory authority is not provided by the parties to sale/purchase of real estate assets, which leads to delays by us in the performance of our functions. Secondly, there exists a lack of adequate manpower at the regulatory authority. Thirdly and more importantly, the principles of ‘natural justice’ and ‘equity’ cannot be undermined or set aside in an effort to provide speedy justice. It is fundamental to disbursing justice that one consider a dispute from all angles and aspects. Parties to disputes very much require and ask for time to put forward their arguments. Also, unavoidable circumstances like the pandemic, bring with them unavoidable delays. More importantly, reasonable opportunity needs to be provided to the parties in any dispute to make a case for themselves. A lot of interim applications pleading for time are also made by parties to disputes, which need to be given a consideration. Defaulting parties need to be provided a reasonable number of chances to fall in line prior to initiating any kind of action. Statutory provisioning of appeals against judgements further brings with it the unavoidable risk of disputes being elongated for long spans of time.”

6.3.1.3 Disruptions to pre-set sale target timeline of promoters/developers

Sustenance of sales is of utmost importance for progression of real estate projects.

Promoters/developers as R1,2 state the following:

“Execution of construction works relies upon cash-flow management, which is largely dictated by sales. RERA has made things a lot better as far as the 70:30 rule relating to consumer cash coming in to projects is concerned. In general, execution of works is not hampered as long as cash-flow is not fiddled with.”

Delivery of real estate projects within promised time-frame relies upon rational design of sales timeline. According to real estate sector-specific researchers (R5,6), often times in order to get money from investors, promoters/developers put forward extremely optimistic sale timelines and cash-flow designs. All the stakeholders were of the opinion that display of prudence by promoters/developers in the design of sale timelines is the need of the hour to effectively deliver residential real estate assets.

6.3.2 Cost-certainty

Under cost-certainty in housing delivery, discussions were centred around a) unavailability of speed money and grease payments b) changes in tax regime and regulatory charges and c) presence of excessive penal and compensatory liabilities upon promoters/developers.

6.3.2.1 Unavailability of speed money and grease payments

As far as the role of speed money and grease payments in real estate asset delivery is concerned, an ex-bureaucrat (R14) having worked for the Government of India was of the following opinion:

“When I was with ipaidabribe.com, we were trying to find out what is the increase in the cost of real estate projects due to bribery. There were 20-22 touch points from the point that a promoter/developer identifies a piece of land to when occupancy certificate is secured. In each of these touchpoints if there were no corruption, the prices of apartments would have come down by 20% - a ballpark figure. People fall prey to bribes in spite of computerization. Why? Because of ignorance and passive-aggressive nature of home-buyers, coupled with promoters/developers’ agents picking up money and collecting them in the way of consultation charges. People pay up because they do not want any trouble, even though there are good people in the registration department who have actually created systems by which you can go there and get your property registered without paying any bribe. Things have slowly improved with the ‘kaveri’ software over a period of time. But in spite of the existence of these systems, people still pay bribes. We are habituated to paying bribes and believe that some adverse consequence will hit us if we do not pay up. As far as a single window system for approvals is concerned, the single window can itself become corrupt. Single window is an extremely simplistic way of looking at things.”

Real-estate sector-specific researchers (R5,6) were of the following opinion:

“Corruption is an undeniable reality for real estate developments in Bengaluru, Karnataka. More importantly, ‘land’ being a state subject under the constitution of India, corruption is bound to be present.”

Real estate promoters/developers as R1 and R2 expressed their views as below:

“Corruption at present in Karnataka is extremely high. Charges are set at a certain Rs/sft. Even after pay-out, a number of issues still persist. The real estate sector has always been a highly unorganised sector by nature, just like how it is in Regional Transport Offices (RTOs). Passport authorities were like that earlier, but now the processes are much better there.”

Real estate promoters/developers as R7 believe the following:

“Speed money and grease payments are a reality for real estate developments in Bengaluru. Without paying up, files just do not move ahead. As an example, even the ‘schedule of rates’ handbook released by the PWD has an inflated rate (inclusive of speed money and grease payments) for many building materials and works.”

On the other hand, real estate activists fighting for the rights of home-buyers (R15) expressed their views as below:

“Promoters/developers had signed-up for this prior to getting into real estate business. Corruption is a part and parcel of life in India! In such a case, it must have been sheer lack of prudence on the part of promoters/developers to get into a business that they cannot effectively manage. Eventually, home-buyers are the ones who are at the receiving end of things. If some promoter/developer is paying up bribe, the promoter/developer is doing so only because he is on the wrong side of the law. As simple as that.”

Bureaucrats as R17 working for K-RERA were of the following stance:

“Speed money and grease payments are a reality in the state of Karnataka. The offering of monetary sums needs to be stop in the first place. The very offering of speed money/bribes reflects a moral conflict with real estate developments being carried out by promoters/developers.”

6.3.2.2 Changes in tax regime and regulatory charges

Researchers working in the real estate sector stressed on the importance of a stable tax regime. It was informed that the introduction of the GST in July, 2017 greatly affected

a lot of industries and sectors in the country. When such changes are brought about all of a sudden, they affect the feasibility of joint developments (JDs) in the real estate sector.

Some promoters/developers (R1,2) are of the opinion that the introduction of the GST has had both positive and negative impacts on the economy, with the positive impact being much more significant. Other promoters/developers (R4, R7) believe that the introduced change in taxation has had a largely negative impact on the real estate sector, with the new taxation system breaking the back of the sector and therefore press for a stable tax regime to augur investments into real estate sector. Chartered accountants as R11 working for real estate promoters/developers believe the following:

“Changes in tax regime and regulatory charges highly affect the workings of real estate companies. To understand a tax regime in itself takes a lot of time for promoters/developers, let alone incorporating it at the earliest.”

Ex-bureaucrats (R14) are of the opinion that changes in taxation of real estate developments and input materials has had a huge impact on the input cost of construction. Bureaucrats working for K-RERA (R16-21) are of the following opinion:

“Coming in of GST, along with demonetisation, did create a lot of ruckus in the real estate sector. A stable tax regime does help in this regard. Any new system has problems in the initial few years. Shelling out of money shall always be a problem for people. Being a country with huge population and low literacy rates, it is important to reasonably tax goods and services to run the economy. With time, there shall be more clarity as to the right approach to be taken up. Policy decisions of governments need to be given a reasonable amount of time to see their positive/negative impacts on the economy. Having said this, the amount of taxation for property-related transactions needs to be lowered.”

6.3.2.3 Presence of excessive penal and compensatory liabilities upon promoters/developers

As far as the presence of penal and compensatory liabilities upon promoters/developers is concerned, promoters/developers as R3 were of the opinion that, in general, for a lot

of promoters/developers at different points of time post 2016, margins have reduced from 35-40% to single digits. This now leaves them with no room for error. As a result, financial discipline has taken centre-stage in running real estate companies. Some promoters/developers as R1,2 believe penal and compensatory liabilities to be a positive influence in the sense that they help keep promoters/developers disciplined. Though the liabilities may be excessive, they are also believed to be much needed to keep the projects going on track (R4). On the other hand, some promoters/developers (R8) believe that existent penal liabilities are not really huge and more importantly they come into picture only in the face of inefficient working of real estate promoters/developers.

Real estate researchers (R5,6) voiced their opinion as follows:

“No point in complaining by developers. The lack of liquidity in real estate firms is purely attributable to poor money management. The presence of cash flow issues reflects poor financial management by real estate developers.”

Real estate activists as R15 had the following to say:

“As a promoter/developer, do not commit any mistake. As simple as that! The home-buyers also have to pay penalty for their delays. So, there has anyway been balancing of interests here.”

Bureaucrats (R18-21) working for K-RERA, put forward their views as below:

“We have the powers to impose penalty up to 30%. However, penalty no more than 1% has been imposed from our end so far. Further, penalty has been imposed only for non-registration of projects. For cases of non-updation of web-pages with the authority, there has been no imposition of penalty yet. In spite of the same, if promoters/developers are complaining of the presence of excessive penal and compensatory liabilities, then it reflects a very one-sided point of view.

Permitted deviation under law is mere 5%. But, often deviations are made to the extent of 50%. Penalties are levied and compensations are asked to be paid only when the builders are in the wrong. Builders can excuse themselves of such

payments by adhering to laws. It is therefore important to dwell on the precedence of a mistake prior to the levy of penalty/compensation. Existent penal and compensatory liabilities are very much reasonable. In addition to this, existent provisions under law are still not imposed to their full effect.”

6.3.3 Scope-adherence

Under scope-adherence in housing delivery, discussions were centred around a) unforeseen scope creep during project execution and b) lack of legal validity of exchange.

6.3.3.1 Unforeseen scope creep during project execution

Real estate promoters/developers as R4, R8 are of the opinion that scope creep is a matter of concern for the real estate sector. Often times, it is believed to be a result of not using technology the way it could be to leverage project execution. Additionally, poor project management approach could also be the reason for scope creep. For example, adequate soil tests and latest ground reports are often not sought prior to beginning construction works. Such inadequate assessment prior to beginning a project affects the very feasibility of the project. Real estate researchers (R5,6) believe that scope creep could be effectively handled provided promoters/developers are prudent enough to include buffers in their estimation and costing of projects.

On the other hand, bureaucrats working for K-RERA (R16-21) put forth that scope creep is a part and parcel of real estate developments. Events like excessive rains, unexpected ground conditions and excessive fluctuation in material and labour prices need to be accounted for in project budget estimation.

6.3.3.2 Lack of legal validity of exchange

Real estate promoters/developers as R1,2 and 4 believe that there usually exists a lack of legal validity of exchange for real estate assets in case of small-time builders and fly-by-night operators. Other promoters/developers as R8 acknowledge that sale of assets without adequate legal backing lowers the sale prices for consumers/buyers while incentivising promoters/developers to develop many such legally deficient housing units. Both promoters/developers and consumers/buyers are often party to this.

Real estate researchers (R5,6) raise a pertinent point as below:

“Occupancy certificate (OC) is often not given to projects complete in all respects. There exists rent-seeking by urban local bodies and parastatals. Therefore, promoters/developers with projects having OC ultimately turn out to be the kings, much to the detriment of many other promoters/developers in the market.

It is important to understand here that the lack of OC for a project could be because of primarily two reasons 1) development issue 2) government issue. How would a consumer/buyer know of the right underlying reason behind the absence of OC for an asset and then make a calculated decision? Is the information provided by promoters/developers sufficient enough to reflect the actual underlying reason behind delays in OC issuance?”

Real estate activists as R12 and R13 bring to light the following valid points:

“BBMP has no clue as to the handling of buildings without OC. It is not like there is a lack of awareness. BBMP is very well aware of all that is happening. Literally buildings in their entirety get erected in daylight and to say that BBMP is/could be unaware/oblivious of the same is not worthy of any merit! Usually the argument of home-buyers investing in such properties is that their entire life savings have gone into buying the said properties and therefore there should not be any kind of demolition of illegally built structures. This is the standard argument of home-buyers.

More importantly, under RE(R&D)A, 2016, there exists no provision to blacklist a promoter/developer as an entity, as opposed to just the project that the promoter/developer has been unable to rightfully hand over. Defaulting promoters/developers need to be put out of business, else the present situation will persist for long!

When ground marking is done prior to erection of any building, the promoter/developer is supposed to formally invite BBMP to come over to the site and inspect the markings. This is an extremely practical requirement that

needs to be adhered to. Why? Once the initial markings are done and the building is eventually begun constructing, it is quite expensive and difficult to retract from the same. This check by BBMP does not happen in reality. If BBMP does not really inspect the site within the prescribed time period, approval is deemed to be accorded. This again acts to the benefit of promoters/developers.

Lack of criteria, lack of responsibility, lack of accountability and lack of adequate punitive actions are at the heart of all the wrongs. When hundreds of such illegal projects are allowed to run, a lot of money is collected by the people on the ground and moved upwards.

According to a survey conducted by me, 95% of high-rise buildings in Bengaluru, as of 2010, were without occupancy certificates. If this is an issue that is rampant in a major city as Bengaluru, then the situation must be much worse in smaller cities.”

Ex-bureaucrats as R-14 were of the following opinion:

“Lack of legal validity of exchange is extremely dangerous for the economy of any country. If land titling system is put in place and land title is handed from the seller to the buyer, then all of this will come to a stop.”

Real estate activists as R15 raised the following concerns:

“The fact that the entire real estate sector is not being able to meet the expectations of consumers is largely because of this. But, of concern here are the development authorities. How often are they held accountable for issuing OC where the same is not warranted? Why has there been no stern action against them? Would not have such an action sent a strong message to others working at government offices? The BBMP, the BDA and other government bodies are all equally responsible for this mischief.”

The bureaucrats working for K-RERA (R16-21) put forth their views as below:

“Lack of legal validity of exchange is a huge issue for the real estate sector in Bengaluru. From a different perspective, if people are occupying these residences in spite of the absence of OC/CC, does not the very act reflect

habitability of housing developed, even if without legal validity? In the existent reality of housing supply lagging far behind demand, would not regulation of occupancy of existing housing stock further act as a bottleneck in the supply of assets to housing market?

The principle of 'caveat emptor' i.e. the buyer/purchaser alone is responsible for checking the quality and suitability of goods before a purchase holds good for the residential real estate sector. Firstly, there exists sheer lack of awareness about various technical/legal aspects that need to be checked/taken care of prior to purchase of residential real estate assets. Secondly, relatively low prices for disputed properties influence home-buyers to make purchase decisions in haste. A lot of times, owing to high rents and equated monthly instalment (EMI) deductions, home-buyers shift to legally unsound buildings. Therefore, both home-buyers and housing developers are in the wrong here. ”

6.3.4 Consumer Skills

Under consumer skills in housing demand, discussions were centred around a) poor numerical skills and capabilities b) poor financial skill-set and c) poor understanding of architectural drawings and details.

Promoters/developers as R1,2 shared the following regarding financial skill-set of home-buyers:

“Home-buyers are ‘informed’, but not ‘educated’. Information is easily available on the internet. However, assimilation of that information by consumers is lacking.”

In reference to understanding of architectural drawings and details by home-buyers, promoters/developers as R4 share the following:

“The consumers are much aware of architectural drawings and how to go about understanding them. However, as far as architectural details are concerned, they fare badly. Knowledge of technical scope and specifications is also a major issue. Promoters/developers indulge in cost-cutting as far as finishes (sanitary ware, tiling, plumbing etc.) are concerned. Promoters/developers try to encash

more money from home-buyers by providing sub-standard finishes, which go unnoticed by home-buyers.”

Reflecting on the same, researchers as R5, 6 working in the residential real estate market have the following to say about consumer understanding of architectural drawings and details:

“Usually, sales happen based on model apartments. No architectural detail is showcased in sales brochure given to buyers/consumers, thereby giving promoters/developers the leeway to work things according to their convenience. Not all consumers are well educated to understand the way EMIs, taxes and charges related to real estate transactions work. Usually the carpet area of a flat as provided in the brochure matches with that of reality because of structural audits that need to be necessarily done at the very end of a project. However, there is very little understanding of architectural details and possible variation from the same.”

Additionally, real estate sector activists as R13 are of the opinion that home-buyers are absolutely unaware of technicalities behind architectural design. Activists as R12 bluntly state the following:

“If you are insisting on proper process, then you cannot buy anything as a home-buyer. For example, a recent study talked about how fake medicines in India are a matter of concern. Now, if you say that the buyer should take the onus of ensuring that the medicines he buys are good ones, it is not a feasible argument. There are no signs, no awareness of alternatives etc. So in short, a home-buyer can do nothing more than hoping for the best. A fail-proof system has to be given to the buyer! It is not his job to go around looking for an asset with no violation, when in reality there exists no asset without some or the other kind violation. If a home-buyer is expected to buy only when everything is complied with, then no home-buyer can actually buy anything out there. More importantly, housing purchase decisions are matters of urgency, owing to limited supply of housing stock and high demand for the existent stock. If non-compliance of laws is mere 1%, then a home-buyer can raise an alarm which

can lead to the promoter/developer getting caught or punished. However, when non-compliance is rampant in itself, home-buyers just do not have the leeway to buy a property that is legal in all aspects. There is no recourse to home-buyers. What burden of due-diligence are we imposing on home-buyers? What is he/she supposed to check? More importantly, where is an end to such a check? None of the NOCs granted are those provided after proper due diligence. They are bogus NOCs. When 100% of apartments are non-compliant, then there is really no safety for home-buyers. What are they even going to get from legal due-diligence?"

In reference to the Indian Contract Act, real estate activist (R12) goes on to elaborate the following:

"According to ICA, 1872, when one does not really have a choice in entering into a contract, the contract is voidable. The same applies here as well. Often, undertakings are taken by promoters/developers from home-buyers that specifications mentioned in brochures/advertisements are indicative and that home-buyers authorise promoters/developers to change specifications if required. Home-buyers are not really given an option to reject the variations/deviations here. If he/she rejects, then he/she will be driven out and then he/she will not be able to buy the apartment when the apartment is rightfully what he/she had been invested in."

6.3.5 Awareness of Consumer Legislation

Under awareness of consumer legislation, discussions were centred around a) lack of awareness of relevant legal forums and commissions to access remedies and b) lack of knowledge of existent remedies upon violation of legal rights.

6.3.5.1 Lack of awareness of relevant legal forums and commissions to access remedies

Activists working in the real estate sector (R12) deliberating on the lack of awareness of relevant legal forums and commissions to access remedies, express the following:

“Home-buyers are clueless as far as home-buying is concerned. They are helpless because even if a home-buyer understands the injustice done to him and the legal options available to him, the court system wears him down. Promoters/developers employ high-profile lawyers to fight for them. So, it is never a game of equals!”

Real estate sector-specific researchers (R5,6) are of the opinion that consumers are pressed by the lack of time to run behind promoters/developers to get the delivery of their housing units.

In reference to ‘caveat emptor’, real estate activists as R14 make the following remarks:

“There is something called caveat emptor. Most people buying properties are not duffers. But, they just do not do their due diligence when it comes to home-buying. I have contempt for people who indulge in due-diligence in their professional works, but do not do a single tint of legal reading and walk into a sub-registrar’ office with a promoter/developer’ agent and pay the promoter/developer for the property. So, they rightfully deserve to suffer! There is sheer lack of awareness, but home-buyers themselves are responsible for the same.”

6.3.5.2 Lack of Knowledge of Existent Remedies Upon Violation of Legal Rights

Real estate activist as R13 had the following to say in response to the existent levels of consumer knowledge of remedies:

“In general, home-buyers do not even understand what is meant by ‘conveyance’. They are unaware of even what ‘an association of allottees’ is for. None of the promoters/developers across Karnataka in the last 25 years have ever conveyed property to apartment owners. Every promoter, with no exception (especially those registered with organisations like CREDAI), are making their own rules. They say that ‘Deed of Declaration’ amounts to conveyance. However, that is not the law. Deed of declaration under the provisions of KAOA, 1972 is to be registered. Where should it be registered? If the government has not made it clear, did CREDAI ever raise it as an issue?”

There exists no apartment in Karnataka in which the aggregated property has been conveyed to the association of home-buyers!”

Another activist R14 working in the residential real estate market defended the limited awareness of home-buyers by stating the following:

“These are things you automatically learn in the natural course of events. Why should one know all of this prior to even having an intent to buy a property or even before getting into any sort of trouble? For example, suppose you have bought a flat in a project that is now stalled, it is only now that you would go into the details of law. But prior to that, why would anyone even go through specific legal details? In the present times of internet, social media and fast flow of information, people are aware, but if you are expecting them to be experts at the legalities of home-buying, then that is a wrong expectation. Therefore, people having basic understanding of things and getting into home-buying and only when things go wrong them getting into understanding the laws related to home-buying is the natural way of operation! Should every home-buyer first get a bachelor degree in law and then buy a house?”

6.3.6 Consumer Engagement

Under consumer engagement, discussions were centred around a) difficulties in getting pronounced judicial orders executed and b) non-exercise of collective-will through formation of an association/society/federation of allottees

6.3.6.1 Difficulties in getting pronounced judicial orders executed

Real estate promoters/developers as R1,2 state that a well-defined system for execution of judicial orders by RERA is still not in place. The RE(R&D)A, 2016 has not really been implemented in its true spirit owing to slow process of change in India. Promoters/developers as R4 agree that there exist innumerable cases in which consumers/buyers have not been able to go out there and get their judicial orders executed in the face of a reluctant promoter/developer.

Real estate activists as R12 state the following:

“Unpaid dues by promoters/developers have to be collected as arrears of land revenue. But, revenue areas are known to be extremely lax and slow methods of recovery of debt. This is the fundamental problem here! Basically, everything boils down to the inability of court system to get its own judgements implemented - contempt of court. As a result, there now exists no sanctity to court judgements. Eventually, nobody gets punished!”

Researchers working in the real estate sector (R5,6) suggest that provisioning for prosecution rights under RE(R&D)A, 2016 could be of help in better execution of law. Elaborating on collection of penalties as arrears of land revenue, real estate activists as R13 state the following:

“Collection of penalties as arrears of land revenue cannot be said to be an ineffective mechanism. Under the provisions of RE(R&D)A 2016, orders passed by RERA have to be recovered as arrears of land revenue. Even if there exists bank mortgage on an apartment within the property, the first right of development of existent building goes to the home-buyers. Once RERA passes an order and if the same is not adhered to by promoters/developers, the home-buyers are supposed to approach the DC. When RERA has passed an order, it is the duty of the DC to recover the money as arrears of land revenue. The problem here is that such properties cannot be auctioned. Why? Because most of the buildings constructed in Bengaluru are done so by violating building norms. Even the biggest of the promoters/developers in the city have indulged in it. Now, when the violation is more than 5%, the same cannot be regularised.”

However, disagreeing with R12, R13 states the following reasons in favour of collection of penalties as arrears of land revenue by DC (as opposed to appointing a recovery officer under RERA):

“Having recovery officers under RERA would not be effective. Such officers would not have adequate resources to execute orders. The procedure involved here is attaching property and then auctioning it. Who has to endorse or bring upon something of this sort? Can recovery officers be provided with such

powers? Eventually, such officers will have to wait for the orders of the DC. So in such a situation, it only makes logical sense to vest such powers in the DC. Involving recovery officers in between does not serve any purpose. Eventually the matter has to be dealt with by the DC.

Recovery of money through DC is a safe and efficient mechanism. In fact, it is one of the best mechanisms out there. However, an exploration of the same is required. If a DC has not enforced a RERA recovery order (RO), what is stopping the home-buyers from approaching the High Court and seeking a ‘writ of mandamus’?

Additionally, one more thing needs to be done. The bankers need to be made accountable in the whole process and it must be ensured that banks stop lending money (project finance) to such defaulting promoters/developers.”

Reflecting on home-buyers’ asking of RERA to file criminal cases against defaulting promoters/developers as per Section 80 of RE(R&D)A, 2016, activists as R14 had the following to share:

“Difficulties in getting pronounced judicial orders executed is a huge problem plaguing the real estate sector. It is a major dead letter. Here, you have to go to the police and the police is completely swamped with work to be of any help to you. The police force hugely lacks resources. Even honest police stations have to indulge in need-based corruption (not greed-based corruption) to take care of their establishment costs. The situation is that bad!

We want the police force to be impoverished so that they can do our corrupt bidding. Once the system is rotten, there are people with vested interests who do not want it to change.”

Activists as R15 had the following viewpoints regarding difficulties in getting pronounced judicial orders executed:

“Execution of any kind of decree happens only in two ways. Anything to do with recovery by central government is done through the Income Tax Act, 1961. For recoveries by state governments, the same has to go through the process of

arrears of land revenue. Income Tax Act, 1961 has stood the test of time and has passed legal scrutiny. Likewise, recovery through arrears of land revenue is a time-tested concept. The moment you come up with an Act, it takes 20-30 years to establish it legally. There would be many flaws, which would need to be addressed by courts of law and there needs to be refinement of law over time. This is why everywhere the recovery mode is through arrears of land revenue. Through Debt Resolution Tribunals (DRT), banks were given special powers to recover their money. Because DRT failed, Insolvency and Bankruptcy Code, 2016 came into force. In summary, implementation of laws related to recovery in India has always been bad (else why would DRT fail?). In this context, yes, there is a problem. But it is important to understand that recovery in itself has always been a problematic area anyways. The Supreme Court of India has acknowledged that recovery mechanism and execution of decree, even after 70 years of independence, are a huge problem in India. Therefore, recovery through arrears of land revenue is a problem. But, is it a problem only for the real estate sector? Definitely not! This systemic problem has to be addressed by the judiciary, the law makers and the bureaucrats. Even after going through the whole process of legal scrutiny, getting a refund order, applying for a recovery certificate and securing a recovery certificate, if there is a mere dead end, then that is a bad situation for sure.”

In response to the question raised on appointment of recovery officers under RERA, R15 responded as below:

“Suppose that the state government issues an order stating that any recovery order issued by RERA would be given top priority at DC offices and comes up with a fixed timeframe for the same, would not that actually help home-buyers? Here how does it matter if the money is collected by recovery officers or DCs? It is the implementation of law that is important. Who gets it done is not. What is missing here is will power, compounded by systemic failure. Additionally, appointment of recovery officers might possibly be challenged in courts of law, which might in turn fail the very intent behind their appointment.

In my personal opinion, appointment of recovery officers may not be of great help. The reason being that if you appoint a recovery officer who advertises and arranges for auctioning of a property of the promoter/developer, will a one-man army of RERA be able to face the lobby of promoters/developers who have such strong hold of power in their own states? However, if it is the District Collectors vested with the powers to perform the auctioning, then they have full power of the entire state government (including police force) backing them. They can go ahead and do these things as they really are the power centres in districts. RERA is not such a power centre in states! Additionally, there is no scope for challenging this in the courts of law.”

6.3.6.2 Non-exercise of collective-will through formation of an association/society/federation of allottees

Promoters/developers as R1,2 state the following with respect to formation of an association/society/federation of allottees:

“Formation of an association/society/federation of allottees just does not happen prior to handover. The buyers are also reluctant of the same (thinking that once the association is formed, the promoters/developers are devoid of their responsibilities). The common norm in Bengaluru is that once everything done, then handover shall be initiated. Till then, there shall exist only an informal grouping of home-buyers (if any).”

Real estate promoters/developers as R8 state this to be a major issue in the sector. Even renowned promoters/developers in metropolitan cities do not undertake this legal responsibility of theirs. At the same time, consumers are equally reluctant to ask/press for the formation of an association/society/federation of allottees because of the belief that such a formation shall exempt promoters/developers of all their responsibilities as to delivery of projects complete in all respects.

Real estate researchers as R5,6 had the following opinions:

“To a large extent, association/society/federation of allottees is formed only after a year of defect liability period. Here, it is not just the

developers/promoters at fault. There is sheer ignorance on buyers/consumers' part as well. The perception that formation of an association/society/federation of allottees would absolve promoters/developers of their responsibilities as to the delivery of residential units requires serious attention and awareness development. Early exercise of collective will through the coming together of home-buyers/consumers is wilfully done away with by home-buyers/consumers themselves, much to the benefit of promoters/developers."

Real estate activists as R12 raised the following concerns:

"RERA relied on two things a) sub-registrars' opening of the 5th book as per KAOA, 1972, which never happened and b) promoters/developers' forming of an association of allottees, which could not be put into action because of the incompatibility of laws quoted in the RE(R&D)A, 2016 for the same. There are 3 candidate acts: a) the Companies Act, 2013 b) the Karnataka Co-operative Societies Act, 1959 and c) the Societies Registration Act, 1860 for formation of a collective of home-buyers. There are specific sections in these Acts which turn them incompatible for home-buyers' coming together. Additionally, RERA does not have the power to have within its ambit the stipulation to form such an association/society/federation of allottees. Why? The three lists come into picture here. Land and property fall under 'state list'. RERA operates under the sphere of contract management, which is why the central government could come up with such a law. The central government cannot get into the domain of co-operative societies (i.e. joint ownership).

Now, if there are no by-laws to begin with, at a later point of time it is a hassle to get the association/society 'registered' under other laws. The reason for the same being that you cannot pick and choose provisions. In Companies Act, 2013, there are concepts of share-holding, preferential shares, equity etc. How can one adapt them to promoters/developers, home-buyers and association of allottees?

If the 5th book at sub-registrar offices existed as per the provisions of KAOA, 1972, then that could have effectively lead to enjoyment of benefits arising out of submission of land + property to the provisions of KAOA, 1972.

Summarily, absence of deed of declaration + absence of the 5th book as per KAOA, 1972 at the sub-registrar' office + non-formation of association of allottees (legal entity for body corporate) + poor working of court system + absence of clear checklists for issuance of project approvals are the major sources of problem in the residential real estate market of Bengaluru.”

Along similar lines, activists as R13 re-iterate the following:

“Both promoters/developers and home-buyers are equally responsible for this. Promoters/developers do not want to create such association/society/federation of allottees. Home-buyers are themselves not aware and this in turn helps promoters/developers. Promoters/developers are lethargic – they do not want to create such association/society/federation of allottees. So, they conveniently put the blame on home-buyers that the latter are not ready to form such a collective entity. Such a collective entity necessarily needs to be made a body corporate (company or co-operative society or society). No promoter/developer wants to form this. Because once formed, promoters/developers are in trouble because then they would have to deal with a lot of queries and questions from such an association/society/federation of allottees. The term ‘enable’ in section 11(4)(e) of the RE(R&D)A, 2016 requires a promoter/developer to enable the formation of an association/society/federation and home-buyers need to mandatorily join it. Before RERA, there was KOFA, 1972, wherein it was mandatory for a promoter/developer to form a co-operative society or a company of allottees. The word used in the clause was ‘shall’. Therefore, there should not have been second thoughts about it. But none of the promoters/developers adhere to it. The reason being that once such an association/society/federation of allottees is formed, promoters/developers are liable to give answers for every penny they have collected from home-buyers.”

Questioning the feasibility of forming a collective of home-buyers, activists as R15 had the following to share:

“Why is the law not being followed? This is because promoters/developers do not want to take home-buyers’ side. In a heterogeneous atmosphere, how can a

cohesive and collective interest come in right after >50% booking to form a collective of home-buyers? Was not that the responsibility of promoters/ developers? Often times, units in a particular building are bought by people living in different geographical locations. How can they even be expected to come together on their own and form a collective unit? So, the buck here should not be passed to home-buyers.”

6.3.7 Affordability

Under affordability, discussions were centred around a) high mortgage interest rate b) low levels of household income and c) over-pricing of housing stock.

6.3.7.1 High Mortgage Interest Rate

Real estate promoters/developers as R1,2,4 point towards low mortgage interest rate in abroad in comparison to that in India and raise it as a point of concern. On the other hand, real estate sector-specific activists as R13 state that the presence of high mortgage interest rate for project loans and housing loans is merely a perspective of promoters/developers.

6.3.7.2 Low Levels of Household Income

In reference to luxury and super-luxury housing, promoters/developers as R1,2 state the following:

“The presence of majorly dual income families and the information technology boom have led to families climbing up the financial ladder. Hybrid mode of working has given a push to owning a house, as opposed to renting a house. There is a growing demand for owning houses. The need for ‘safe zone’ comes to play here.”

On the other hand, other promoters/developers (R4) agree that low levels of household income indeed hamper the hopes of owning residential real estate assets.

6.3.7.3 Over-pricing of housing stock

Real estate promoters/developers as R1,2,8 admit that the sector has always been a seller’ market. There has always been an exhaustion of stock in general and that large

inventory was present only during COVID-19 times. Another promoter/developer (R3) stated the following:

“Between 2013-2020, housing prices largely remained same with very nominal increase. But post COVID-19, the sector has seen a ‘K’ recovery. A few firms have done really well, while many have gone bust. On the other hand, the economy has seen a ‘V’ or ‘W’ recovery. The developers have almost always held the pricing power in residential real estate market!”

Real estate sector-specific researchers (R5,6) argue the following:

“The severity of factors contributing to unaffordability of housing is as follows: Over-pricing of housing stock > Low levels of household income > High mortgage interest rate. Considering the ratio of housing price to household income, if the time period of housing loan repayment is 20 years, then it is the problem of the buyers/consumers. However, if the promoter/developer is offering stock at such high pricing that it is not even feasible for buyers/consumers of that particular segment of housing to go out there and buy houses with reasonable loan repayment periods, then it is undeniably the problem of promoters/developers to make it work.”

Along similar lines, activists as R13 re-iterate that prices being quoted right now by promoters/developers are high enough for housing to not be affordable. Financiers as R9,10 state that promoters/developers often try to not go below the earlier sale price of houses.

6.4 Chapter Summary

Determinant factors of consumer-centric residential real estate asset delivery (delays, cost-escalators and scope-deficiencies) and consumer-empowered residential real estate asset demand (consumer skills, awareness of consumer legislation, consumer engagement and affordability) were subjected to statistical analyses. The level of impact of these factors on stimulation of construction industry output was ascertained. This was followed by carrying out of one sample T-test to arrive at key delays, cost-escalators and scope-deficiencies on the delivery side and key deficiencies in consumer

skills, awareness of consumer legislation, consumer engagement and affordability on the demand side. Detailed interviews were conducted with relevant stakeholders of residential real estate sector to validate findings from quantitative analysis.

CHAPTER 7

CONSTRUCTION INDUSTRY OUTPUT DEMAND STIMULATION

This chapter assesses the interface of interaction of residential real estate sector with the construction industry. The various means of stimulation of construction industry by the residential real estate sector (categorised based on the intent behind purchase of residential real estate assets or the way capital is infused into housing development entities) were subjected to statistical analyses. Firstly, reliability of the survey instrument was assessed using the Cronbach alpha test as tabulated in Table 7.1. In the categories of capital infusion into promoter/developer entities and buyer speculation, Cronbach alpha values less than 0.6 were obtained. In these cases, correlation analyses were conducted to test inter-relatedness between the factors. Owing to significant correlations amongst the factors under the constructs, lower alpha values were ascertained to be due to lesser number of items under the constructs. Following which, descriptive analysis of the factors was undertaken, along with one sample T-test. Findings from interviews with relevant professionals of residential real estate sector have been discussed. Following this, testing of the hypotheses underlying the conceptual framework of the study has been undertaken to establish the interrelationships.

Table 7.1: Construction industry output demand stimulation: Results of tests for reliability of survey instrument

Sl. No	Determinant Factors of Demand and Delivery	Cronbach alpha
1	Capital Infusion	0.563
2	Buyer Investment	0.632
3	Buyer Consumption	0.732
4	Buyer Speculation	0.475

7.1 Quantitative Analysis of Means of Stimulation of Construction Industry Output

Stimulation of construction industry output has been categorised based on the intent behind purchase of any residential real estate asset - investment, consumption and speculation.

7.1.1 Real Estate Investment-led Construction Industry Output Demand Stimulation

Stimulation of construction industry output through investment in real estate sector has been identified to be happening through two means: i) capital investments into real estate firms and ii) buyer investments in housing assets. Descriptive statistics and one sample T-test for the above two ways of stimulation of construction industry output through investment in housing are as presented in Tables 7.2 - 7.5.

Table 7.2: Descriptive Statistics: Capital Investment into Housing

Factor	Mean	SD	Rank
Private debt	3.85	0.99	1
Private equity	3.50	1.19	2
Publicly traded equity	2.47	1.11	3
Publicly traded debt	2.41	1.23	4

Table 7.3: Descriptive Statistics: Buyer Investment into Housing

Factor	Mean	SD	Rank
Land	3.80	1.17	1
Apartments/Flats	3.68	0.98	2
Standalone Residential Units	3.55	1.04	3

Table 7.4: T-test: Capital Investment into Housing

Factor	Sig. (2-tailed)
Private equity	0.000
Publicly traded equity	0.000
Private debt	0.000
Publicly traded debt	0.000

Table 7.5: T-test: Buyer Investment in Housing

Factor	Sig. (2-tailed)
Land	0.000
Apartments/Flats	0.000
Standalone Residential Units	0.000

7.1.2 Real Estate Consumption-led Construction Industry Output Demand Stimulation

Consumption of housing has been categorised into i) low income group housing ii) standard housing iii) mid-segment housing iv) premium housing v) luxury housing and vi) super-luxury housing. Descriptive statistics and one sample T-test for the above five ways of stimulation of construction industry output through consumption of housing are as presented in Tables 7.6 – 7.7.

Table 7.6: Descriptive Statistics: Consumption of Housing

Factor	Mean	SD	Rank
Mid-segment Housing	3.69	1.00	1
Premium Housing	3.45	1.08	2
Standard Housing	3.38	1.10	3
Low Income Group Housing	3.25	1.35	4
Luxury Housing	3.22	1.22	5
Super-luxury Housing	2.99	1.38	6

Table 7.7: T-test: Consumption of Housing

Factor	Sig. (2-tailed)
Low Income Group Housing	0.020
Standard Housing	0.000
Mid-segment Housing	0.000
Premium Housing	0.000
Luxury Housing	0.023
Super-luxury Housing	0.911

7.1.3 Real Estate Speculation-led Construction Industry Output Demand Stimulation

Speculation in real estate happens in a) land b) apartments/flats and c) standalone residential units. Descriptive statistics and one sample T-test for the above three ways of stimulation of construction industry output through speculation in housing are as presented in Tables 7.8 – 7.9.

Table 7.8: Descriptive Statistics: Speculation in Housing

Factor	Mean	SD	Rank
Land	3.67	1.28	1
Apartments/Flats	3.58	1.06	2
Standalone Residential Units	3.31	1.09	3

Table 7.9: T-test: Speculation in Housing

Factor	Sig. (2-tailed)
Land	0.000
Apartments/Flats	0.000
Standalone Residential Units	0.000

7.2 Findings from Interviews and Discussions

The focus of the interviews was on the identified means of stimulation of construction industry output.

7.2.1 Capital Investment into Housing

Real estate promoters/developers (R1,2,3,8) when probed about capital investments into their firms revealed the following:

“Both debt and equity investments are sought by real estate firms. However, they are kept below certain permissible levels, depending on company to company. Promoters/developers prefer higher investments in debt mode and the same is mostly sought by companies in their early stages. Back in early 2000s, there was high debt in the industry. Information technology (IT) boom and new jobs led to over-leveraging by promoters/developers. Lots of land banks were created. This was followed by recession, which led to some clean-up in the sector. Post 2010, the sector picked up pace. There was a lot of creative accounting that was incorporated. Alongside, non-banking financial companies (NBFCs) and housing finance companies (HFCs) slowly began picking up pace. Subvention schemes were introduced. A range of things played out as a) withdrawal of transfer of development rights (TDR) policy at some point of time

in Karnataka led to builders being able to build less b) requirement of approaching too many departments for permissions and approvals c) national green tribunal order against construction near water bodies d) NBFC crisis led by Infrastructure Leasing and Financial Services Limited (IL&FS) and Dewan Housing Finance Corporation (DHFC) resulted in 15-19% of interest rate – All these things collectively brought a slowdown in the sector.”

Some real estate promoters/developers (R4) reflected on lending by financial institutions and payments by home-buyers to real estate projects, as below:

“Usually promoters/developers borrow from financial institutions (banks, NBFCs and HFCs) and rely on timely payments by home-buyers. In general, builders have a working capital of about 20% of total project cost.”

Chartered accountants (R11) working for promoters/developers were of the following opinion:

“Private debt is one of the major sources of capital investment into real estate firms. This is followed by private equity. Publicly traded equity i.e. investment in a company through stock markets happens to a much smaller extent. Publicly traded debt is not allowed for in the real estate sector of India.”

As far as investments through publicly traded equity and private equity are concerned, promoters/developers (R3, R4) revealed the following:

“Part public equity provides for the necessary growth capital. Around 2008, a number of large real estate firms went public (Ex: Prestige Group, Brigade Group etc.). But the market crashed later on. Back then, there was not much of private equity (PE) investment. The reason for the same being low valuation. But now, we have 2x, 3x of valuation to sales.

Also, it is not really easy for real estate promoters/developers to go public. It requires a lot of data sharing with the public. However, the brighter side being that the money that comes in through this route need not be returned.”

Financiers as R9,10 revealed that the mode of private equity is largely chosen by politicians. On the other hand, researchers in the real estate sector (R5,6) put forth that

many companies that entered the stock markets in early 2000s have not performed well, owing to which a lot of venture capital firms and foreign direct investors burnt their hands.

7.2.2 Buyer Investment into Housing

As far as home-buyer investments into housing are concerned, real estate promoters/developers (R1,2,4) revealed the following:

“Nowadays, apartments and flats have gotten a push because of the ‘township’ way of living. Presence of a support system in social living greatly helps. Also, for security reasons, people prefer apartments/flats. Maslow’s hierarchy comes into picture here. High rents have been a plus as far as investments in apartments/flats is concerned.”

7.2.3 Consumption of Housing

Talking about the mid-segment housing, real estate promoters/developers as R8 reveal that consumption of housing is the highest in the mid-segment, tapering down for housing on either sides of the spectrum. Researchers in the real estate sector (R5,6) point out that the maximum stock of housing also exists in the mid-segment category.

Dwelling on premium housing, some real estate promoters/developers (R4) shed light on the following:

“There has been huge demand in this band of consumers. For the upper middle class, the pricing of housing is above Rs. 6000/sft while for the branded segment of housing, the pricing could be well above Rs.15000/sft in Bengaluru.”

Likewise, in regards to luxury and super-luxury housing, financiers as R9 and 10 state the following:

“Even one apartment not getting sold in this category is a huge problem for promoters/developers. Therefore 100% surety of demand is always assessed before developing such kind of housing.”

Concurring on the above observation, chartered accountants as R11 put forth the following opinion:

“In luxury and super-luxury segment, ready-to-move-in houses are sought by home-buyers and not the upcoming or under-construction ones. Additionally, in this category of home-buyers, there is some basic understanding of legalities behind the purchase of housing assets. Here there are two sub-categories i) influential individuals/families who negotiate well and invest in early stages of a project ii) non-influential individuals/families, who mostly being end users, negotiate to a lesser extent. The mid-segment home-buyers suffer from a lack of team-spirit that facilitates the coming together of all home-buyers. The budgeted segment largely relies on verbal promises and assurances made by promoters/developers.”

Lastly, as far as low income group housing is concerned, real estate researchers (R5,6) reflect on supply bottlenecks as brought out below:

“Maximum demand undoubtedly exists in low income group housing. However, promoters/developers have not been able to provide housing at a reasonable cost in this segment. Improvement of floor space index (FSI) could be a step in the right direction.”

7.2.4 Speculation in Housing

Real estate promoters/developers as R1,2 are of the following opinion as far as speculation in flats/apartments is concerned:

“In general, there is not much appreciation in a small span of time. We now have more a) first time users and b) those upgrading to higher segment of housing owing to higher family incomes, as opposed to speculators.”

Promoters as R4 and 8 believe that speculation is highest in apartments/flats, followed by land and standalone units.

7.3 Hypothesis Testing

In this section, Pearson’s product moment correlation coefficient analysis was carried out to test the research hypotheses.

7.3.1 Relationship between Deterrents to Consumer-centric Residential Real Estate Asset Delivery and Determinant Factors of Consumer-centric Residential Real Estate Asset Delivery

Table 7.10: Correlation between Deterrents to Consumer-centric Residential Real Estate Asset Delivery and Determinant Factors of Consumer-centric Residential Real Estate Asset Delivery

	FLAW	ELAW	POLICY	TIME	COST	SCOPE
FLAW	1.00					
ELAW	0.70**	1.00				
POLICY	0.48**	0.66**	1.00			
TIME	0.38**	0.50**	0.60**	1.00		
COST	0.40**	0.50**	0.56**	0.65**	1.00	
SCOPE	0.42**	0.51**	0.51**	0.36**	0.55**	1.00

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

In reference to the hypothesis 1, the above analysis in Table 7.10 indicates that there exists significant correlation between the factors deterring consumer-centric residential real estate asset delivery and the determinant factors of consumer-centric residential real estate asset delivery. Time-boundness (0.60), cost-certainty (0.56) and scope adherence (0.51) in residential real estate asset delivery have high correlation with policy interventions. Execution of law, in comparison to the framework of law, has got relatively higher correlation with time-boundness (0.50), cost-certainty (0.50) and scope-adherence (0.51). The framework of law has the highest correlation of 0.42 with scope-adherence, followed by 0.40 with cost-certainty and lastly 0.38 with time-boundness.

Additionally, high correlation values have been attained between the framework of law and execution of law (0.70), policy interventions and execution of law (0.66) and framework of law and policy interventions (0.48). Also, correlations between time-boundness, cost-certainty and scope-adherence are identified to be high. The correlation between time-boundness and cost-certainty is 0.65, scope-adherence and cost-certainty is 0.55 while that between time-boundness and scope-adherence is 0.36.

7.3.2 Relationship between Determinant Factors of Consumer-centric Residential Real Estate Asset Delivery and Factors Stimulating Construction Industry Output

Table 7.11: Correlation between Determinant Factors of Consumer-centric Residential Real Estate Asset Delivery and Factors Stimulating Construction Industry Output

	TIME	COST	SCOPE	REI	RECONSUMPTION	RESPEC
TIME	1.00					
COST	0.65**	1.00				
SCOPE	0.36**	0.55**	1.00			
REI	0.25**	0.24**	0.24**	1.00		
RECONSUMPTION	0.13	0.07	0.03	0.23**	1.00	
RESPEC	0.11	0.15*	0.14	0.39**	0.33**	1.00

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

In reference to the hypothesis 2, from the above analysis in Table 7.11, it can be inferred that there exists relatively significant correlation of real estate investment with time-boundness (0.25), cost-certainty (0.24) and scope-adherence (0.24) in real estate asset delivery. Additionally, real estate speculation is significantly correlated with cost-certainty (0.15). Other correlations between the determinant factors of consumer-centric residential real estate asset delivery and the factors stimulating construction industry output are identified to be weak. On the other hand, relatively higher correlations are observed between real estate investment and real estate speculation (0.39), real estate consumption and real estate speculation (0.33) and lastly real estate investment and real consumption (0.23).

7.3.3 Relationship between Determinant Factors of Consumer-empowered Residential Real Estate Asset Demand and Factors Stimulating Construction Industry Output

Table 7.12: Correlation between Determinant Factors of Consumer-empowered Residential Real Estate Asset Demand and Factors Stimulating Construction Industry Output

	CONSKILL	CONAWARE	CONENG	AFFORD	REI	RECONSUMPTION	RESPEC
CONSKILL	1.00						
CONAWARE	0.53**	1.00					
CONENG	0.58**	0.50**	1.00				
AFFORD	0.35**	0.17*	0.43**	1.00			
REI	0.05	0.05	0.12	0.21**	1.00		
RECONSUMPTION	-0.05	0.07	-0.06	0.12	0.23**	1.00	
RESPEC	-0.02	-0.03	0.09	0.19*	0.39**	0.33**	1.00

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

From the above Table 7.12, significant correlations are found to be existing between consumer skills and consumer awareness (0.53), consumer skills and consumer engagement (0.58) and consumer awareness and consumer engagement (.50). As far as affordability is concerned, it is found to have the strongest correlation with consumer engagement (0.43), followed by consumer skills (0.35) and consumer awareness (0.17). Other correlations are found to be on the weaker side.

As far as the hypothesis 3 is concerned, real estate investment is found to be significantly correlated with affordability (0.21), while real estate speculation also shares a significant correlation with affordability (0.19). Lastly, real estate investment and real estate speculation (0.39), real estate consumption and real estate speculation (0.33) and real estate investment and real estate consumption (0.23) are significantly correlated.

7.3.4 Inference

The study demonstrates significant correlation between real estate investment-led construction industry output stimulation and consumer-centric residential real estate delivery. Real estate investments effectuating a stimulation of construction industry output are correlated with consumer-centric housing delivery hinging upon time-boundness, cost-certainty and scope-adherence. Additionally, the determinant factors of housing delivery (time-boundness, cost-certainty and scope-adherence) themselves are found to be significantly correlated with each other. This primacy of the iron triangle establishes the need for effective management of the construction process underpinning the supply of residential real estate assets through direction of greater attention towards

time, cost and scope of projects. Further, the identified deterrents to consumer-centric residential real estate asset delivery, emanating from the framework of law, execution of law and policy interventions, have been identified to be having strong correlations with the quality of supply of residential real estate assets. To add on to this, strong correlations between the framework of law, execution of law and policy interventions point towards the need for coordinated efforts by governments, real estate promoters/developers, judicial/quasi-judicial bodies and urban local bodies. On the demand-side of the housing market, skills, awareness and engagement of consumers of residential real estate assets have been identified to be having a strong effect on each other. In a developing economy as India, affordability of housing has been rightfully observed to be having significant correlations with all the three means of stimulation of construction industry output i.e. investment, consumption and speculation. Lastly, in the context of huge diversity of population with varying intent behind the purchase of residential real estate assets in India, real estate investment, consumption and speculation are found to be significantly correlated with each other.

7.4 Chapter Summary

The different means of stimulation of construction industry output by residential real estate sector were assessed. Descriptive analysis of the factors along with tests of significance have been undertaken. Findings from interviews and discussions have been elaborated upon. Lastly, testing of the hypotheses underlying the conceptual framework of study has been undertaken. Empirical findings reaffirmed the hypothesized relationships, in addition to revealing other significant relationships between the factors under study.

CHAPTER 8

STATUS AND IMPROVEMENT OF DETERMINANT FACTORS OF CONSUMER-CENTRIC RESIDENTIAL REAL ESTATE ASSET DELIVERY

In this chapter, assessment of required level of improvement of the three determinant factors of consumer-centric residential real estate asset delivery - time-boundness, cost-certainty and scope-adherence - was conducted through analysis of survey responses and interviews. Different sub-factors of the determinant factors were identified and employed for the assessment.

Firstly, reliability of the survey instrument was assessed using the Cronbach alpha test as tabulated in Table 8.1. Descriptive analysis, one sample T-test and factor analysis were conducted on survey responses. Test results of appropriateness of data for factor analysis - KMO and Bartlett's test of sphericity - are as summarized in Table 8.1. In factor analysis, except for 'stakeholder performance' under improvement of time-boundness, other dimensions have yielded a single component. Hence, the discussion on those cases was limited to the results of descriptive analysis and one sample T-test. However, factor loadings and cumulative percentage explained are indicated in the respective analysis tables.

Table 8.1: Status and improvement of determinant factors of consumer-centric residential real estate asset delivery: Results of tests for reliability of survey instrument and appropriateness of data for factor analysis

Determinant factor	Sub-factor	KMO	Bartlett' test of sphericity	Cronbach alpha
Time-boundness	Stakeholder Performance	0.850	Significant	0.892
	Inflow of Cash	0.771	Significant	0.885
Cost-certainty	Budgeting and Monitoring	0.802	Significant	0.878
	Financial Accessibility and Management	0.853	Significant	0.903
	Regulatory Charges and Miscellaneous Expenses	0.774	Significant	0.858
Scope-adherence	Validity of Project Development and Exchange	0.896	Significant	0.913
	Disbursal of Project-scope	0.713	Significant	0.845

8.1 Improvement of Time-boundness

Status of time-boundness in residential real estate asset delivery under two sub-factors: stakeholder performance and inflow of cash, is discussed in the subsequent subsections.

8.1.1 Stakeholder Performance

Descriptive statistics and one sample T-test for the elements under stakeholder performance are as tabulated in Tables 8.2 and 8.3 respectively. The top three elements requiring improvement under stakeholder performance are a) efficiency in project planning, monitoring and control systems b) timely sourcing of building materials, construction manpower and project professionals for execution of works and c) coordinated and co-operative working of project delivery stakeholders. Additionally, one sample T-test of the elements resulted in all the elements turning out to be significant.

Table 8.2: Stakeholder Performance: Descriptive Statistics

Element	Mean	SD	Rank
Efficiency in project planning, monitoring and control systems	3.86	0.97	1
Timely sourcing of building materials, construction manpower and project professionals for execution of works	3.83	1.05	2
Coordinated and co-operative working of project delivery stakeholders	3.67	1.02	3
Clarity in statutory prescriptions concerning the timeline and procedure of take-over of undelivered projects by regulatory authorities	3.63	1.05	4
Adherence to prescribed timeline for registration of conveyance deed, handover of physical possession of property & necessary project documents and plans	3.55	1.11	5
Adequacy of quality and quantity of manpower at urban local bodies, regulatory authorities, judicial and quasi-judicial bodies	3.54	1.14	6
Efficient usage of information technology (IT) systems, project management software etc. by project delivery stakeholders	3.50	1.13	7
Penal provisions for non-timely take-over/non-delivery of projects by regulatory authorities	3.43	1.15	8

Table 8.3: Stakeholder Performance: One Sample T-test

Element	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Coordinated and co-operative working of project delivery stakeholders	0.000	0.67	0.51	0.83
Timely sourcing of building materials, construction manpower and project professionals for execution of works	0.000	0.83	0.66	0.99
Efficiency in project planning, monitoring and control systems	0.000	0.86	0.71	1.01
Adequacy of quality and quantity of manpower at urban local bodies, regulatory authorities, judicial and quasi-judicial bodies	0.000	0.54	0.37	0.72
Efficient usage of information technology (IT) systems, project management software etc. by project delivery stakeholders	0.000	0.50	0.33	0.67
Clarity in statutory prescriptions concerning the timeline and procedure of take-over of undelivered projects by regulatory authorities	0.000	0.63	0.47	0.79
Penal provisions for non-timely take-over/non-delivery of projects by regulatory authorities	0.000	0.43	0.25	0.60
Adherence to prescribed timeline for registration of conveyance deed, handover of physical possession of property & necessary project documents and plans	0.000	0.55	0.38	0.73

Following this, factor analysis of significant elements yielded two components with 71.26% of cumulative variance explained, as in Table 8.4. The components are named as *optimisation of performance in housing delivery process* (component 1) and *adherence to statutory timelines and efficient usage of technology* (component 2).

Table 8.4: Stakeholder Performance: Factor Analysis

Time-boundness: Stakeholder Performance	Component	
	1	2
Timely sourcing of building materials, construction manpower and project professionals for execution of works	0.921	
Efficiency in project planning, monitoring and control systems	0.822	
Adequacy of quality and quantity of manpower at urban local bodies, regulatory authorities, judicial and quasi-judicial bodies	0.710	
Coordinated and co-operative working of project delivery stakeholders	0.708	

Efficient usage of information technology (IT) systems, project management software etc. by project delivery stakeholders	0.591	0.530
Penal provisions for non-timely take-over/non-delivery of projects by regulatory authorities		0.844
Adherence to prescribed timeline for registration of conveyance deed, hand-over of physical possession of property & necessary project documents and plans		0.830
Clarity in statutory prescriptions concerning the timeline and procedure of take-over of undelivered projects by regulatory authorities		0.752
Variance explained %	38.819	32.438
Cumulative variance explained %	71.257	

Interview respondents as promoters/developers and professionals working for/with them (R1,2,4 and 8) opined that housing delivery is dependent on construction planning, monitoring and control. There was concurrence by real estate sector-specific researchers (R5,6) on the need to ease procedures and systems to ensure that any kind of roadblock to efficient project management is done away with. Effective use of information technology systems was agreed upon to improve planning, monitoring and control of projects.

8.1.2 Inflow of Cash

Under inflow of cash into real estate projects, descriptive statistics and one sample T-test were performed, as in Tables 8.5 and 8.6 respectively. The top-most elements under this category are a) well-balanced standardised design of staged-payment-timeline by promoters/ developers, to be adhered to by consumers/buyers of assets b) rational design of sales timeline by promoters/developers and c) prudent design of project finance pay-back timeline by financiers. One sample T-test established the significance of all the identified elements.

Table 8.5: Inflow of Cash: Descriptive Statistics

Element	Mean	SD	Rank
Well-balanced standardised design of staged-payment-timeline by promoters/developers, to be adhered to by consumers/buyers of assets	3.63	1.03	1
Rational design of sales timeline by promoters/developers	3.61	1.02	2
Prudent design of project finance pay-back timeline by financiers	3.52	1.10	3
Timely disbursal of project funds by lending agencies	3.51	1.21	4

Table 8.6: Inflow of Cash: One Sample T-test

Element	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Timely disbursal of project funds by lending agencies	0.000	0.51	0.32	0.69
Prudent design of project finance pay-back timeline by financiers	0.000	0.52	0.35	0.69
Rational design of sales timeline by promoters/developers	0.000	0.61	0.45	0.76
Well-balanced standardised design of staged-payment-timeline by promoters/developers, to be adhered to by consumers/buyers of assets	0.000	0.63	0.47	0.79

In general, real estate promoters/developers (R1,2,8) put forth that sustenance of sales is of utmost importance for a project' delivery to be in motion and often excessively optimistic sale targets are set for residential real estate projects. Promoters/developers as R3 explained the following:

“June-Dec 2021 saw a lot of sales happening in the residential market. Post that, the Ukraine-Russia war, coupled with interest rate hikes and fear of lay-offs made it difficult to achieve sale targets. Additionally, easy access to information by home-buyers has brought in a lot of prudence in decision-making.”

As far as sales with respect to residential township projects are concerned, promoters/developers as R4 expressed the following:

“Irrational sale timelines are very much an issue in the real estate sector. However, sale timelines for townships are often very much positive and

rightfully so. The reality on the ground in fact does match that. Townships and the benefits that come with it are so sought by consumers that a lot of units are sold much before the beginning of actual construction works on site.”

Researchers working in the real estate sector (R5,6) raise an important point of concern that often times in order to get money from investors, promoters/developers put forward extremely optimistic sale timelines and cash-flow designs.

8.2 Improvement of Cost-certainty

Status of cost-certainty in residential real estate asset delivery along three sub-factors, namely, budgeting and monitoring, financial accessibility and management, and regulatory charges and miscellaneous expenses, is discussed in the subsequent subsections.

8.2.1 Budgeting and Monitoring

Under budgeting and monitoring of residential real estate projects, descriptive statistics and one sample T-test were performed, as in Tables 8.7 and 8.8 respectively. The top-most elements under this category are a) efficiency in project planning, monitoring and control systems b) accuracy in estimation and costing practices and c) detailing of drawings and specifications. One sample T-test established the significance of all the identified elements.

Table 8.7: Budgeting and Monitoring: Descriptive Statistics

Element	Mean	SD	Rank
Efficiency in project planning, monitoring and control systems	3.63	1.06	1
Accuracy in estimation and costing practices	3.61	1.06	2
Timely creation and disbursal of project progress reports to stakeholders	3.53	1.15	3
Detailing of drawings and specifications	3.53	1.10	4
Provisioning for contingency amount in budgeting	3.52	1.03	5

Table 8.8: Budgeting and Monitoring: One Sample T-test

Element	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Detailing of drawings and specifications	0.000	0.53	0.36	0.70
Accuracy in estimation and costing practices	0.000	0.61	0.45	0.78
Provisioning for contingency amount in budgeting	0.000	0.52	0.37	0.68
Efficiency in project planning, monitoring and control systems	0.000	0.63	0.47	0.80
Timely creation and disbursement of project progress reports to stakeholders	0.000	0.53	0.35	0.71

Real estate promoters/developers as R1,2 put forth that there is a need to improve accuracy of estimation and costing practices in real estate projects. Elaborating on the same, following concerns were raised:

“Usually, there is a breach within 15-20% of the estimated budget. Data bank systems are not really in place. There exists poor data bank as of date, which in turn leads to poor modelling of project cost. As a result, eventually the estimated budget is exceeded.”

Other promoters/developers as R4, along with real estate researchers as R5, 6 reflect on the issue of blind reliance on benchmarks to estimate budgets. Likewise, R8 sheds light on the need for higher accuracy in estimation and costing, rather than relying on mere guesstimates from previous experience of having executed housing projects.

8.2.2 Financial Accessibility and Management

As far as financial accessibility and management in relation to real estate projects are concerned, descriptive statistics and one sample T-test were performed, as in Tables 8.9 and 8.10 respectively. The top-most elements under this category are a) regulatory reforms to allow access to external commercial borrowings (ECBs) by real estate projects b) well-balanced standardised design of consumer/buyer’ staged-payment-timeline by promoters/ developers and c) regulatory reforms to ease access to foreign direct investments by the sector and d) ethical working of project professionals (architects, engineers and chartered accountants) under promoters/developers. All the

factors under this category turned out to be significant when subjected to one sample T-test.

Table 8.9: Financial Accessibility and Management: Descriptive Statistics

Element	Mean	SD	Rank
Regulatory reforms to allow access to external commercial borrowings (ECBs) by real estate projects	3.58	1.12	1
Well-balanced standardised design of consumer'/buyer' staged-payment-timeline by promoters/developers	3.55	1.04	3
Regulatory reforms to ease access to foreign direct investments by the sector	3.55	1.13	2
Ethical working of project professionals (architects, engineers and chartered accountants) under promoters/developers	3.55	1.13	4
Ease of access to project finance by promoters/developers	3.54	1.16	5
Facilitative measures to channelize private sector investment into housing	3.51	1.13	6
Ease of access to low-cost funding for land acquisition by promoters/developers	3.46	1.18	7
Penetration of housing finance companies	3.46	1.04	8

Table 8.10: Financial Accessibility and Management: One Sample T-test

Element	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Ease of access to low-cost funding for land acquisition by promoters/developers	0.000	0.46	0.28	0.65
Ease of access to project finance by promoters/developers	0.000	0.54	0.36	0.71
Penetration of housing finance companies	0.000	0.46	0.30	0.62
Facilitative measures to channelize private sector investment into housing	0.000	0.51	0.33	0.68
Regulatory reforms to ease access to foreign direct investments by the sector	0.000	0.55	0.38	0.73
Regulatory reforms to allow access to external commercial borrowings (ECBs) by real estate projects	0.000	0.58	0.41	0.76
Well-balanced standardised design of consumer'/buyer' staged-payment-timeline by promoters/developers	0.000	0.55	0.39	0.71
Ethical working of project professionals (architects, engineers and chartered accountants) under promoters/developers	0.000	0.55	0.37	0.72

Promoters/developers as R1,2 state that access to low cost funding for land acquisition is desirable. According to them, the problem here is with respect to land not being treated as a 'raw material' that goes into housing. However, researchers working in the real estate sector (R5,6) believe that low cost funding for land acquisition shall only lead to speculation in land. Likewise, financiers as R9,10 state the following:

“Ease of access to low-cost funding for land acquisition by promoters/developers would lead to a lot of speculation in land by promoters/developers. In Mandya (neighbouring city of Bengaluru) for example, vast stretches of land have been bought by real estate developers. These land banks allow for excessive speculation in land prices. The corporate loans lent by NBFCs to real estate development firms have often been used for purchase of land, instead of being used for delivery of housing projects.

Unaccounted money has since long found its way into the real estate sector in Bengaluru. This money is infused into real estate developer firms, allowing for large land banks to be created. Artificial appreciation of land price is caused this way, even with no real development in the area. This rise in land prices, combined with appreciation of housing prices, provides for good returns to money launderers on one hand, while also making housing extremely unaffordable to a large chunk of middle-segment, standard and low income group home-buyers. Private equity in and private debt to real estate development firms are often the means for money laundering. It is a vicious cycle that benefits both real estate developers and money launderers, while acting to the detriment of home-buyers.”

Chartered accountants as R11 working for promoters/developers raise the following concerns:

“Availability of low cost funding for land acquisition has got both positives and negatives associated with it. On one hand, low cost funding helps lower the input cost of land and this can in turn be passed on to home-buyers, allowing for greater affordability of housing. On the other hand, it can also lead to

promoters/developers availing funds to create land banks for the purpose of speculation.”

As far as external commercial borrowings by the real estate sector is concerned, financiers as R9,10 put forth that this route is usually not chosen for the following reason:

“The quantum requirement by real estate companies is not that high. For example, there is no requirement of Rs. 10,000 crores for any real estate project. Also, ECBs are not cheap. The borrowing which happens in foreign funds needs to be hedged, which ultimately leads to an increase in the cost of borrowing.”

Researchers (R5,6) concurred that external commercial borrowings (ECBs) are not really cheap. Real estate activists as R13 and R15 explain the following concerns with promoters/developers:

“Staged payment timeline issues - Front loading of payment timelines is a reality in the Indian context. The argument that promoters/developers have a lot of expenses in the initial phases of residential real estate projects thereby requiring them to collect payments much higher than actual progress on the ground holds no merit. It only proves that promoters/developers do not want to start projects with their own capital and want the home-buyers to take up that responsibility, which is erroneous by all means. Cost of land supposing to be generally not be more than 20% of project cost, promoters/developers often recover the same in the very first instalment itself (usually 20%). Subsequent instalments amount to construction costs and profits. So, in 3-4 instalments land plus construction costs are usually recovered.

Front-loading of staged payment timeline is a huge issue. This is something that is not allowed for under RE(R&D)A, 2016, but has been adopted by promoters/developers for their convenience. Ideally, 90% of work should demand 90% of sale price. But that is not the case at all! How is it that law makers and regulators have not been able to understand this stark problem visible to the naked eye? RERA specifies that you cannot take more than 10% before signing the agreement for sale + After the agreement for sale, balance

money can be taken. Now how this balance money gets collected needs to be decided by the provisions of RE(R&D)A, 2016. The provisions under RE(R&D)A, 2016 stipulate that promoters/developers are to take money commensurate with the amount of work executed. There is no problem here as far as the law itself is concerned. The issue here is with respect to the front loading of payments. Construction linked payment timeline, which is designed to allow for payment of monies after mere laying of slabs for each floor is at the root of the problem. Mere placing of a slab does not amount to completion of a floor - As simple as that! There is a huge lacuna here which needs to be addressed.”

8.2.3 Regulatory Charges and Miscellaneous Expenses

Descriptive statistics and one sample T-test for the elements under regulatory charges and miscellaneous expenses are as tabulated in Tables 8.11 and 8.12 respectively. The top three elements requiring improvement under this category are a) procedures and safeguards for whistle-blowing of corruption in government offices b) implementation of e-payment system for transactions with urban local bodies and c) reasonability of statutory taxes, levies and charges upon real estate transactions. Additionally, one sample T-test of the elements resulted in all the elements turning out to be significant.

Table 8.11: Regulatory Charges and Miscellaneous Expenses: Descriptive Statistics

Element	Mean	SD	Rank
Procedures and safeguards for whistle-blowing of corruption in government offices	3.69	1.26	1
Implementation of e-payment system for transactions with urban local bodies	3.64	1.18	2
Reasonability of statutory taxes, levies and charges upon real estate transactions	3.64	1.20	3
Stability of tax regime and tax slabs	3.62	1.21	4
Concessions in and waiver of regulatory charges to stimulate demand/supply	3.41	1.25	5

Table 8.12: Regulatory Charges and Miscellaneous Expenses: One Sample T-test

Element	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Stability of tax regime and tax slabs	0.000	0.62	0.44	0.81
Reasonability of statutory taxes, levies and charges upon real estate transactions	0.000	0.64	0.45	0.82
Concessions in and waiver of regulatory charges to stimulate demand/supply	0.000	0.41	0.22	0.60
Procedures and safeguards for whistle-blowing of corruption in government offices	0.000	0.69	0.49	0.88
Implementation of e-payment system for transactions with urban local bodies	0.000	0.64	0.46	0.83

As far as bringing about reasonability in statutory taxes, levies and charges is concerned, promoters/developers as R1,2,8 point out towards the measures being “often too little and too late”. With regards to procedures and safeguards for whistleblowing of corruption in government offices, researchers working in the real estate sector (R5,6) stress on the need for whistleblowing of corruption not only from outside, but also from within government offices. They state that it is important to have procedures and safeguards for whistle-blowing of corruption in government offices by those working at those offices. Additionally, they attribute the presence of corruption to dual reasons: a) strict regulation b) poor enforcement of regulation. The menace of corruption specifically in the city of Bengaluru was stressed upon.

8.3 Improvement of Scope-adherence

Status of scope-adherence in residential real estate asset delivery under two dimensions, validity of project development and exchange and disbursement of project scope, is discussed in the subsequent subsections.

8.3.1 Validity of project development and exchange

Descriptive statistics and one sample T-test for the elements under validity of project development and exchange are as tabulated in Tables 8.13 and 8.14 respectively. The top three elements requiring improvement under this category are a) securing of a range of statutory approvals and permits from urban local bodies and parastatals b) abidance

of mandatory registration of project with regulatory authority, prior to advertising/marketing/ booking/sale or offering for sale and c) adherence to approved project plans and specifications. Additionally, one sample T-test of the elements resulted in all the elements turning out to be significant.

Table 8.13: Validity of Project Development and Exchange: Descriptive Statistics

Element	Mean	SD	Rank
Securing of a range of statutory approvals and permits from urban local bodies and parastatals	3.78	1.08	1
Abidance of mandatory registration of project with regulatory authority, prior to advertising/marketing/booking/sale or offering for sale	3.76	1.11	2
Adherence to approved project plans and specifications	3.75	1.10	3
Securing of occupancy certificate and/or completion certificate prior to allowing for consumer/buyer occupancy	3.75	1.17	4
Execution of registered conveyance deed in favour of allottee/association of allottees/competent authority	3.73	1.18	5
Securing of commencement certificate prior to beginning of construction works	3.64	1.18	6

Table 8.14: Validity of Project Development and Exchange: One Sample T-test

Element	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Securing of commencement certificate prior to beginning of construction works	0.000	0.64	0.46	0.82
Securing of a range of statutory approvals and permits from urban local bodies and parastatals	0.000	0.78	0.62	0.95
Adherence to approved project plans and specifications	0.000	0.75	0.58	0.92
Abidance of mandatory registration of project with regulatory authority, prior to advertising/marketing/booking/sale or offering for sale	0.000	0.76	0.59	0.93
Securing of occupancy certificate and/or completion certificate prior to allowing for consumer/buyer occupancy	0.000	0.75	0.57	0.93
Execution of registered conveyance deed in favour of allottee/association of allottees/competent authority	0.000	0.73	0.55	0.91

As far as securing occupancy certificates for real estate projects is concerned, promoters/developers (R1,2,8) express it as huge source of concern. They point towards the need for huge improvement in this aspect as it takes a lot of time to ready the product after a number of delays. Real estate sector-specific researchers as R5,6 reflect on the issue of road widening and associated calculation of floor area ratio (FAR) often halting the obtainment of occupancy certificates.

8.3.2 Disbursal of Project Scope

As far as disbursal of scope of real estate projects is concerned, descriptive statistics and one sample T-test were performed, as in Tables 8.15 and 8.16 respectively. The elements under this category are a) strict implementation of statutory safeguards, provisions and procedures pertaining to variations/deviations from sanctioned plans and specifications b) stringency of penal liabilities for variations/deviations from sanctioned plans and specifications and c) clarity on the extent of mandatory detailing of project scope and specifications in relevant documents to be disbursed to consumers. All the elements under this category turned out to be significant when subjected to one sample T-test.

Table 8.15: Disbursal of project Scope: Descriptive Statistics

Element	Mean	SD	Rank
Strict implementation of statutory safeguards, provisions and procedures pertaining to variations/deviations from sanctioned plans and specifications	3.64	1.19	1
Stringency of penal liabilities for variations/deviations from sanctioned plans and specifications	3.60	1.20	2
Clarity on the extent of mandatory detailing of project scope and specifications in relevant documents to be disbursed to consumers	3.55	1.15	3

Table 8.16: Disbursal of Project Scope: One Sample T-test

Element	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Clarity on the extent of mandatory detailing of project scope and specifications in relevant documents to be disbursed to consumers	0.000	0.55	0.37	0.72

Strict implementation of statutory safeguards, provisions and procedures pertaining to variations/deviations from sanctioned plans and specifications	0.000	0.64	0.46	0.83
Stringency of penal liabilities for variations/deviations from sanctioned plans and specifications	0.000	0.60	0.42	0.79

Promoters/developers as R8 admit that statutory restrictions on variations/deviations from sanctioned plans and specifications have failed to effectively act as a disincentive because of their poor implementation. Real estate researchers as R5,6 suggest the following measures with respect to variations/deviations from sanctioned plans and specifications:

“Post the sanction of plans, BBMP does not allow for variation/deviation. However, developers/promoters often deviate from the sanctioned plans. Instead of this, a system wherein there exists stage-wise evaluation of building works and a well-defined stage beyond which a promoter/developer is not supposed to make any change could be much more practical.”

Activists as R13 working for consumers of residential real estate assets express the following:

“Ideally, if violations exceed 5%, occupancy certificate is not supposed to be issued. However, home-buyers want to get more value for the amount that they are paying. Therefore, they do not indulge in due-diligence and instead go with an offering that prima facie appears to be offering more value for money, in spite of a number of legal issues associated with the offering.”

8.4 Chapter Summary

Assessment of improvement requirement in residential real estate asset delivery indicates that there is room for improvement in all aspects. Descriptive analysis of the factors along with tests of significance were undertaken. Under time-boundness of real estate asset delivery, major areas of improvement are with respect to bringing about efficiency in project planning, monitoring and control systems, timely sourcing of building materials, construction manpower and project professionals for execution of

works, and coordinated and co-operative working of project delivery stakeholders. Under cost-certainty of real estate asset delivery, priority areas of intervention are with respect to introduction of procedures and safeguards for whistle-blowing of corruption in government offices, implementation of e-payment system for transactions with urban local bodies and ensuring reasonability of statutory taxes, levies and charges upon real estate transactions. As far as scope-adherence is concerned, top-most areas requiring improvement pertain to easing of procedure for securing a range of statutory approvals and permits from urban local bodies and parastatals, abidance of mandatory registration of project with regulatory authority prior to advertising/marketing/booking/sale or offering for sale, and adherence to approved project plans and specifications. Additionally, factor analysis has been employed to identify the underlying dimensions of factors. Interviews and discussions have been used to validate the findings from quantitative analysis.

CHAPTER 9

STATUS AND IMPROVEMENT OF DETERMINANT FACTORS OF CONSUMER-EMPOWERED RESIDENTIAL REAL ESTATE ASSET DEMAND

In the present chapter, assessment of required level of improvement of the four determinant factors of consumer-empowered residential real estate asset demand - consumer skills, awareness of consumer legislation, consumer engagement and affordability of housing - was conducted through analysis of survey responses and interviews. Different dimensions of the determinant factors were identified and employed for the assessment.

Test of reliability of the survey instrument i.e. the Cronbach alpha test was performed and the results are as tabulated in Table 9.1. For the sub-factor of pricing of housing stock, Cronbach alpha value less than 0.6 was obtained. Here, correlation analyses were conducted to test inter-relatedness between elements under the sub-factor. Owing to significant correlations amongst the elements under the sub-factor, lower alpha value was ascertained to be due to lesser number of items under the sub-factor. Descriptive analysis, one sample T-test and factor analysis were conducted on survey responses. Test results of appropriateness of data for factor analysis - KMO and Bartlett's test of sphericity - are as summarized in Table 9.1. In factor analysis, except for 'numerical skills', 'technical capabilities' and 'legal understandings', other categories of factors have yielded a single component. Hence, the discussion in those cases is limited to results of descriptive analysis and one sample T-test. However, factor loadings and cumulative percentage explained are indicated in the respective analysis tables.

Table 9.1: Status and improvement of determinant factors of consumer-empowered residential real estate asset demand: Results of tests for reliability of survey instrument and appropriateness of data for factor analysis

Determinant factor	Sub-factor	KMO	Bartlett' Test of sphericity	Cronbach alpha
Consumer Skills	Numerical Skills	0.879	Significant	0.891
	Understanding of Architectural Drawings and Details	0.871	Significant	0.975

	Technical Capabilities	0.509	Significant	0.713
	Legal understandings	0.714	Significant	0.864
	Financial Understandings	0.784	Significant	0.867
Awareness of Consumer Legislation	Knowledge of Duties and Liabilities	0.839	Significant	0.84
	Knowledge of Rights and Remedies	0.896	Significant	0.976
Consumer Engagement	Due-diligence	0.836	Significant	0.961
	Availing of Legal Remedies	0.763	Significant	0.984
	Pro-active Involvement with Project Progress	0.776	Significant	0.8
Affordability	Pricing of Housing Stock	0.535	Significant	0.284
	Mortgage Loans and Interest Rates	0.581	Significant	0.801

Consumer skills in residential real estate asset demand can be categorised into a) numerical skills b) understanding of architectural drawings and details c) technical capabilities d) legal understandings and e) financial understandings. Under numerical skills, there exist the following elements, namely, i) knowledge of time value of money ii) calculation of interest iii) calculation of applicable taxes iv) basic mathematical operations v) measurement of areas of regular shapes vi) measurement of areas of irregular and skewed shapes and vii) conversion between various units of floor area measurement. Under understanding of architectural drawings, the various elements are i) knowledge of different types of architectural drawings ii) ability to read and understand different kinds of architectural drawings iii) knowledge of scales used in architectural drawings iv) ability to correlate different kinds of architectural drawings and v) knowledge of architectural conventions and symbols. Technical capabilities of home-buyers can be classified into the following elements, namely, i) understanding of the meaning and significance of different kinds of usable areas ii) knowledge of the number, types and areas of apartments/plots/ standalone houses for sale iii) nature of fixtures, fittings and amenities used in a project and iv) ability to identify additions/ alterations/changes from sanctioned plans and specifications. Legal understandings of home-buyers spans across ten elements, namely, i) awareness of promoter/ developer entity ii) knowledge of joint development (if any) between promoter/ developer and land-owner iii) knowledge of inclusions and exclusions in the prescribed sale price of units iv) awareness of price escalation clauses in agreements v) knowledge of the purposes of different kinds of documents vi) understanding of stage-wise payment plan

and repercussions of non-payment/untimely payment vii) awareness of rules relating to formation of an association/society/federation of allottees viii) awareness of force-majeure clauses and their implications ix) knowledge of the purposes of commencement certificate, occupancy certificate, completion certificate, etc. and x) knowledge of mortgage/charge created on property. Lastly, various elements under financial understandings are i) awareness of interest payable/receivable upon breach of terms of agreement for sale, rebate for early payments, cancellation charges etc. ii) knowledge of taxes applicable upon the sale of immovable property at different stages of development (viz. under-construction property, sale post-occupancy certificate obtainment) iii) knowledge of development charges imposed by competent authorities and iv) awareness of land cost, ground rent, municipal/other local taxes, charges for water/electricity, maintenance charges, mortgage loan and associated interest, encumbrances, other project-related liabilities etc., payable by the developer/promoter prior to hand-over.

Awareness of consumer legislation has two sub-factors attached to it, namely, a) knowledge of duties and liabilities and b) knowledge of rights and remedies. Under knowledge of duties and liabilities, the various elements are i) knowledge of prescribed duties and liabilities of different stakeholders involved in housing delivery ii) awareness of the terms of 'Model Agreement for Sale' iii) understanding of the applicable 'Defect Liability Period' iv) knowledge of the timeline of execution of sale deed, handing over of physical possession of housing and project-specific documents v) awareness of applicable representations, insurances and warranties to be collected from the promoter/developer. As far as knowledge of rights and remedies are concerned, the elements have been categorised as i) understanding of legal rights under various real estate sector-specific laws/statutes ii) knowledge of available legal remedies under different laws/statutes iii) knowledge of the hierarchy of judicial forums and commissions to access judicial remedy iv) knowledge of legal costs associated with different forums and commissions and v) understanding of legal framework and associated limitations in the framework of law.

Consumer engagement in housing delivery broadly relies on the sub-factors of a) due-diligence b) availing of legal remedies and c) pro-active involvement with project

progress. Under due-diligence, the various elements are i) check of the legal capacity of developer/promoter to enter into a binding contract to sell/lease/mortgage the property ii) check of the nature of rights of developer/promoter in the property being sold iii) check of the source of right/title of developer/promoter iv) Examination of legality of construction v) scrutiny of encumbrances, charges or mortgages over the property vi) scrutiny of power of attorney possessed by developer/promoter and vii) investigation of land records, mutation entries of project land parcel, khata extracts, certificates etc. As far as availing of legal remedies is concerned, there exist three elements under it, namely, i) seeking of timely legal advice upon violation of terms of allotment letter/ agreement for sale/ conveyance deed ii) timely engagement with remedies upon violation of legal rights and iii) securing the execution of judicial orders/judgements with respect to your residential real estate asset. The sub-factor of pro-active involvement with project progress has the following eight elements, namely, i) acquiring of timely project progress update from project professionals ii) frequent visits to project site to assess progress iii) on-time payment of money to developer/promoter as per agreed payment timeline iv) verification of project progress update on the website of real estate regulatory authority v) probing and availing of information pertaining to fellow allottees/buyers in real estate project vi) calling for timely formation of an association/society/federation of allottees/buyers by developer/promoter vii) collective activism by association/society/federation of allottees against variations/deviations from sanctioned plans and specifications and viii) collective engagement with project progress up till the execution of sale deed, hand-over of physical possession of housing and transfer of necessary project documents to association/society/ federation of allottees.

Lastly, affordability of housing assets has been sub-factored into a) pricing of housing stock b) household income levels and c) mortgage loans and interest rates. The various elements under the category of pricing of housing stock are i) ease of access to credit for purchase of assets ii) ease of access to real estate brokers who work collaboratively with both developers/promoters and consumers, for the benefit of both parties and iii) easing of regulatory charges, taxes, duties etc. upon real estate transactions. The category of mortgage loans and interest rates has three elements attached to it, namely,

i) lowering of mortgage interest rates ii) widening of accessibility to housing mortgage loans and iii) reduction of compliances to availing of housing mortgage loans.

9.1 Improvement of Consumer Skills

Status of consumer skills in residential real estate asset demand under five sub-factors: numerical skills, understanding of architectural drawings and details, technical capabilities, legal understandings and financial understandings, is discussed in the subsequent subsections.

9.1.1 Numerical Skills

Descriptive statistics and results of one sample T-test for the elements under numerical skills are as tabulated in Tables 9.2 and 9.3 respectively. The top three elements requiring improvement under numerical skills are a) measurement of areas of irregular and skewed shapes b) conversion between various units of floor area measurement and c) measurement of areas of regular shapes.

Table 9.2: Numerical Skills: Descriptive Statistics

Element	Mean	Std. Deviation	Rank
Measurement of areas of irregular and skewed shapes	3.48	1.45	1
Conversion between various units of floor area measurement	2.77	1.49	2
Measurement of areas of regular shapes	2.06	1.34	3
Taxation calculation	1.87	1.32	4
Interest calculation	1.86	1.23	5
Time value of money	1.85	1.33	6
Basic mathematical operations	1.74	1.20	7

One sample T-test of the elements resulted in six of the seven elements turning out to be significant. Factor analysis yielded one single component.

Table 9.3: Numerical Skills: One Sample T-test

Element	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Time value of money	0.00	-1.15	-1.38	-0.92
Interest calculation	0.00	-1.14	-1.35	-0.92

Taxation calculation	0.00	-1.13	-1.36	-0.90
Basic mathematical operations	0.00	-1.26	-1.47	-1.05
Measurement of areas of regular shapes	0.00	-0.94	-1.17	-0.71
Measurement of areas of irregular and skewed shapes	0.00	0.48	0.23	0.73
Conversion between various units of floor area measurement	0.08	-0.23	-0.49	0.03

9.1.2 Understanding of Architectural Drawings and Details

As far as understanding of architectural drawings and details is concerned, descriptive analysis and one sample T-test were performed, as in Tables 9.4 and 9.5 respectively. The top three elements requiring improvement under this category are a) knowledge of scales used in architectural drawings b) knowledge of different types of architectural drawings and c) ability to correlate different kinds of architectural drawings.

Table 9.4: Understanding of architectural drawings and details: Descriptive statistics

Element	Mean	Std. Deviation	Rank
Knowledge of scales used in architectural drawings	3.50	1.53	1
Knowledge of different types of architectural drawings	3.35	1.55	2
Ability to correlate different kinds of architectural drawings	3.29	1.54	3
Ability to read and understand different kinds of architectural drawings	3.26	1.55	4
Knowledge of architectural conventions and symbols	3.26	1.51	5

One sample T-test resulted in four of the five elements turning out to be significant. Factor analysis yielded one single component.

Table 9.5: Understanding of architectural drawings and details: One sample T-test

Element	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Knowledge of different types of architectural drawings	0.01	0.35	0.08	0.62
Ability to read and understand different kinds of architectural drawings	0.06	0.26	-0.01	0.53
Knowledge of scales used in architectural drawings	0.00	0.50	0.24	0.76

Ability to correlate different kinds of architectural drawings	0.03	0.29	0.03	0.56
Knowledge of architectural conventions and symbols	0.05	0.26	0.00	0.52

9.1.3 Technical Capabilities

Under the category of technical capabilities of home-buyers, descriptive analysis and one sample T-test were performed, as in Tables 9.6 and 9.7 respectively. The top three elements requiring improvement under this category are a) ability to identify additions/alterations/ changes from sanctioned plans and specifications b) nature of fixtures, fittings and amenities used in a project and c) knowledge of the number, types and areas of apartments/plots/ standalone houses for sale.

Table 9.6: Technical capabilities: Descriptive statistics

Element	Mean	Std. Deviation	Rank
Ability to identify additions/alterations/changes from sanctioned plans and specifications	3.22	1.51	1
Nature of fixtures, fittings and amenities used in a project	3.08	1.49	2
Knowledge of the number, types and areas of apartments/plots/standalone houses for sale	2.51	1.38	3
Understanding of the meaning and significance of different kinds of usable areas	2.45	1.38	4

This was followed by one sample T-test which resulted in two of the four elements turning out to be significant. Factor analysis yielded one single component.

Table 9.7: Technical capabilities: One sample T-test

Element	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Understanding of the meaning and significance of different kinds of usable areas	0.00	-0.55	-0.79	-0.32
Knowledge of the number, types and areas of apartments/plots/standalone houses for sale	0.00	-0.49	-0.73	-0.25
Nature of fixtures, fittings and amenities used in a project	0.56	0.08	-0.18	0.33

Ability to identify additions/alterations/changes from sanctioned plans and specifications	0.09	0.22	-0.04	0.49
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9.1.4 Legal Understandings

As far as legal understandings are concerned, descriptive analysis and one sample T-test were performed, as in Tables 9.8 and 9.9 respectively. The top three elements requiring improvement under this category are a) awareness of force-majeure clauses and their implications b) awareness of rules relating to formation of an association/society/federation of allottees and c) knowledge of mortgage/charge created on property.

Table 9.8: Legal understandings: Descriptive statistics

Element	Mean	Std. Deviation	Rank
Awareness of force-majeure clauses and their implications	3.62	1.45	1
Awareness of rules relating to formation of an association/society/federation of allottees	3.58	1.55	2
Knowledge of mortgage/charge created on property	3.42	1.61	3
Knowledge of joint development (if any) between developer/promoter and land-owner	3.15	1.61	4
Awareness of developer/promoter entity	3.09	1.64	5
Knowledge of the purposes of different kinds of documents	2.84	1.58	6
Knowledge of the purposes of commencement certificate, occupancy certificate, completion certificate, etc.	2.83	1.62	7
Awareness of price escalation clauses in agreements	2.42	1.45	8
Knowledge of inclusions and exclusions in the prescribed sale price of units	2.35	1.42	9
Understanding of stage-wise payment plan and repercussions of non-payment/untimely payment	2.20	1.38	10

One sample T-test established the significance of six of the ten elements.

Table 9.9: Legal understandings: One sample T-test

Element	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Awareness of developer/promoter entity	0.52	0.09	-0.19	0.38
Knowledge of joint development (if any) between developer/promoter and land-owner	0.28	0.15	-0.12	0.43

Knowledge of inclusions and exclusions in the prescribed sale price of units	0.00	-0.65	-0.89	-0.40
Awareness of price escalation clauses in agreements	0.00	-0.58	-0.84	-0.33
Knowledge of the purposes of different kinds of documents	0.25	-0.16	-0.44	0.11
Understanding of stage-wise payment plan and repercussions of non-payment/untimely payment	0.00	-0.80	-1.04	-0.56
Awareness of rules relating to formation of an association/society/federation of allottees	0.00	0.58	0.31	0.85
Awareness of force-majeure clauses and their implications	0.00	0.62	0.36	0.87
Knowledge of the purposes of commencement certificate, occupancy certificate, completion certificate, etc.	0.24	-0.17	-0.45	0.11
Knowledge of mortgage/charge created on property	0.00	0.42	0.14	0.70

Following this, factor analysis of significant elements yielded two components with 73.99% of cumulative variance explained, as in Table 9.10. The components were named as *awareness of monetary implications* (component 1) and *awareness of contractual documents and clauses* (component 2).

Table 9.10: Legal understandings: Factor analysis

Consumer Skills: Legal understandings	Component	
	1	2
Knowledge of inclusions and exclusions in the prescribed sale price of units	0.969	
Understanding of stage-wise payment plan and repercussions of non-payment/untimely payment	0.935	
Awareness of price escalation clauses in agreements	0.932	
Awareness of rules relating to formation of an association/ society/ federation of allottees		0.822
Awareness of force-majeure clauses and their implications		0.799
Knowledge of mortgage/charge created on property		0.532
Variance explained %	46.245	27.753
Cumulative variance explained %	73.998	

9.1.5 Financial Understandings

Descriptive statistics and results of one sample T-test for the elements under financial understandings are as tabulated in Tables 9.11 and 9.12 respectively. The top three elements requiring improvement under financial understandings are a) knowledge of development charges imposed by competent authorities b) awareness of land cost, ground rent, municipal/other local taxes, charges for water/electricity, maintenance charges, mortgage loan and associated interest, encumbrances, other project-related liabilities etc., payable by the developer/promoter prior to hand-over and c) knowledge of taxes applicable upon the sale of immovable property at different stages of development (viz. under-construction property, sale post-occupancy certificate obtainment).

Table 9.11: Financial understandings: Descriptive statistics

Element	Mean	Std. Deviation	Rank
Knowledge of development charges imposed by competent authorities	3.16	1.61	1
Awareness of land cost, ground rent, municipal/other local taxes, charges for water/electricity, maintenance charges, mortgage loan and associated interest, encumbrances, other project-related liabilities etc., payable by the developer/promoter prior to hand-over.	3.07	1.61	2
Knowledge of taxes applicable upon the sale of immovable property at different stages of development (viz. under-construction property, sale post-occupancy certificate obtainment)	2.97	1.62	3
Awareness of interest payable/receivable upon breach of terms of agreement for sale, rebate for early payments, cancellation charges etc.	2.47	1.47	4

One sample T-test of the elements resulted in one of the four elements turning out to be significant.

Table 9.12: Financial understandings: One sample T-test

Element	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Awareness of interest payable/receivable upon breach of terms of agreement for sale, rebate for early payments, cancellation charges etc.	0.00	-0.53	-0.79	-0.27

Knowledge of taxes applicable upon the sale of immovable property at different stages of development (viz. under-construction property, sale post-occupancy certificate obtainment)	0.83	-0.03	-0.31	0.25
Knowledge of development charges imposed by competent authorities	0.26	0.16	-0.12	0.44
Awareness of land cost, ground rent, municipal/other local taxes, charges for water/electricity, maintenance charges, mortgage loan and associated interest, encumbrances, other project-related liabilities etc., payable by the developer/promoter prior to hand-over.	0.62	0.07	-0.21	0.35

9.2 Improvement of Awareness of Consumer Legislation

Status of awareness of consumer legislation in residential real estate asset demand under two sub-factors: knowledge of duties and liabilities and knowledge of rights and remedies, is discussed in the subsequent subsections.

9.2.1 Knowledge of Duties and Liabilities

As far as knowledge of duties and liabilities is concerned, descriptive analysis and one sample T-test were performed, as in Tables 9.13 and 9.14 respectively. The top three elements requiring improvement under this category are a) awareness of the terms of ‘Model Agreement for Sale’ b) awareness of applicable representations, insurances and warranties to be collected from the developer/promoter and c) understanding of the applicable ‘Defect Liability Period’.

Table 9.13: Knowledge of duties and liabilities: Descriptive statistics

Element	Mean	Std. Deviation	Rank
Awareness of the terms of ‘Model Agreement for Sale’	4.09	1.39	1
Awareness of applicable representations, insurances and warranties to be collected from the developer/promoter	3.95	1.46	2
Understanding of the applicable ‘Defect Liability Period’	3.73	1.53	3
Knowledge of prescribed duties and liabilities of different stakeholders involved in housing delivery	3.42	1.55	4
Knowledge of the timeline of execution of sale deed, handing over of physical possession of housing and project-specific documents	3.33	1.61	5

One sample T-test established the significance of all the elements under this category. Factor analysis yielded one single component.

Table 9.14: Knowledge of duties and liabilities: One sample T-test

Element	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Knowledge of prescribed duties and liabilities of different stakeholders involved in housing delivery	0.00	0.42	0.15	0.69
Awareness of the terms of 'Model Agreement for Sale'	0.00	1.09	0.85	1.33
Understanding of the applicable 'Defect Liability Period'	0.00	0.73	0.46	1.00
Knowledge of the timeline of execution of sale deed, handing over of physical possession of housing and project-specific documents	0.02	0.33	0.05	0.61
Awareness of applicable representations, insurances and warranties to be collected from the developer/promoter	0.00	0.95	0.69	1.20

9.2.2 Knowledge of Rights and Remedies

Moving on to knowledge of rights and remedies, descriptive analysis and one sample T-test were performed, as in Tables 9.15 and 9.16 respectively. The top three elements requiring improvement under this category are a) knowledge of legal costs associated with different forums and commissions b) understanding of legal framework and associated limitations in the framework of law and c) knowledge of the hierarchy of judicial forums and commissions to access judicial remedy.

Table 9.15: Knowledge of rights and remedies: Descriptive statistics

Element	Mean	Std. Deviation	Rank
Knowledge of legal costs associated with different forums and commissions	4.19	1.30	1.69
Understanding of legal framework and associated limitations in the framework of law	4.09	1.36	1.84
Knowledge of the hierarchy of judicial forums and commissions to access judicial remedy	4.07	1.31	1.71
Knowledge of available legal remedies under different laws/statutes	4.00	1.34	1.78
Understanding of legal rights under various real estate sector-specific laws/statutes	3.99	1.34	1.81

One sample T-test established the significance of all the elements under this category and factor analysis yielded one single component.

Table 9.16: Knowledge of rights and remedies: One sample T-test

Element	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Understanding of legal rights under various real estate sector-specific laws/statutes	0.00	0.99	0.76	1.23
Knowledge of available legal remedies under different laws/statutes	0.00	1.00	0.77	1.23
Knowledge of the hierarchy of judicial forums and commissions to access judicial remedy	0.00	1.07	0.84	1.30
Knowledge of legal costs associated with different forums and commissions	0.00	1.19	0.97	1.42
Understanding of legal framework and associated limitations in the legal framework	0.00	1.09	0.86	1.33

9.3 Improvement of Consumer Engagement

Status of consumer engagement in residential real estate asset demand under three sub-factors: due-diligence, availing of legal remedies and pro-active involvement with project progress, is discussed in the subsequent subsections.

9.3.1 Due-diligence

Under due-diligence, descriptive analysis and one sample T-test were performed, as in Tables 9.17 and 9.18 respectively. The top three elements requiring improvement under this category are a) check of the nature of rights of promoter/developer in the property being sold b) check of the source of right/title of promoter/developer and c) examination of legality of construction.

Table 9.17: Due-diligence: Descriptive statistics

Element	Mean	Std. Deviation	Rank
Check of the nature of rights of promoter/developer in the property being sold	3.33	1.66	1
Check of the source of right/title of promoter/developer	3.24	1.60	2
Examination of legality of construction	3.18	1.63	3
Scrutiny of encumbrances, charges or mortgages over the property	3.18	1.63	4

Check of the legal capacity of promoter/developer to enter into a binding contract to sell/lease/mortgage the property	3.12	1.65	5
Scrutiny of power of attorney possessed by promoter/developer	3.12	1.61	6
Investigation of land records, mutation entries of project land parcel, khata extracts, certificates etc.	3.03	1.62	7

Following this, one sample T-test established the significance of one of the seven elements.

Table 9.18: Due-diligence: One sample T-test

Element	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Check of the legal capacity of developer/promoter to enter into a binding contract to sell/lease/ mortgage the property	0.40	0.12	-0.16	0.41
Check of the nature of rights of developer/promoter in the property being sold	0.03	0.33	0.04	0.62
Check of the source of right/title of developer/promoter	0.09	0.24	-0.04	0.52
Examination of legality of construction	0.20	0.18	-0.10	0.47
Scrutiny of encumbrances, charges or mortgages over the property	0.20	0.18	-0.10	0.47
Scrutiny of power of attorney possessed by developer/promoter	0.41	0.12	-0.16	0.39
Investigation of land records, mutation entries of project land parcel, khata extracts, certificates etc.	0.83	0.03	-0.25	0.31

9.3.2 Availing of Legal Remedies

As far as availing of legal remedies is concerned, descriptive analysis and one sample T-test were performed, as in Tables 9.19 and 9.20 respectively. The three elements requiring improvement under this category are a) timely engagement with remedies upon violation of legal rights b) securing the execution of judicial orders/judgements with respect to your residential real estate asset and c) seeking of timely legal advice upon violation of terms of allotment letter/ agreement for sale/ conveyance deed.

Table 9.19: Availing of legal remedies: Descriptive statistics

Element	Mean	Std. Deviation	Rank
Timely engagement with remedies upon violation of legal rights	3.89	1.37	1
Securing the execution of judicial orders/judgements with respect to your residential real estate asset	3.87	1.41	2
Seeking of timely legal advice upon violation of terms of allotment letter/agreement for sale/conveyance deed	3.86	1.40	3

One sample T-test established the significance of all the three elements under this category. Factor analysis yielded one single component.

Table 9.20: Availing of legal remedies: One sample t-test

Element	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Seeking of timely legal advice upon violation of terms of allotment letter/agreement for sale/conveyance deed	0.00	0.86	0.62	1.10
Timely engagement with remedies upon violation of legal rights	0.00	0.89	0.65	1.13
Securing the execution of judicial orders/judgements with respect to your residential real estate asset	0.00	0.87	0.63	1.11

9.3.3 Pro-active Involvement with Project Progress

Moving on to pro-active involvement with project progress, descriptive analysis and one sample T-test were performed, as in Tables 9.21 and 9.22 respectively. The top three elements requiring improvement under this category are a) verification of project progress update on the website of real estate regulatory authority b) calling for timely formation of an association/society/federation of allottees/buyers by developer/promoter and c) probing and availing of information pertaining to fellow allottees/buyers in real estate project.

Table 9.21: Pro-active involvement with project progress: Descriptive statistics

Element	Mean	Std. Deviation	Rank
Verification of project progress update on the website of real estate regulatory authority	3.88	1.51	1

Calling for timely formation of an association/society/federation of allottees/buyers by developer/promoter	3.62	1.62	2
Probing and availing of information pertaining to fellow allottees/buyers in real estate project	3.47	1.65	3
Collective activism by association/society/federation of allottees against variations/deviations from sanctioned plans and specifications	3.46	1.63	4
Collective engagement with project progress up till the execution of sale deed, hand-over of physical possession of housing and transfer of necessary project documents to association/society/ federation of allottees	2.05	1.36	5
Acquiring of timely project progress update from project professionals	2.02	1.40	6
Frequent visits to project site to assess progress	1.92	1.34	7
On-time payment of money to developer/promoter as per agreed payment timeline	1.43	0.83	8

One sample T-test established the significance of all the elements under this category.

Table 9.22: Pro-active involvement with project progress: One sample T-test

Element	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Acquiring of timely project progress update from project professionals	0.00	-0.98	-1.22	-0.73
Frequent visits to project site to assess progress	0.00	-1.08	-1.32	-0.85
On-time payment of money to developer/promoter as per agreed payment timeline	0.00	-1.57	-1.71	-1.43
Verification of project progress update on the website of real estate regulatory authority	0.00	0.88	0.61	1.14
Probing and availing of information pertaining to fellow allottees/buyers in real estate project	0.00	0.47	0.18	0.76
Calling for timely formation of an association/society/federation of allottees/buyers by developer/promoter	0.00	0.62	0.33	0.90
Collective activism by association/society/federation of allottees against variations/deviations from sanctioned plans and specifications	0.00	0.46	0.18	0.74

Collective engagement with project progress up till the execution of sale deed, hand-over of physical possession of housing and transfer of necessary project documents to association/society/federation of allottees	0.00	-0.95	-1.18	-0.71
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Following this, factor analysis of significant factors yielded two components with 73.97% of cumulative variance explained, as in Table 9.23. The components were named as *demand for adherence to statutory prescription by consumer-collective* (component 1) and *pro-active consumer engagement with project progress* (component 2).

Table 9.23: Legal understandings: Factor analysis

Consumer Skills: Legal understandings	Component	
	1	2
Collective activism by association/society/federation of allottees against variations/deviations from sanctioned plans and specifications	0.959	
Probing and availing of information pertaining to fellow allottees/buyers in real estate project	0.959	
Calling for timely formation of an association/society/federation of allottees/buyers by developer/promoter	0.955	
Verification of project progress update on the website of real estate regulatory authority	0.576	
Collective engagement with project progress up till the execution of sale deed, hand-over of physical possession of housing and transfer of necessary project documents to association/society/federation of allottees		0.968
Acquiring of timely project progress update from project professionals		0.961
Frequent visits to project site to assess progress		0.950
Variance explained %	38.802	36.165
Cumulative variance explained %	74.968	

9.4 Affordability

Status of affordability of housing in residential real estate asset demand under three sub-factors: pricing of housing stock, household income levels and mortgage loans and interest rates, is discussed in the subsequent subsections.

9.4.1 Pricing of housing stock

Descriptive statistics and results of one sample T-test for the elements under-pricing of housing stock are as tabulated in Tables 9.24 and 9.25 respectively. The three elements requiring improvement under this category are a) easing of regulatory charges, taxes, duties etc. upon real estate transactions b) ease of access to credit for purchase of assets and c) ease of access to real estate brokers who work collaboratively with both developers/promoters and consumers, for the benefit of both parties.

Table 9.24: Affordability: Descriptive statistics

Element	Mean	Std. Deviation	Rank
Easing of regulatory charges, taxes, duties etc. upon real estate transactions	3.91	1.35	1.82
Ease of access to credit for purchase of assets	1.96	1.33	1.77
Ease of access to real estate brokers who work collaboratively with both developers/promoters and consumers, for the benefit of both parties	1.93	1.24	1.54

One sample T-test of the elements resulted in all of the four elements turning out to be significant. Factor analysis yielded one single component.

Table 9.25: Affordability: One sample T-test

Element	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Ease of access to credit for purchase of assets	0.00	-1.04	-1.27	-0.81
Ease of access to real estate brokers who work collaboratively with both developers/promoters and consumers, for the benefit of both parties	0.00	-1.07	-1.28	-0.85
Easing of regulatory charges, taxes, duties etc. upon real estate transactions	0.00	0.91	0.67	1.14

9.4.2 Household Income Levels

Descriptive statistics and results of one sample T-test for adequacy of household income to market pricing of associated housing stock are as tabulated in Table 9.26.

Table 9.26: Household income levels: Descriptive statistics and one sample T-test

Element	Mean	Std. Deviation	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Lower
Adequacy of household income to market pricing of associated housing stock	3.97	1.24	0.00	0.97	0.75	1.18

9.4.3 Mortgage Loans and Interest Rates

Lastly, descriptive statistics and results of one sample T-test for the elements under mortgage loans and interest rates are as tabulated in Tables 9.27 and 9.28. The elements requiring improvement under this category are a) lowering of mortgage interest rates b) widening of accessibility to housing mortgage loans and c) reduction of compliances to availing of housing mortgage loans.

Table 9.27: Mortgage loans and interest rates: Descriptive statistics

Element	Mean	Std. Deviation	Rank
Lowering of mortgage interest rates	3.67	1.47	1
Widening of accessibility to housing mortgage loans	3.61	1.46	2
Reduction of compliances to availing of housing mortgage loans	2.84	1.65	3

One sample T-test of the elements resulted in two of the three elements turning out to be significant. Factor analysis yielded one single component.

Table 9.28: Mortgage loans and interest rates: One sample T-test

Element	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Lowering of mortgage interest rates	0.00	0.67	0.41	0.92
Widening of accessibility to housing mortgage loans	0.00	0.61	0.35	0.86
Reduction of compliances to availing of housing mortgage loans	0.27	-0.16	-0.45	0.12

9.5 Chapter Summary

Assessment of improvement requirement in residential real estate asset demand points towards room for improvement in all aspects of asset acquisition. Descriptive analysis of the factors along with tests of significance were undertaken. For consumer skills in residential real estate asset demand, major area of improvement as far as numerical skills is concerned is with respect to measurement of areas of irregular and skewed shapes. In understanding of architectural drawings and details, it is the lack of knowledge of scales used in architectural drawings that requires improvement. Under technical capabilities, knowledge of the number, types and areas of apartments/plots/standalone houses for sale was found to be significantly good. As far as legal understandings pertaining to asset acquisition is concerned, awareness of force-majeure clauses and their implications is of pertinence. Likewise, under financial understandings, home-buyers were found to be well aware of interest payable/receivable upon breach of terms of agreement for sale, rebate for early payments, cancellation charges etc. As far as knowledge of duties and liabilities of different stakeholders is concerned, it was deemed pertinent to improve awareness of the terms of 'Model Agreement for Sale'. Knowledge of legal costs associated with different forums and commissions was raised as an important factor of concern requiring improvement under the category of knowledge of rights and remedies. Due-diligence prior to purchase of residential real estate assets was identified to be majorly lacking in the check of the nature of rights of promoter/developer in the property being sold. As far as availing of legal remedies is concerned, timely engagement with remedies upon violation of legal rights was identified to be important. Improvement of pro-active involvement of consumers with project progress called for verification of project progress update on the website of real estate regulatory authority. Lastly, under affordability of housing, easing of regulatory charges, taxes, duties etc. upon real estate transactions, enhancing of adequacy of household income to market pricing of associated housing stock and lowering of mortgage interest rates were found to be of prime importance. Factor analysis has been employed where deemed necessary to identify the underlying dimensions of factors.

CHAPTER 10

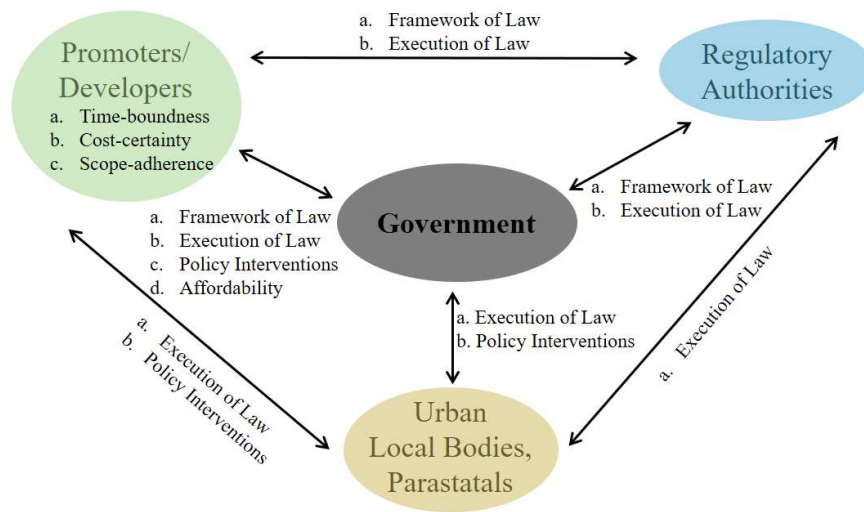
IMPROVEMENT FRAMEWORKS FOR ENHANCED EFFICIENCY OF RESIDENTIAL REAL ESTATE MARKET

This chapter covers the improvement frameworks for determinant factors on both demand and delivery (supply) sides of residential real estate market. On the delivery-side of residential real estate market, the determinant factors requiring improvement are time-boundness, cost-certainty and scope-adherence. On the demand-side of residential real estate market, the determinant factors requiring improvement are consumer skills, awareness of consumer legislation, consumer engagement and affordability.

10.1 Improvement Framework for Consumer-centric Residential Real Estate Asset Delivery

Based on the analysis of quantitative and qualitative data secured from questionnaire survey, interviews and document analyses, the improvement framework for residential real estate delivery side has been developed. For the real estate delivery-side stakeholders, an improvement framework concentrating on optimizing of coordination between relevant stakeholders has been developed, as in Fig 10.1.

Fig. 10.1: Improvement framework for consumer-centric residential real estate asset delivery



Here, the government is placed at the centre of the framework. The different stakeholders interact with each other across a range of interfaces. The interaction of government with residential real estate promoters/developers happens through a) the framework of law b) execution of law c) policy interventions and d) affordability. As far as the interaction of government with ULBs and parastatals is concerned, the same happens through a) execution of law and b) policy interventions. The regulatory authorities, on the other hand, interact with government on a) framework of law and b) execution of law. Promoters/developers of residential real estate assets interact with ULBs and parastatals across the categories of a) execution of law and b) policy interventions. ULBs and parastatals interact with regulatory authorities when execution of law needs to be undertaken. Lastly, the interface of interaction of promoters/developers and regulatory authorities happens across a) framework of law and b) execution of law.

Having developed the broad conceptual framework, specific improvements under each category were needed to be arrived at. The same has been undertaken as in further sections.

10.1.1 Government – Urban Local Bodies

10.1.1.1 Execution of law

i) Systemic improvements

- The state government needs to direct the BBMP to do away with the 'B Register' recording property tax transactions using what is colloquially referred to as the 'B-Khatha extract'.
- Interaction between different departments involved in housing delivery needs to be eased and improved. There is a crying need for coordinated efforts between departments.
- Getting town planning authorities and revenue departments under one single roof shall simplify the process of grant of approvals.

- A completely online system for grant of approvals needs to be set up. Additionally, securing of occupancy certificate needs to be made completely online. There is a need to cut off human interaction to curb corruption by bureaucrats and government officials.
- A system needs to be put in place to enable home-buyers to understand the underlying reason behind non-issuance of OC: a) development issue (inherent issues with the development carried out by promoters/developers) or b) government issue (rent-seeking by government bodies). Additionally, clear guidelines need to be issued to BBMP on how to handle buildings without any OC.
- Two kinds of criteria need to be established and put out in public domain to bring about transparency and accountability in the process of grant of approvals: a) criteria for acceptance - a list of criteria, of which every single criterion has to be met to secure project approval b) criteria for rejection - a list of criteria, of which meeting of any criterion would result in rejection of application. Anything that is criteria driven will push people to question why their rights are being violated. There needs to be a thrust to criteria-driven assessment of applications.
- Before a single window approval system, efforts need to first be made towards i) improving enforcement and vigilance network and ii) rationalizing the setback system.
- BBMP by-laws require amendments to clearly specify what needs to be done if deviations from sanctioned plans exceed 5% (ideally the non-compliant part of the structure should be demolished). Additionally, a clear timeline needs to be set to consider such deviations and take a call.
- Clear guidelines need to be disbursed that prior to issuance of commencement certificate, a project needs to be submitted to the provisions of KAOA, 1972 through registration of a) 'Deed of Declaration' b) 'Deed of Apartment' c) association of home-buyers' by-laws and d) association of home-buyers' code of conduct. Opening of the 5th book at the sub-registrar offices across the state allowing for submission of the aggregated property (land+building) to the provisions of KAOA, 1972 needs to be brought about with a sense of urgency. Creation and maintenance of the 'Book No.5' acting as the 'Register of Declaration and Deeds of Apartments' at various sub-registrar offices across the state is the need of the hour.

- Post the sanction of plans, BBMP does not allow for variations/deviations. However, often developers/promoters deviate from sanctioned plans and specifications. To better deal with this, a system of stage-wise evaluation of building works needs to be introduced, which needs to have a number of stages of evaluation, followed by a well-defined stage beyond which a promoter/developer is barred from making any changes. Such a system shall be much more practical in comparison to the existent rigid system in place.

- The number of sub-registrar offices and benches of courts of law need to be increased. Property registration charges are a huge source of income to the state government. Therefore, greater efforts need to be directed towards making the system much more efficient.

- Usage of speed money and grease payments, especially for gaining electricity and water connections to real estate developments, needs to be curbed by putting effective vigilance mechanisms in place. It is important to have procedures and safeguards for whistle-blowing of corruption in government offices, not only by outsiders, but also by those working within these offices.

- Both online and offline modes of registration of complaints to RERA should be allowed for.

- Sale of assets without adequate legal backing like completion certificate (CC) and occupancy certificate (OC) lowers sale prices for consumers/buyers while incentivizing promoters/developers to develop many such legally deficient housing units. Therefore, a mechanized system needs to be put in place so that circle rates for different localities of Bengaluru get updated on a real-time basis as and when property registrations are undertaken at the sub-registrar office. This shall help home-buyers ascertain properties being sold at prices much lower than circle rates (based on the locality, specifications etc.), thereby provoking them to investigate the underlying reason behind the same.

- Land transactions carried out in the past have been recorded in what is called as 'taamra pathra' (copper plate). These plates bearing records of land transactions have not been digitized. Digitization of land records needs to be pursued with greater vigour.

- Backlogs in recruitment need to be addressed and recruitment of permanent staff at K-RERA and ULBs like BBMP, BDA, Bangalore Water Supply and Sewerage Board (BWSSB) etc. needs to be carried out with a sense of urgency.

- Awareness programmes need to be undertaken by the state government and the urban local bodies to correct the wrong perceptions of home-buyers that formation of an association/society/federation of allottees would absolve promoters/developers of their responsibilities as to the delivery of assets.

ii) Performance improvements

- Sub-registrars need to strictly adhere to the requirement of noting down signature and biometrics of latest authorized owners of properties and verifying that the parties intending to sell properties are indeed the verified owners of the properties.

- BBMP needs to be directed to mandatorily carry out an on-site investigation to ascertain that the initial ground markings are as per the sanctioned plans, prior to issuance of commencement certificate.

- Under the the Karnataka Guarantee of Services to Citizens Act, 2011, the Karnataka state government launched 'sakala' mission to provide guarantee of services to citizens in the state of Karnataka within certain stipulated time limit. Enforcement of 'sakala' needs to be brought about through coordinated efforts of those working within government offices.

- Instead of lowering statutory taxes, levies and charges upon real estate transactions, the same 'offsetting of expenses' could be facilitated by lowering of avoidable expenses associated with unwarranted delays in approvals and sanctions by urban local bodies.

- As far as banks providing project finance to real estate promoters/developers and housing loans to home-buyers are concerned, it is of utmost importance that they carry out (a) due-diligence (both off-site and on-site) prior to lending of loans b) mandatory registration of liens in the books of the sub-registrar. Awareness programmes for home-buyers need to be undertaken by the state government and the urban local bodies to facilitate them to act as drivers of change in bringing about the above mentioned reforms.

10.1.1.2 Policy interventions

- Improvement of floor space index (FSI) could be a step in the right direction. Policies that require promoters/developers to also develop low income group (LIG) housing on any land acquired through slum redevelopment schemes and in the vicinity of standard/mid-segment/premium/luxury/super-luxury housing on the same piece of land often fail due to the pervasive ‘caste system’ in the Indian society. Often times, it becomes extremely difficult to sell such housing to standard/mid-segment/premium/luxury/super-luxury consumers/buyers. This ultimately makes housing development infeasible for a lot of promoters/developers. In such a situation, until the erasure of the caste system from the Indian society, alternative measures that make possible both slum redevelopment and standard/mid-segment/premium/luxury/super-luxury housing need to be pondered upon. For example, a fund of sorts can be created, requiring promoters/developers to contribute to it while seeking approvals and sanctions, so that it could be routed to aid slum redevelopment schemes. This can lead to freeing up of large parcels of land without requiring promoters/developers to directly engage in slum redevelopment projects.

- Political will to experiment with single window approval system needs to be nurtured. Procedural hurdles to single window approval system need to be eased out. For example, there is a need to brainstorm over questions as ‘Where will all the officials from different departments be seated?’, ‘Who is going to chair the body that shall administer the works of different departments under one single roof?’ etc.

- There needs to be lowering of statutory taxes, levies and charges upon real estate transactions. This, however, is not supposed to be generic lowering of taxes, rather it needs to be specific in nature, catering to specific segments of home-buyers. However, it is also of importance that these rate cuts benefit home-buyers, instead of enabling promoters/developers in taking a greater share of profits arising out of rate cuts.

- Reasonability and stability in taxation of building materials and transactions needs to be brought about.

10.1.2 Government – Regulatory Authority/Judicial Bodies/Quai-judicial Bodies

10.1.2.1 Framework of law

- Clear stipulations need to be laid out by the K-RERA, in consultation with the state government on the design of staged-payment timelines by promoters/developers. Front loading of staged payment timelines needs to be strictly banned. In addition to this, awareness programmes need to be designed for home-buyers to sensitise them of the issues arising out of such front loading of payment timelines.

- A lot of time frivolous PILs are filed, which tend to waste the time of the judiciary. Appropriate legal deterrents for the same need to be provisioned.

- Amendments to RE(R&D)A, 2016 to provision for execution officers and other ancillary physical infrastructure at K-RERA should be pondered upon. If such execution officers are indeed appointed, it is of importance that they be vested with magisterial powers to get executed the judicial orders, along with creating a clear channel of communication between the execution officers and the DC offices throughout the state.

- To nip corruption in the bud, two things need to be necessarily brought about: a) reasonable regulation (as opposed to hard and fast regulation) and b) efficient enforcement.

10.1.2.2 Execution of law

i) Systemic improvements

- Activists working in the legal domain of residential real estate sector propose the usage of artificial intelligence (AI) in argument assessment and judgement to speed up the process of disbursement of justice. A prototype decision-making software can be created and tested across judicial forums to initiate this. Subsequently, suitable modifications can be incorporated to enable large scale adoption of artificial intelligence in disbursement of justice.

- Initiatives promoting out-of-court settlement of disputes need to be promoted on a large scale. Ex: Lok-adalat, MahaRERA Conciliation and Dispute Resolution Forum

etc. More outreach and awareness programmes are required to be undertaken to enhance the awareness levels of home-buyers through the support of the Legal Services Authority.

- If it is not feasible to appoint execution officers vested with magisterial powers under K-RERA, then a clear channel of communication between K-RERA and the DC offices across the state need to be established to fast-track RERA recovery orders (ROs) as arrears of land revenue. Dedicated staff at the DC offices need to be made available exclusively to handle execution of RERA decrees.

- It should be required of the State Governments to issue an order requiring any recovery order issued by RERA to be given top priority by the DCs and be executed within a fixed timeframe. Of core importance here is the implementation of law. More often than not, the DC offices are burdened with work. It is important to make relevant rules under the RE(R&D)A, 2016 provisioning for necessary infrastructure within the DC office for execution of recovery orders. Execution of judicial orders issued under the RE(R&D)A, 2016 will be benefitted by appointment of dedicated officers or provisioning for dedicated department within the DC office to handle the said matters. Further, technical difficulties associated with getting pronounced judicial orders executed (for example, in case of non-delivery of housing assets, which property of the promoter/developer should be auctioned by the DC to recover funds to aid the progress of a stalled project etc.) need to be smoothed by laying out clear guidelines. This shall help the DCs to take a call without any ambiguity. Also, if the same property has been attached by multiple authorities, then how should that be dealt with? All of these ambiguities need to be ironed out by a clear set of guidelines. Lastly, revenue department at present is loaded with work. The absence of a Tehsildar under RERA is an issue that needs addressing. Records of rights, tenancy and crops (RTC), revenue details, caste details, aadhaar, family tree, conversion of land use – all these are dealt by Tehsildars. In such a situation, provisioning for a designated Tehsildar seated at the RERA office shall aid the whole process of recovery of arrears of land revenue.

- Guidelines need to be provided by the state government or RERA (in consultation with the state government) on the extent of mandatory detailing of project scope and specifications in relevant documents disbursed to consumers.

- Association of allottees should be pressed to be formed right after >50% of booking. This can be facilitated by making available on RERA website the information pertaining to the number of bookings made in a project, along with the contact details of individuals who have booked units in a project.
- For orders requiring recovery 'other than of monetary nature', as per section 40 (2), RERA has to rely on civil court and police power. Therefore, a proper channel of communication and coordination between RERA and the police department in the state of Karnataka needs to be set up.
- The working of courts and regulatory forums needs to be made efficient as far as disbursement of justice is concerned. Increasing the number of benches of courts of law, filling-up of backlogs in recruitments and employment of permanent staff could be the initial steps in the right direction.
- It is pertinent for RERA to do a random sampling of all listed projects and conduct an audit. This shall provide for an understanding of whether the information being uploaded on RERA website is in fact true or not.
- Single RERA for the entire state has led to overburdening of judicial forums, which acts to the detriment of those awaiting justice. Therefore, a number of benches of RERA set up at different districts within the state shall greatly aid timely disbursement of justice.
- Property disputes, especially arising out of family and inheritance laws need to be fast-tracked.
- Inefficiency of judiciary in disbursement of justice needs to be addressed by optimizing the regular processes involved in disbursement of justice. Parties to a dispute very much ask (and require) for time to put forward their arguments in any dispute. A lot of interim applications are also made by parties to a dispute, pleading for time. To deal with such situations, a clear set of guidelines needs to be laid out ensuring sufficiency of opportunity to the parties, while also making sure that the process does not turn out to be a punishment for those awaiting justice.

- State government and K-RERA need to direct lending agencies to probe the rationality behind sale timelines put forth by promoters/developers prior to lending of project finance.

- Clear demarcation between ‘application stage’ and ‘complaint stage’ is required to be introduced in seeking of justice at K-RERA. Incomplete applications need to be weeded out in the application stage itself, so as to ensure applications complete in all respects move to the ‘complaint stage’. The clock for K-RERA to disburse justice must begin only after an application clears the ‘application stage’ and reaches the ‘complaint stage’. This shall bring in greater discipline in both the seeking of justice and the disbursal of justice.

ii) Performance improvements

- There needs to be strict adherence to prescribed timeline for disbursal of justice by courts and regulatory forums.

- Implementation of all the sections of RE(R&D)A, 2016 must be given top-most priority. Well defined timelines need to be come up with and adhered to so as to put into enforcement the unenforced sections of RE(R&D)A, 2016.

- Banks need to be mandated to adhere to statutory prescriptions on compulsory verification of project progress on-site prior to release of consumers’ money to the designated project account. This account needs to be verified to be the same as that mentioned on the RERA website. Where necessary, K-RERA needs to hold accountable the bankers lending project finance and housing loans.

10.1.3 Government – Promoter

10.1.3.1 Framework of law

- Introduction of a conclusive property titling system by law makers is the need of the hour. PLATINUM (Partnership for Land Title Implementation in Urban Management) was introduced in 2010 by the Government of India and Ministry of Urban Development. It was supposed to be the framework law for guaranteed land titling. However, there has been no real progress in this direction.

- Penal provisions need to be introduced to nab real estate promoters/developers with malafide intentions investing in disputed lands available at relatively cheaper prices, developing the said pieces of land into apartment complexes and then selling of the apartments to make hefty profits, at the cost of home-buyers who eventually end up with properties with disputed titles.
- Promoters/developers need to be barred from putting forth that laying of a floor slab = completion of a floor. Appropriate orders need to be issued by the state government to ensure promoters/developers do not indulge in collection of payments from home-buyers after mere laying of floor slabs (without finishing the floor in its entirety).
- Curbs on illegal hoarding of building materials need to be imposed by the state government.
- A novel solution of enabling the usage of levied penalties in a project to aid the development of the very real estate project itself could be experimented with.
- Handover of common areas needs to be mandated to be carried out prior to occupancy of individual units. This shall ensure that promoters/developers do not leave behind incompletely developed common areas for consumers of residential real estate assets.
- There is a need to make suitable for the residential real estate sector the competing acts for formation of an association/society/federation of allottees. Necessary amendments need to be brought in competing statutes prescribed under RERA to enable the formation of an association/society/federation of allottees.
- When government authorities merely rely on signatures of certified real estate professionals to accord approvals and sanctions, then that leads to a lot of inherent irregularities in building designs. Thousands of apartments cannot be minutely checked by authorities granting approvals. The professionals in the real estate sector need to be held accountable by both governments and professional bodies. Appropriate systems need to be put in place for the same.
- Provisions under law need to be cost-effective in the first place for promoters/developers to even adhere to them. Provisioning for open areas, parks and other common amenities in a project leads to less area being available to develop housing. In

such a situation, promoters/developers often try to optimise saleable area by not adhering to building codes and by-laws. Therefore, there needs to first be a rationalisation of building codes and by-laws.

10.1.3.2 Execution of law

i) Systemic improvements

- While the process of grant of approvals needs to be eased by governments and urban local bodies on one hand, it is important to hold accountable promoters/developers launching new projects. These promoters/developers need to be directed to come up with realistic timelines, having factored in possible delays in approvals and sanctions, until an efficient system is put in place.

- Better use of technology in project execution by promoters/developers would be a step in the right direction.

- Additionally, road widening and the associated calculation of FAR halting the obtainment of OCs needs to be eased out.

10.1.3.3 Policy Interventions

- Waiver/reduction of taxes and charges by governments are often used as a bait by promoters/developers to get home-buyers to register their sale deeds by paying-up the entire sale consideration in one go for under-construction properties. Policy interventions need to ensure that projects nearing completion or having reached completion stage alone are eligible to avail waiver/reduction of taxes and charges for its customers.

- Use of 'future contracts' needs to be promoted to deal with fluctuations in prices of building input materials.

- Research and Development (R&D) needs to be given a thrust. Something as basic as formwork used in the construction industry and real estate sector, when improved with technological interventions, can greatly enhance the efficiency of the industry/sector. Therefore, more R&D in this direction needs to be incentivized. Emphasis needs to be laid on development and adoption of sustainable and green building techniques.

Adequate subsidies by governments can incentivize adoption of such techniques by promoters/developers. Peripheral start-ups (dealing with housing 'wants'. Ex: STP design and construction) need to be complimented by adequate number of core start-ups (dealing with housing 'needs'. Ex: Innovative and cheap formwork development).

10.1.3.4 Affordability

- The residential real estate sector has always been a seller' market. The developers have almost always held the 'pricing power' in the residential real estate market. Often times, in a bid to not go below the earlier sale price of assets, promoters/developers do not lower the sale prices of subsequently sold housing assets. Therefore, the state government needs to press for rationalization of prices being quoted by promoters/developers.

- Seeking aid of the 'Special Window for Affordable and Mid-Income Housing (SWAMIH)' fund must be encouraged.

10.1.4 Promoter – Urban local Bodies

10.1.4.1 Execution of law

- Non-registration of a) Deed of Declaration b) Deed of Apartment c) By-laws and d) Code of Conduct i.e. the starting point of non-compliance needs to be effectively nabbed.

10.1.5 Promoter – Regulatory Authority

10.1.5.1 Execution of law

- The iron hand of law needs to be used for promoters/developers not facilitating the formation of an association/society/federation of allottees as per RE(R&D)A, 2016 and KAOA, 1972.

- Major variations/deviations by promoters/developers must be dealt with levying of stringent penalties.

- 'Source information' shared about projects unregistered with K-RERA need to be followed up with actions to ensure that such promoters/developers are held accountable, along with bringing these projects within the surveillance of K-RERA.

10.1.6 Regulatory Authority – Urban Local Bodies

10.1.6.1 Execution of law

- Coordination of ULBs with K-RERA to not grant approvals to such projects that have not been subjected to the provisions of KAOA, 1972 needs to be ensured. According of K-RERA approvals to projects needs to be subject to the mandatory requirement of promoters/developers having registered a) 'Deed of Declaration' b) By-laws c) Code of Conduct and d) 'Deed of Apartment' at the sub-registrar office.

- There is a need to open a clear channel of communication between RERA and the seven different NOC granting government departments. This shall enable better understanding of ground reality by K-RERA which is empowered to make suitable recommendations to the state government on necessary reforms for the real estate sector in Karnataka. This shall also allow for necessary considerations to be made in disbursement of justice to parties involved in disputes.

10.1.7 Promoters

10.1.7.1 Time-boundness

- While the process of granting of approvals needs to be eased by governments and urban local bodies on one hand, it is important to demand accountability from promoters/developers launching new projects on the other hand. Such promoters/developers need to be asked to come up with realistic timelines, having factored in possible delays in approvals, until an efficient system is put in place.

- The lack of liquidity in real estate firms has been identified to be purely attributable to poor money management by promoters/developers. Cash-flow design and its execution by promoters/developers requires utmost attention to eventually not end up paying huge sums as penalties and compensations.

- Means to increase productivity of construction labourers and processes need to be explored.

- Leveraging of technology and adoption of efficient project management techniques can greatly ease delivery of housing projects. Adequate soil tests and working with

latest ground reports can greatly reduce instances of having to deal with unforeseen circumstances. Events like excessive rains, unexpected ground conditions and excessive fluctuation of material and labour prices need to be better accounted for in project budget estimation. Prudence in calculating buffer in project costing needs to be displayed. Benchmarks need to be questioned and refined from time to time.

- Data bank and modelling need to be encouraged and employed for accurate project duration estimation.

10.1.7.2 Cost-certainty

- Sustenance of sales is of utmost importance for delivery of projects. Therefore, rational design of sale timelines is of importance here. Often times, in order to get money from investors, promoters/developers put forward extremely optimistic sale timelines. This needs to be done away with.

- 'Future contracts' for building materials can help deal with fluctuations in material pricing.

- The lack of liquidity in real estate firms has been identified to be purely attributable to poor money management by promoters/developers. Cash-flow design and execution by promoters/developers requires utmost attention to eventually not end up paying huge sums as penalties and compensations.

- Leveraging of technology and adoption of efficient project management techniques could greatly ease delivery of housing projects. Adequate soil tests and working with latest ground reports can greatly reduce cropping-up of unforeseen circumstances. Events like excessive rains, unexpected ground conditions and excessive fluctuation of material and labour prices need to be better accounted for in project budget estimation. Prudence in calculating buffer in project costing needs to be displayed. Benchmarks need to be questioned and refined from time to time.

- Data bank and modelling need to be encouraged and employed in project costing.

10.1.7.3 Scope-adherence

- Ground conditions need to be adequately checked prior to beginning with the construction process.
- Housing delivery is fulcrumed on planning, monitoring and controlling. There needs to be easing of procedures and systems within real estate firms to ensure that any kind of roadblock to efficient project management is done away with.
- Leveraging of technology and effective project management could greatly ease the delivery of housing projects. Adequate soil tests and working with latest ground reports can greatly reduce instances of having to deal with unforeseen circumstances. Events like excessive rains, unexpected ground conditions and excessive fluctuations of material and labour prices need to be better accounted for in project budget estimation. Prudence in calculating buffer in project costing needs to be displayed. Benchmarks need to be questioned and refined from time to time.

10.2 Improvement Framework for Consumer-empowered Residential Real Estate Asset Demand

For the residential real estate demand-side stakeholders, an improvement framework has been developed in the form of an elaborate checklist covering areas of concern requiring attention at different phases of asset acquisition, with the aim of safeguarding home-buyers from the existent deficiencies in delivery of residential real estate assets.

The asset acquisition timeline-specific checklist has been divided into three parts cover the three phases of asset acquisition: a) pre-acquisition phase b) acquisition phase and c) take-over phase. The different phases and the associated checklists have been elaborated as below.

10.2.1 Pre-acquisition Phase Checklist

The aspects of importance in pre-acquisition phase of residential real estate assets are as mentioned in the below checklist in Table 10.1.

Table 10.1: Checklist for pre-acquisition phase

Sl. No.	Item	Status
I.	Documents to be sought from promoters/developers	
1	Registered Deed of Declaration	
2	Registered Deed of Apartment	
3	By-laws for Association of allottees	
4	Code of Conduct for Association of allottees	
5	Registration details of the project with the Real Estate Regulatory Authority	
6	Details of web page of project with Real Estate Regulatory Authority	
7	Building license from Bruhat Bengaluru Mahanagara Palike (BBMP)	
8	Title deed of land	
9	Proposed land use as per zoning regulations	
10	Sanctioned building plans	
11	Technical specifications	
12	No-objection certificates	
13	Encumbrance certificate	
14	Requisition/Acquisition charges	
15	Mutation document	
16	Commencement certificate	
17	Completion certificate and/or Occupancy certificate (in case of completed projects)	
18	Pro forma of allotment letter	
19	Pro forma of agreement for sale	
20	General power of attorney (if any)	
21	R.T.C (Record of rights, Tenancy and Crop information) extracts (For land converted from agricultural to non-agricultural purpose)	
22	Joint Development Agreement (if any)	
23	Supplementary Agreement (if any)	
24	Stage-wise time-schedule of completion of the project	
25	No Objection Letter from the bank/financial institution from which project loan has been availed by promoter/developer	
26	Insurance for title of land and building	
27	Insurance for construction of real estate project	
28	Property/Land Appraisal	
II.	Title search (12 to 30 years) to be necessarily conducted	
III.	Records to be maintained	
1	Notice advertisement/Prospectus/Circular – Any document offering for sale or inviting persons to make advances/deposits for such purposes	
2	Photographs/videos of model apartment/plot/building	
3	Payment receipts of stage-wise payments	
IV.	Checks to be made regarding approvals	

i.	Real Estate Regulatory Authority		
1	Registration of the project with the Real Estate Regulatory Authority		
2	Web page of the project with the Real Estate Regulatory Authority		
ii.	Sub-registrar Office		
1	Registration of Deed of Declaration		
2	Registration of Deed of Apartments		
3	Registration of By-laws for Association of Allottees		
	Registration of Code of Conduct		
iii.	Urban Local Bodies (ULBs)		
1	Bangalore Development Authority (BDA)	Commencement certificate for the change of land use in the Development Plan of Bangalore as per section 14 & 15 of the KTCP Act	
		Bifurcation or amalgamation of plot as per Section 17 of KTCP Act	
		Approval in case of buildings permissible under special circumstances as per Schedule I	
		Approval of layout plan in case of Group Housing Schemes where site area > 4000 square metre	
		In case of civic amenity (CA) site leased out by the BDA, commencement certificate under sections 14 and 15 of the KTCP Act, 1961 for construction of the building.	
2	Bangalore Water Supply and Sewerage Board (BWSSB)	NOC	
3	Bangalore Electricity Supply Company Limited (BESCOM)	NOC (only for high rises + group housing)	
4	Fire Services	NOC (for high rises)	
5	Airport Authority of India	NOC (for high rises)	
6	Telecom Department	NOC (for high rises > 7 floors)	
7	Karnataka Slum Clearance Board	NOC with regard to non-interference with improvement schemes, in respect of areas notified under section 3 of the Karnataka Slum Areas (Improvement & Clearance) Act, 1973.	
8	Railways	NOC in case of buildings abutting railway margin	
V.	Contents to be checked in site plan/building plan and related documents		
1	Site area and boundaries		
2	Adjacent roads, street, or lanes (if any) and their widths		
3	Plinth area of all buildings		
4	Areas of each floor and total floor area		

5	Height of buildings	
6	Detailed floor plans of all floors	
7	Sectional drawings with clear dimensions	
8	Use or occupancy of different parts of the building	
9	Sizes of rooms, position of stair-cases, lifts, machine rooms, ramps etc.	
10	Schedules of doors, windows and ventilators	
11	Location of essential services viz. water closets, baths, sinks, etc.	
12	Sewerage arrangements	
13	Arrangements for vehicular parking	
14	Physical features such as wells, drains, transmission lines, etc.	
15	Natural features like existing trees, ridges, valleys etc.	
16	Nature of the ground (rocky, gravelly, clayey, sandy, etc.)	
VI.	Knowledge of technical specifications	
i.	Typology of housing: Low income group housing, Standard housing, Mid-segment housing, Premium housing, Luxury housing or Super-luxury housing	
ii.	Check of specifications matching the typology of housing	
1	Electrical	
2	PHE/Plumbing	
3	Sanitary fittings	
4	HVAC	
5	Doors and windows	
6	Floor and wall finishes	
7	Waterproofing	
8	False ceiling (if any)	
9	Fire-fighting (if any)	
10	STP (if any)	
11	WTP (if any)	
12	Landscaping (Soft scape; Hard scape)	
13	Lifts/Elevators (if any)	
14	Diesel Generators (if any)	
VII.	Knowledge of prescribed circle rates of properties	
VIII.	Verification of the project specific webpage on K-RERA website to ascertain whether the flat being sold belongs to i) promoter/developer ii) landowner or iii) investor	
IX.	Check of the presence of an active association of allottees (subject to total bookings being >50% of saleable units)	
X.	Good pace of on-site construction works	
XI.	Check of real estate agent being registered with the Real Estate Regulatory Authority (if applicable)	
XII.	Check of ambiguity in mentioning of finishing date of the project in the agreement for sale	

XIII.	Pro forma of agreement for sale being along the lines of the 'Model Agreement for Sale' as prescribed by the Real Estate Regulatory Authority	
XIV.	In case of the property being mortgaged with the bank (for the purpose of project finance), presence of a clause in the agreement for sale specifying that the loan shall be cleared prior to conveyance of the property	
XV.	Loans from nationalised banks to purchase assets in the real estate project	

10.2.2 Acquisition Phase Checklist

Having entered into the process of residential real estate asset acquisition, the below mentioned checklist in Table 10.2 covers the essential aspects requiring attention and importance during the process of acquisition.

Table 10.2: Checklist for acquisition phase

Sl. No.	Item	Status
I.	Verification and tally of on-site project progress with progress update on the web page of the project with the Real Estate Regulatory Authority	
II.	Vigil over invalid and untenable claims for extension of time citing irrelevant events under 'force majeure' category (as per Section 6 of the Real Estate (Regulation and Development) Act, 2016)	
III.	Attention to unfair trade practices viz. a) false representation of service standard or grade b) false representation of approvals or affiliations c) false or misleading representation of services and d) permitting publication of advertisement of services not intended to be offered (as per Section 10 (c) of the Real Estate (Regulation and Development) Act, 2016)	
IV.	Asking of information regarding fellow allottees to enable collective decision-making (Under Section 3.2(g) of Karnataka Ownership Flats Act, 1972)	
V.	Calls to enable formation of an association/society/co-operative society of allottees (subject to total bookings being >50% of saleable units)	
VI.	Conducting of elections to form the Management Committee to monitor and overlook development of works (subject to total bookings being >50% of saleable units)	
VII.	Establishment of coordination between different sets of home-buyers (Home-buyers who have bought properties from i) Promoter/ Developer ii) Land owner iii) Other investors)	

VIII.	Mandatory execution and registration of a written agreement for sale prior to paying a sum > 10% of sale price of property	
IX.	Non-payment of any transfer fee for transfer of agreement of sale from one person to another	
X.	Monitoring of additions/alterations from sanctioned plans, both at a) Individual unit level and b) Complex level	
XI.	Attention to promoters/developers' adherence to prescribed process of approval seeking from >2/3 rd of home-buyers for major additions/ alterations from sanctioned plans	
XII.	Payment of monetary sums as per staged payment timeline	
XIII.	Maintenance of records for monetary sums paid to promoter/developer	
XIV.	Strict adherence to the terms of cancellation in agreement for sale prior to any cancellation by promoter/developer	
XV.	In case of default in timely hand-over of property, making an informed choice of legal remedy-seeking under a) Real Estate (Regulation and Development) Act, 2016 b) Consumer Protection Act c) Insolvency and Bankruptcy Code, 2016 or d) Arbitration	
XVI.	Clarity in remedy seeking under the Real Estate (Regulation and Development) Act, 2016 viz. i) Demand for amount paid + interest + compensation, so as to exit from the delayed project ii) Demand for interest for every month of delay in hand-over	
XVII.	Exercise of the first right of refusal by association of allottees in carrying out remaining development works in case of revocation of registration of project	
XVIII.	Vigil over transfer or assignment of majority of rights and liabilities in respect of project to a third party without following the prescription as in Section 15 of the Real Estate (Regulation and Development) Act, 2016)	
XIX.	When deemed pertinent, pressing the Real Estate Regulatory Authority to initiate criminal proceedings against promoter/developer as per Section 80 of the Real Estate (Regulation and Development) Act, 2016)	

10.2.3 Take-over Phase Checklist

In the last phase of take-over of residential real estate assets (including both common areas and areas limited to individual owners) the following checklist in Table 10.3 covers the essential points of concern.

Table 10.3: Checklist for take-over phase

Sl. No.	Item	Status
I.	In case of housing units being mortgaged with banks, check of project loan having been cleared prior to conveyance	
II.	Rectification of defects to have been undertaken at two levels: a) Individual unit level b) Building level, prior to hand-over	
III.	Accountability from promoter/developer for rectification of defects for 5 years post hand-over	
IV.	Execution of conveyance deed: For individual flats – In favor of individual flat owners, within 3 months of issuance of occupancy certificate	
V.	Execution of conveyance deed: For land and common areas – In favor of association of allottees, within 3 months of issuance of occupancy certificate	
VI.	Prior to any kind of hand-over, collection of completion certificate issued by a certified engineer/architect	
VII.	Hand-over of physical possession: For individual flats - To individual flat owners, within 2 months of issuance of occupancy certificate	
VIII.	Hand-over of physical possession of common areas: To association of allottees, within 1 month of obtaining of occupancy certificate	
IX.	Hand-over of following documents to association of allottees, within 1 month of obtaining of occupancy certificate	
1	Mother deeds	
2	Sale deed or Joint Development Agreement (JDA)	
3	Encumbrance certificate (EC)	
4	Sanctioned plans for all floors	
5	NOCs from Fire Services, BESCOM, BWSSB, KSPCB, Airport Authority (if applicable), Railways (if applicable), Slum clearance Board (if applicable)	
6	Commencement Certificate from BDA (in case of change of land use)	
7	Commencement Certificate from BBMP	
8	Completion Certificate, endorsed by a registered Engineer/Architect	
9	Occupancy Certificate	
10	Property Tax receipt for the land (must be valid till date)	
11	BESCOM power allotment letter	
12	BWSSB water allotment letter	
13	Electrical inspectorate clearance	
14	Fire department clearance	
15	Lift clearance	
16	All documents for installation of DG, STP, BESCOM transformer yard	
17	Deposit certificate from BESCOM and BWSSB	

18	Copy of Consent for Establishment (CFE) and Consent for Operation (CFO) for STP	
19	Original documents of complex	
20	Fire plan	
21	Engineering documents	
22	Electrical drawings (for all floors, basement, terrace and grounds, earthing, electrical panel room)	
23	Civil drawings (for all floors, STP, and all plants and machinery)	
24	Plumbing drawings (floor-wise, general, grounds, storm-water drain)	
25	RWH drawings (from terrace to recharge pits)	
26	User Manuals and maintenance manuals for all plants and machinery (STP, Hydrant system, Lifts, Gensets, Swimming pool Filtration plant, WTP, etc.)	
XI.	Verification of civil/electrical/plumbing drawings of apartments with actual layout of individual apartments and demanding rectifications in case of discrepancies	
XII.	Payment of all outgoings to home-buyers, where applicable. Ex: Principle amount, interest, compensation as per orders of judicial and quasi-judicial legal forums	
XIII.	Execution of khata transfer with sub-khata created and transferred in the name of owner of each apartment through precise splitting of property based on proportions mentioned in owners' table in Deed of Declaration	
XIV.	Availing of electricity connection from BESCO, with electricity meters in the names of residents of the complex	
XV.	Withholding of a part of payment to be made by home-buyers to promoters/developers in an escrow account till verification of efficient functioning of generator sets at full load	
XVI.	Withholding of a part of payment made by home-buyers to promoters/ developers in an escrow account till clearance of Sewage Treatment Plant (STP) by KSPCB	
XVII.	Hiring of an independent consultant to check if Sewage Treatment Plant (STP) meets design standards	
XVIII.	Upon identification of defects in Sewage Treatment Plant (STP), ensuring rectification of the same by promoter/developer	
XIX.	Handing over of Sewage Treatment Plant (STP) to association of allottees through KSPCB	

10.3 Chapter Summary

In the present chapter, based on data analysis and consequent findings of earlier chapters, frameworks for improvement of both residential real estate asset demand and delivery have been developed. For the residential real estate delivery-side, the framework covered different stakeholders and their interfaces of interaction. For the residential real estate demand side, the framework took the form of a checklist covering relevant points of concern at different phases of development of residential real estate assets.

CHAPTER 11

CONCLUSIONS AND RECOMMENDATIONS

The study was begun by examining the interface of interaction of the construction industry with the residential real estate sector, so as to develop a conceptual framework for enhancement of construction industry output. Post the identification of relevant factors and framing of conceptual framework, questionnaire surveys, interviews and document analyses were conducted. Following which, persistent challenges to consumer-centric residential real estate asset delivery under three main categories of framework of law, execution of law and policy interventions were ascertained. This was followed by assessment of existent levels of consumer-centric residential real estate asset delivery and consumer-empowered residential real estate asset demand. The demand-side of housing market was assessed along the lines of four determinant factors, namely, consumer skills, awareness of consumer legislation, consumer engagement and affordability. The delivery-side of housing market was assessed using three determinant factors, namely, time-boundness, cost-certainty and scope-adherence. Following this, ascertainment of required levels of improvement of the determinant factors on both the demand and delivery sides of residential real estate market was undertaken. Lastly, improvement frameworks were developed specifically to improve residential real estate demand and delivery, so as to enhance construction industry output. Mixed methods approach consisting of questionnaire surveys, semi-structured interviews and document analyses was adopted to achieve the objectives of the study.

11.1 Conclusions

The first objective of the study was to develop a conceptual framework for enhancement of construction industry output through an examination of the workings of residential real estate sector in India. The conceptual framework developed in the present study harnesses the interaction of the construction industry with the residential real estate sector to stimulate the former. Having developed the conceptual framework, the

underlying hypotheses were set to explain the interrelationships. Results of hypotheses testing were covered in chapter 7.

Following this, catering to the second objective of the study, descriptive exploration and explanatory investigation of the sector was undertaken to identify enablers, challenges and interventions. Under the framework of law, execution of law and policy interventions, major factors bottlenecking residential real estate asset delivery were identified. The identified challenges from quantitative analysis of survey responses were used to raise points of discussion in interviews with relevant real estate sector-specific stakeholders. Additionally, document analyses of government reports, policy papers, sector/industry reports, case laws and other miscellaneous documents were undertaken to triangulate the findings. The major challenges that were identified were corruption by bureaucrats/government officials, absence of single window approval system for projects and presence of political influence on bureaucrats/government officials.

Moving on to residential real estate asset demand and delivery, the existent quality of demand and delivery of housing assets was ascertained through quantitative analysis of survey responses. Triangulation of data helped establish the validity of the research. Major deterrents to the quality of housing delivery were identified as delays in approvals and sanctions by urban local bodies (ULBs), unavailability of speed money and grease payments, and delays in timely performance of duties by regulatory authorities, judicial and quasi-judicial bodies. Major deficiencies in demand for housing were with respect to affordability of housing: low levels of household income, high mortgage interest rate and over-pricing of housing stock.

This was followed by an exploration of the interfaces of interaction of construction industry and residential real estate sector. The different means of stimulation of construction industry were ascertained from quantitative analysis of survey responses, followed by validation through interviews. Capital investments into real estate promoter/developer groups was ascertained to be happening through private debt. Investment and speculation in housing was ascertained to be the highest in land, while consumption of mid-segment housing was identified to be the largest. In the test of proposed hypotheses, empirical findings reaffirmed the hypothesized relationships. Significant correlation was observed between stimulation of construction industry

output and consumer-centric housing delivery. The identified deterrents to consumer-centric housing delivery were rightfully correlated with consumer-centricity in housing delivery. High internal correlation were also observed between these deterrents. On the demand-side of housing market, high internal correlations were observed between factors constituting consumer-empowered residential real estate asset demand. Lastly, affordability was identified to be strongly correlated with stimulation of construction industry output.

Lastly, in line with the final objective of developing improvement frameworks for residential real estate market, two improvement frameworks were developed. For the delivery-side of residential real estate market, a comprehensive checklist was developed to cover the different stages of acquisition of residential real estate assets, through which home-buyers could engage as active participants in gaining delivery of their residential real estate assets. Similarly, for the residential real estate delivery-side stakeholders, the existent lacunae in different interfaces of interaction have been addressed in the developed improvement framework.

11.2 Contribution to Theoretical Knowledge

In the context of an absence of studies examining the interrelationship between Indian construction industry and residential real estate sector, the present study developed and tested a conceptual framework to stimulate construction industry through optimisation of housing market. Specific to the Indian context, the study presented and validated a novel conceptual framework aimed at stimulation of construction industry output through interventions in housing market.

Residential real estate investments have been identified to boost construction industry output provided the promoters/developers of real estate assets inculcate the discipline to deliver real estate assets as per agreed upon time, cost and scope. Additionally, owing to strong correlations between time, cost and scope, it is pertinent to keep a check on delays, cost escalations and scope-deficiencies in the delivery of residential real estate assets. Further, direction of greater attention by governments, policy-makers, judicial/quasi-judicial bodies and urban local bodies towards the design of legal framework governing the delivery of housing assets, the execution of sector-specific laws and introduction of appropriate policy interventions for the sector is deemed

necessary to enable efficient supply of assets in the housing market. As far as consumers of residential real estate assets are concerned, adequacy of skill levels of consumers, awareness of consumer legislation and engagement of consumers through the whole process of asset acquisition are identified to be feeding on each other. Lastly, enabling affordability of housing has been understood to be the need of the hour to stimulate construction industry through the residential real estate sector.

11.3 Practical Implications

The present study establishes that the construction industry stands to benefit from interventions on the demand and supply sides of housing market. In this backdrop, the consumers of residential real estate assets can rely on the comprehensive checklist developed to cover different stages of acquisition of residential real estate assets, so as to engage as active participants in gaining delivery of their residential real estate assets. This shall help with making of informed choices as to real estate purchases. As far as the delivery-side of housing market is concerned, the study deals with a wide range of stakeholders in the context of existent bottlenecks to efficient housing delivery. To legislators/law-makers/policy-makers, the study informs priority areas of intervention in the making of law, implementation of law and making of policy. To regulatory authorities, urban local bodies and parastatals, the study indicates pressing issues as to execution of law and thereby facilitates correction of the same. To promoters/developers, the study informs factors causing delays, cost-escalations and scope-deficiencies in delivery of residential real estate assets, thereby enabling correction of these inefficiencies to lead to an efficient supply of assets in the Indian residential real estate marketplace. Moving ahead, the study proposes improvements frameworks for different interfaces of interaction viz. promoters/developers - government; regulatory authorities - government; urban local bodies/parastatals - government; promoters/developers - urban local bodies; regulatory authorities - promoters/developers; and lastly urban local bodies - regulatory authorities. Thus, the improvement frameworks aim to holistically enhance the quality of delivery of residential real estate assets in India. Likewise, for the demand side of the housing market, the developed checklists are intended to fill-in relevant gaps in understandings of home-buyers, so as to develop them as a force of change in the residential real estate

marketplace. Lastly, the identified means of stimulation of construction industry output by residential real estate sector provide for an understanding of the kind of housing assets being supplied in the residential real estate market as of date, which consequently shall inform the gaps in housing supply that need to be filled in by governments to ensure that ‘shelter for all’ is the philosophy and the most important social concern governing housing policy in India.

11.4 Limitations of the Study

Real estate assets being developed for residential purposes, namely, plots (land), apartments/flats and standalone units, were alone considered for the present study. The notion of consumer-centricity in residential real estate market was limited to the extent of ‘delivery’ of assets. Legislation of higher significance to the aid of consumers of residential real estate assets in India, namely, i) Real Estate (Regulation and Development) Act, 2016 ii) Consumer Protection Act, 2019 and iii) Insolvency and Bankruptcy Code, 2016 were assigned higher importance. Lastly, physical jurisdiction of the study was limited to the urban metropolitan context of Bengaluru, Karnataka. Bengaluru being one of the fastest growing major metropolis in India with significant housing demand for all categories of home-buyers (both native to the state and those migrating from other states) and b) the Real Estate Regulatory Authority for the state of Karnataka being operative in Bengaluru, conducting the study within the physical jurisdiction of Bengaluru city limits was deemed to be representative of existent situation of housing demand and delivery across major metropolises in specific and India in general. Lastly, promoters/developers listed with formal industry bodies like the Confederation of Real Estate Developers’ Association of India – Bengaluru Chapter were alone considered for the present research. The operations of fly-by-night promoters/developers have not been investigated.

11.5 Scope for Further Studies

The present study being limited to the urban metropolitan context of Bengaluru, the existent situation of housing delivery in tier 2,3 and 4 cities requires needful attention. Assets being developed for purposes other than residential (retail, hospitality and commercial) require investigation to understand the underlying reasons behind

deficiencies (if any) in their delivery. The role of financiers providing project finance to real estate promoters/developers needs to be probed in greater depth to understand the nexus between real estate development and financing. The issues faced by residential real estate consumers post the passing of a few years of acquisition of residential real estate assets could provide necessary insights to holistically enhance the concept of consumer-centricity in the delivery of residential real estate assets. The role of fly-by-night operators in the residential real estate market of India requires investigation to unearth the situation of hapless home-buyers. Lastly, the present study employed correlation analysis to ascertain the relationships between research constructs. Further studies could be carried out to ascertain causation between the research constructs.

REFERENCES

- Abdullah, S., Razak, A.A., Pakir, A.H.K., 2011. The characteristics of real estate assets management practice in the Malaysian Federal Government. *Journal of Corporate Real Estate* 13, 16–35. <https://doi.org/10.1108/14630011111120323>
- Achour-Fischer, D., 1999. An Integrated Property Market Model: A Pedagogical Tool. *Journal of Real Estate Practice and Education* 2, 33–43. <https://doi.org/10.1080/10835547.1999.12091561>
- Almi, N.A., Husin, K., 2017. Success Factors of Housing Delivery System Among Malaysian Developers. *International Journal of Real Estate Studies* 11, 19–34.
- AlQahtany, A.M., 2021. Government regulation and financial support on housing delivery: lessons learned from the Saudi experience. *International Journal of Housing Markets and Analysis*. <https://doi.org/10.1108/IJHMA-03-2021-0036>
- Amol Kadam v Horizon Projects Pvt. Ltd., 2017.
- Anaman, K.A., Osei-Amponsah, C., 2007. Analysis of the Causality Links between the Growth of the Construction Industry and the Growth of the Macro-economy in Ghana. *Construction Management and Economics* 25, 951–961. <https://doi.org/10.1080/01446190701411208>
- Anarock, 2019. Addressing Challenges & Progressing Ahead in Real Estate. Anarock Property Consultants Pvt. Ltd.
- Anastasia, A., 1988. *Psychological testing A*, 6th ed. Macmillan Publishing, New York.
- Aniekwu, N., 1995. The Business Environment of the Construction Industry in Nigeria. *Construction Management and Economics* 13, 445–455. <https://doi.org/10.1080/01446199500000052>
- Aniekwu, N., Onifade, M.K., Igboanugo, A.C., 2014. Critical Issues in Reforming the Nigerian Construction Industry. *Current Journal of Applied Science and Technology* 5. <https://doi.org/10.9734/BJAST/2015/12617>
- Annamalai, T.R., Bansal, B., Gemson, J., 2014. Private equity investment and real estate development: Evidence from residential projects in India. *Journal of Financial Management of Property and Construction* 19, 202–225. <https://doi.org/10.1108/JFMPC-02-2014-0001>

- Aras, N., 2021. An Apartment-Buyer's Guide.
- Arrondela, L., Lefebvre, B., 2001. Consumption and Investment Motives in Housing Wealth Accumulation: A French Study. *Journal of Urban Economics* 50, 112–137.
- Ashley, D.B., Lurie, C.S., Jaselskis, E.J., 1987. Determinants of construction project success. *Project Management Journal* 18, 69–79.
- Atkinson, R., 1999. Project management: cost, time and quality, two best guesses and a phenomenon, its time to accept other success criteria. *International Journal of Project Management* 17, 337–342.
- Avinash Saraf & Anr. v Runwal Homes Pvt. Ltd., 2017.
- Baker, B.N., Murphy, D.C., Fisher, D., 1997. Factors Affecting Project Success, in: *Project Management Handbook*. New York, pp. 669–685.
- Barkham, R., 2012. *Real Estate and Globalisation*. Wiley-Blackwell.
- Batini, N., Kim, Y.-B., Levine, P.L., Lotti, E., 2010. Informal Labour and Credit Markets: A Survey. *IMF Working Papers* 10, 41.
<https://doi.org/10.5089/9781451962963.001>
- Baulkaran, V., Jain, P., Sunderman, M., 2019. Housing 'beta': common risk factor in returns of stocks. *The Journal of Real Estate Finance and Economics* 58, 438–456. <https://doi.org/10.1007/s11146-018-9656-1>
- Behera, P., Mohanty, R.P., Prakash, A., 2015. Understanding Construction Supply Chain Management. *Production Planning & Control* 26, 1–19.
<https://doi.org/10.1080/09537287.2015.1045953>
- Bertaud, A., Brueckner, J.K., 2005. Analyzing Building-height Restrictions: Predicted Impacts and Welfare Costs. *Regional Science and Urban Economics* 35, 109–125. <https://doi.org/10.1016/j.regsciurbeco.2004.02.004>
- Bikram Chatterji v Union of India & Ors, 2019.
- Blaxter, L., Hughes, C., Malcolm, T., 2006. *How to Research*, 3rd ed. Open University Press.
- Boelhouwer, P., Van Der Heijden, H., 1992. *Housing systems in Europe: Part I - A comparative study of housing policy*. Delft University Press.

- Bon, R., 1990. The World Building Market 1970–85, in: Proceedings of the CIB International Symposium on Building Economics and Construction Management. Sydney.
- Bowen, G.A., 2009. Document Analysis as a Qualitative Research Method. *Qualitative Research Journal* 9, 27–40. <https://doi.org/10.3316/QRJ0902027>
- Brig. (Retd.) Kamal Sood v M/s DLF Universal Ltd., 2007.
- Brueckner, J.K., Sridhar, K.S., 2012. Measuring welfare gains from relaxation of land-use restrictions: The case of India’s building-height limits. *Regional Science and Urban Economics* 42, 1061–1067. <https://doi.org/10.1016/j.regsciurbeco.2012.08.003>
- Büdenbender, M., Aalbers, M.B., 2019. How Subordinate Financialization Shapes Urban Development: The Rise and Fall of Warsaw’s Służewiec Business District. *International Journal of Urban and Regional Research* 43, 666–684. <https://doi.org/10.1111/1468-2427.12791>
- Burtonshaw-Gunn, S.A., 2017. Risk and Financial Management in Construction. Routledge.
- Carter, T., 1997. Current practices for procuring affordable housing: The Canadian context. *Housing Policy Debate* 8, 593–631.
- Cassidy, H.J., Dennis, B., Yang, Tyler.T., 2008. Home Appreciation Participation Notes: A Solution to Housing Affordability and the Current Mortgage Crisis. *International Real Estate Review* 11, 126–141.
- Cattell, R.B., 1966. The scree test for the number of factors. *Multivariate Behavioral Research* 1, 245–276.
- CBRE, 2019. India Real Estate Market Outlook 2019.
- Charles, S.H., Chang-Richards, A., Yiu, T.W., 2021. New success factors for construction projects: a systematic review of post-2004 literature. *Construction Innovation* 24. <https://doi.org/10.1108/CI-02-2021-0030>
- Charney, I., 2001. Three Dimensions of Capital Switching within the Real Estate Sector: A Canadian Case Study. *International Journal of Urban and Regional Research* 25, 740–758.

- Chatterjee, K., Zavadskas, E.K., Tamošaitiene, J., Adhikary, K., Kar, S., 2018. A Hybrid MCDM Technique for Risk Management in Construction Projects. *Symmetry* 10, 46. <https://doi.org/10.3390/sym10020046>
- Chaudhary, N.S., Phoolka, S., 2019. Predicting whistleblowing intentions through organisational commitment - insights from the Indian real estate sector. *International Journal of Business and Globalisation* 23, 475–491. <https://doi.org/10.1504/IJBG.2019.102926>
- Chen, J., Zhu, A., 2008. The Relationship between Housing Investment and Economic Growth in China: A Panel Analysis Using Quartely Provincial Data. Working Paper 2008:17.
- Chen, M.C., Chang, C.O., Yang, C.Y., Hsieh, B.M., 2012. Investment demand and housing prices in an emerging economy. *Journal of Real Estate Research* 34, 345–373. <https://doi.org/10.1080/10835547.2012.12091339>
- Chen, Z., Wang, C., 2021. Effects of Intervention Policies on Speculation in Housing Market: Evidence from China. *Journal of Management Science and Engineering*. <https://doi.org/10.1016/j.jmse.2021.08.002>
- Chew, D.A., Yan, S., Cheah, C.Y.J., 2008. Core capability and competitive strategy for construction SMEs in China. *Chinese Management Studies* 2, 203–214.
- Commission of the European Communities, 2007. EU Consumer Policy strategy 2007-2013: Empowering Consumers, Enhancing their Welfare, Effectively Protecting them.
- Committee on Subordinate Legislation (2016-17), 2017. Twenty-first Report on the Rules/ Regulations framed under the Real Estate (Regulation and Development) Act, 2016 (No. 21). Lok Sabha Secretariat, New Delhi.
- Construction Industry Cost Effectiveness (CICE) Task Force, 1983. More Construction for the Money.
- Construction Industry Institute, 2008. Reinventing the Hong Kong Construction Industry for its Sustainable Development. Construction Industry Institute, Hong Kong.
- Construction Taskforce, 1998. Rethinking Construction - The Egan Report. London.
- Creswell, J.W., 2009. Research Design: Qualitative, Quantitative and Mixed Methods Approaches, 3rd ed. SAGE Publications.

- Dainty, A., 2008. Methodological pluralism in construction management research.
- Deep, S., Bhoola, V., Verma, S., Ranasinghe, U., 2021. Identifying the risk factors in real estate construction projects: an analytical study to propose a control structure for decision-making. *Journal of Financial Management of Property and Construction*.
- Denzin, N.K., 1978. *The Research Act: A Theoretical introduction to Sociological Methods*, 2nd ed. McGraw-Hill, New York.
- Department of Law, J. and P.A., 1949. *The Constitution of India*.
- Des Rosiers, F., 1984. *Financial Institutions and Property Investment: The Canadian Case*. London School of Economics and Political Science.
- Dieci, R., Westerhoff, F., 2009. A Simple Model of a Speculative Housing Market. *Journal of Evolutionary Economics* 22. <https://doi.org/10.1007/s00191-011-0259-8>
- DiPasquale, D., Wheaton, W.C., 1992. The Markets for Real Estate Assets and Space: A Conceptual Framework. *Journal of American Real Estate and Urban Economics Association* 20, 181–197.
- Dr Alka Khera v M/s Omaxe Chandigarh Extension Developers Pvt Ltd, 2019.
- Dreier, P., Atlas, J., 1995. US housing problems, politics and policies in the 1990s. *Housing Studies* 10.
- Dulaimi, M.F., Ling, F.Y.Y., 2004. Engines for Change in Singapore' Construction Industry: An Industry View of Singapore' Construction 21 Report. *Building and Environment* 39, 699–711. <https://doi.org/10.1016/j.buildenv.2004.01.011>
- Easterby-Smith, M., Thorpe, R., Jackson, P., 2015. *Management and Business Research*, 5th ed. SAGE Publications.
- Egan, J., 1998. *Rethinking Construction (Report of the Construction Task Force to the Deputy Prime Minister on Improving the Quality and Efficiency of UK Construction)*. Department of Trade and Industry, London.
- Ellis, P., Roberts, M., 2016. *Leveraging Urbanization in South Asia: Managing Spatial Transformation for Prosperity and Livability*. The World bank, Washington, DC.
- El-Sayegh, S.M., 2008. Risk Assessment and Allocation in the UAE Construction Industry. *International Journal of Project Management* 26, 431–438.

- Evans, J.R., Basu, A., 2013. *Statistics, data analysis, and decision modeling*. Pearson Education, USA.
- Experion Developers Pvt Ltd v State Of Haryana & Ors, 2020.
- Fabrigar, L.R., Wegener, D.T., Maccallum, R.C., Strahan, E.J., 1999. Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods* 4, 272–299.
- Farooq, M.U., Thaheem, M.J., Arshad, H., 2018. Improving the risk quantification under behavioural tendencies: a tale of construction projects. *International Journal of Project Management* 36, 414–428.
- Farrell, D., 2004. The hidden dangers of informal economy. *McKinsey Quarterly* 3, 27–37.
- Fauzi, M., Fazillah, S.N., Yusof, N.A., Abidin, N.Z., 2011. Common Defects Found In Build-Then-Sell Houses. *International Journal of Academic Research* 3.
- Fellows, R.F., Liu, A.M.M., 2021. *Research Methods for Construction*, 5th ed. Wiley-Blackwell.
- Field, A., 2013. *Discovering statistics using IBM SPSS statistics*. SAGE Publications.
- Field, B., Ofori, G., 1989. Housing Stress and the Role of the State. *Habitat International* 13, 125–138.
- Fink, A., 2002. *The Survey Handbook*. SAGE Publications.
- Fox, P., Skitmore, M., 2006. *Factors Facilitating Construction Industry Development*.
- Freeman, M., Beale, P., 1992. Measuring Project Success. *Project Management Journal* 23, 8–17.
- Gandhi, S., Tandel, V., Tabarrok, A., Ravi, S., 2021. Too slow for the urban march: Litigations and the real estate market in Mumbai, India. *Journal of Urban Economics* 123. <https://doi.org/10.1016/j.jue.2021.103330>
- Gao, Z., Sockin, M., Xiong, W., 2020. Economic Consequences of Housing Speculation. *The Review of Financial Studies* 33.
- Glaeser, E.L., Gyourko, J., Saks, R., 2005. Why Is Manhattan So Expensive? Regulation and the Rise in Housing Prices. *The Journal of Law and Economics* 48, 331–369.
- Glascock, J.L., Kelly, L.J., 2007. The Relative Effect of Property Type and Country Factors in Reduction of Risk of Internationally Diversified Real Estate

- Portfolios. *The Journal of Real Estate Finance and Economics* 34, 369–384.
<https://doi.org/10.1007/s11146-007-9014-1>
- Gopalan, K., Venkataraman, M., 2015. Affordable housing: Policy and practice in India. *IIMB Management Review* 27, 12.
<https://doi.org/10.1016/j.iimb.2015.03.003>
- Government of India, 2016. Discussion on the motion for consideration of the Real Estate (Regulation and Development) Bill, 2016.
- Government of India, M. of C.A., 2012. Real Estate Sector: Committee on National Competition Policy.
- Government of India, M. of L. and J., 2023. Cases of Central Ministries/Departments pending before Courts.
- Government of India, N.S.O., 2022. Press Note on First Advance Estimates of National Income 2021-22.
- Gundes, S., 2010. Exploring the dynamics of the Turkish construction industry using input–output analysis. *Construction Management and Economics* 29, 59–68.
<https://doi.org/10.1080/01446193.2010.529925>
- Gupta, D.B., 1985. Urban Housing in India. World Bank Staff Working Papers 260.
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E., 2010. *Multivariate data analysis*. Pearson, London.
- Harbans Singh v Unitech Ltd, 2018.
- Harker, M., Akman, P., Gromsen, L.L., Mehta, J., Waddams, C., 2008. Benchmarking the Performance of the UK Framework Supporting Consumer Empowerment through Comparison against Relevant International Comparator Countries.
- Henderson, J.V., 1987. Owner Occupancy: Investment vs. Consumption Demand. *Journal of Urban Economics* 21, 228–241.
- Henderson, J.V., Ionnaides, Y.M., 1983. A Model of Housing Tenure Choice. *American Economic Review* 73, 98–114.
- Hillebrandt, P.M., 2000. *Economic Theory and the Construction Industry*, 3rd ed. Palgrave Macmillan, London.
- Ho, V.M.H., 2019. *Developing a Legal Framework to Govern Forum Shopping in Transnational Intellectual Property Litigation*. Macquarie University.

- Horn, J.L., 1965. A rationale and test for the number of factors in factor analysis. *Psychometrika* 30, 179–185.
- Hossler, D., Vesper, N., 1993. An exploratory study of the factors associated with parental savings for postsecondary education. *Journal of Higher Education* 64, 140–165.
- Howlader, A., Laha, S.S., Modak, A., 2019. An Approach of Sustainable Urban Development in India. *International Journal of Scientific and Technology Research* 8, 3861–3870.
- Hulin, C., Netemeyer, R., Cudeck, R., 2001. Can a reliability coefficient be too high? *Journal of Consumer Psychology* 10, 55–58. <https://doi.org/10.2307/1480474>
- Hung, C.-H., Tzang, S.-W., 2021. Consumption and Investment Values in Housing Price: A Real Options Approach. *International Journal of Strategic Property Management* 25, 278–290.
- IBEF, 2019. Real Estate.
- IDFC, 2018. Making Housing Affordable: A Supply-side Reform Agenda for Urban India. IDFC.
- Jha, K.N., Iyer, K.C., 2007. Commitment, coordination, competence and the iron triangle. *International Journal of Project Management* 25, 527–540. <https://doi.org/0263-7863>
- Johnson, R.B., Onwuegbuzie, A.J., Turner, L., 2007. Toward a Definition of Mixed Methods Research. *Journal of Mixed Methods Research* 1, 112–133. <https://doi.org/10.1177/1558689806298224>
- Jones Lang Laselle, 2020. Global Real Estate Transparency Index, 2020. JLL.
- Kalazny, A., 2022. The Impact of Changes in the Interpretation of Normative Acts on the Stimulating Function of the Tax on the Example of the Polish Real Estate Tax.
- Kang, Y., Jin, Z., Hyun, C., Park, H., 2018. Construction management functions for developing countries: case of Cambodia. *Journal of Management in Engineering* 34.
- Kerzner, H.R., 1998. *In Search of Excellence in Project Management*: John Wiley & Sons, Australia.

- Khan, R.A., Liew, M.S., Ghazali, Z.B., 2014. Malaysian Construction Sector and Malaysia Vision 2020: Developed Nation Status. *Procedia - Social and Behavioral Sciences* 109, 507–5013.
<https://doi.org/10.1016/j.sbspro.2013.12.498>
- Klimczak, K., 2010. Determinants of Real Estate Investment. *Economics & Sociology* 3, 58–66.
- Kothari, C.R., 2004. *Research Methodology: Methods and Techniques*, 2nd ed. New Age International Publishers, New Delhi, India.
- Krishnamurthy, A.D., Mahesh, G., 2022. Consumer Centricity as a Delivery Strategy for Assets in the Real Estate Sector: An Analysis of the Framework and Interpretation of Law. *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction* 15. [https://doi.org/10.1061/\(ASCE\)LA.1943-4170.00005](https://doi.org/10.1061/(ASCE)LA.1943-4170.00005)
- Kumar, A., 1982. Real Estate as Business. *Economic and Political Weekly* 50.
- Kumaraswamy, M.M., Raza, H., 2014. Source of Time and Cost Over-runs in Roadworks Projects – Pilot Study (No. 99928). World Bank Group, Washington, D.C., U.S.A.
- Kutubuddin Amreliwala & Anr. v M/s Paradigm Ambit Buildcon, 2018.
- La Porta, R., Lopez-De-Silanes, F., Shleifer, A., Vishny, R.W., 1997. Legal determinants of external finance. *The Journal of Finance* 52, 20.
<https://doi.org/10.1111/j.1540-6261.1997.tb02727.x>
- Lieser, K., Groh, A., 2014. The Determinants of International Commercial Real Estate Investment. *The Journal of Real Estate Finance and Economics* 48, 611–659.
<https://doi.org/10.1007/s11146-012-9401-0>
- Lim, C.S., Mohamed, Z., 1999. Criteria of project success: An exploratory re-examination. *International Journal of Project Management* 17, 243–248.
[https://doi.org/10.1016/S0263-7863\(98\)00040-4](https://doi.org/10.1016/S0263-7863(98)00040-4)
- Lin, C.C., Lin, S.J., 1999. An Estimation of Elasticities of Consumption Demand and Investment Demand for Owner-Occupied Housing in Taiwan: A Two-Period Model. *International Real Estate Review* 2, 110–125.
- Loganathan, S., Srinath, P., Kumaraswamy, M., Kalidindi, S., Varghese, K., 2017. Identifying and Addressing Critical Issues in the Indian Construction Industry:

- Perspectives of Large Building Construction Clients. *Journal of Construction in Developing Countries* 22, 121–144.
- Lopes, J., 2011. Construction in the economy and its role in socio-economic development, in: *New Perspectives on Construction in Developing Countries*. Routledge, pp. 40–71.
- Love, P.E.D., Holt, G.D., Heng, L., 2002. Triangulation in construction management research. *Engineering, Construction and Architectural Management* 9, 294–303.
- Madan Lal Kansal v DLF Homes Panchkula Pvt. Ltd., 2019.
- Mahadeva, M., 1996. Housing finance system: An overview. *Nagarlok* 27.
- Maisonneuve, C. de la, Dek, M., 2020. Housing for All in India (Working Paper No. 1612). Organisation for Economic Co-operation and Development.
- Mallick, H., 2011. Monetary Policy, Construction Sector Output and Housing Prices in India: An Emerging Economy Perspective. *Applied Econometrics and International Development* 11, 195–207.
- Mallick, H., Mahalik, M.K., 2012. Fundamental or speculative factors in the housing markets of emerging economies? Some lessons from China. *Journal of Economic Policy Reform* 15, 1–11.
<https://doi.org/10.1080/17487870.2011.642580>
- Manish Kumar v Union of India & Anr, 2021. , SCC.
- Mann, P.S., 1991. *Introductory Statistics*, 7th ed. John Wiley & Sons.
- Mei, J., Hu, J., 2000. Conditional Risk Premiums of Asian Real Estate Stocks. *The Journal of Real Estate Finance and Economics* 21, 297–313.
<https://doi.org/10.1023/a:1012008004402>
- Mellado, F., Lou, E.C.W., Correa Becerra, C.L., 2020. Synthesising performance in the construction industry 27, 579–608. <https://doi.org/10.1108/ECAM-09-2018-0419>
- Mengistu, D.G., 2019. Improving Determinant Factors to Facilitate Construction Industry Development in Ethiopia. National Institute of Technology Karnataka, Surathkal, Karnataka.

- Milford, R., 2009. Construction Industry Development in Developing Countries; Lessons and Opportunities. Presented at the 3rd International Conference on Concrete & Development, Tehran, Iran, pp. 59–70.
- Ministry of Housing and Urban Poverty Alleviation, S.C. on U.D., 2014. Thirtieth Report on the Real Estate (Regulation and Development) Bill, 2013 (No. 30). Lok Sabh Secretariat, Ministry of Housing and Urban Poverty Alleviation, New Delhi.
- Mitchell, M.L., Jolley, J.M., 2007. Research Design Explained, 7th ed. Wadsworth, Cengage Learning.
- Molina-Azorin, J.F., 2010. Mixed Methods Research in Strategic Management: Impact and Applications. *Organizational Research Methods* 15, 33–56. <https://doi.org/10.1177/1094428110393023>
- Moss, P.A., 1995. Themes and variations in validity theory. *Educational Measurement: Issues and Practice* 14, 5–13.
- M/s B. L. International Pvt. Ltd. v Parsvnath Developers Ltd., 2019.
- M/s Imperia Structures Ltd. v Anil Patni, 2020., SCC.
- Ms Simmi Sikka v M/s Emaar MGF Land Ltd., 2018.
- Mukherjee, K.K., Iyer, K.C., Sawhney, A., 2018. Sector-level objectives and associated inhibiting and enabling factors for the Indian real estate sector from a process standardisation perspective. *Property Management* 37. <https://doi.org/10.1108/PM-03-2018-0019>
- Mulroy, E.A., Ewalt, P.L., 1996. Affordable housing: A basic need and a social issue. *Social Work* 41, 245–249.
- N. Gunasekaran v Jain Housing and Construction Ltd., 2015.
- Nallathiga, R., 2007. Housing Policy in India: Challenges and Reform. *Review of Development and Change* 12, 71–98.
- Nallathiga, R., 2005. Housing in India: Status, Policy and Interventions. *Urban Governance and Management: Indian Initiatives* 4, 166–188.
- Nardo, M., Loi, M., Rosati, R., Manca, A., 2011. The Consumer Empowerment Index: A Measure of Skills, Awareness and Engagement of European Consumers. JRC Scientific and Technical Reports, EUR – Scientific and Technical Research 229. <https://doi.org/10.2788/91744>

- National Housing Bank, 2013. Report on Trends and Progress of Housing in India 2013 (No. 100). National Housing Bank, New Delhi, India.
- National Informatics Centre, 2023. National Judicial Data Grid [WWW Document]. URL https://njdg.ecourts.gov.in/njdgnew/?p=main/index&state_code=29~3 (accessed 9.9.23).
- Neelkamal Realtors Suburban Pvt. Ltd. & Anr v Union of India & Ors, 2018. , AIR Bom R 558.
- Nesbary, D., 1999. Survey Research and the World Wide Web. Allyn & Bacon.
- Nguyen, N.T.P., Nguyen, L.P., Dang, H.T.T., 2017. Analyze the Determinants of Capital Structure for Vietnamese Real Estate Listed Companies. International Journal of Economics and Financial Issues 7, 270–282.
- Nhabinde, V., Marrengula, C.P., Ubisse, A., 2012. The Challenges and the Way Forward for the Construction Industry in Mozambique. International Growth Centre, Mozambique.
- Nirrbhey Lall & Anr. v Bengal Unitech Universal Infrastructure Pvt. Ltd. & Anr., 2019.
- NITI Aayog, 2021. Reforms in Urban Planning Capacity in India. NITI Aayog, New Delhi.
- Nunnally, J.C., Bernstein, I.H., 1994. Psychometric Theory, 3rd ed. McGraw Hill, New York.
- Ofori, G., 2015. Nature of the Construction Industry, Its Needs and Its Development: A Review of Four Decades of Research. Journal of Construction in Developing Countries 20, 115–135.
- Ofori, G., 2012. Contemporary Issues in Construction in Developing Countries. Routledge, London.
- Ofori, G., 1994. Construction Technology Development: Role of an Appropriate Policy. Engineering, Construction and Architectural Management 1, 147–168.
- Ofori, G., 1990. The Construction Industry: Aspects of Its Economics and Management. NUS Press.
- Oyewobi, L.O., 2014. Modeling performance differentials in large construction organisations in South Africa. University of Cape Town, South Africa.

- Pahl, B., 2013. Principles of Legal Interpretation of a Normative Definition of the Term “Building Structure” for the Needs of the Imposition of a Real Estate Tax in Poland. *Studies in Logic, Grammar and Rhetoric* 33, 9–23.
<https://doi.org/10.2478/slgr-2013-0010>
- Pankaj Sood v Unitech Ltd, 2018.
- Partha Sarathi Bagchi v Emaar MGF Land Ltd., 2018.
- Patterson, D., 2005. Interpretation in Law. *San Diego Law Review* 42, 685–710.
- Philliber, S.G., Schwab, M.R., Sloss, G.S., 1980. *Social Research*. F. E. Peacock Publishers, Itasca, Illinois.
- Pioneer Urban Land and Infrastructure Ltd & Anr v Union of India & Ors, 2019., SCC OnLine SC 1005.
- Pioneer Urban Land and Infrastructure Ltd v Govindan Raghavan, 2019., SCC.
- Pollack, J., Helm, J., Adler, D., 2018. What is the Iron Triangle, and how has it changed? *International Journal of Managing Projects in Business* 11, 527–547.
- Praja Foundation, 2015. *Handbook on Urban Laws and Policies that impact Housing*. Praja Foundation, Mumbai.
- Preimus, H., 1995. Redefining welfare state: impact on housing and housing policy. *Netherlands Journal of Housing and Built Environment* 10.
- Pugh, C., 1991. Housing and Land Policies in Delhi. *Journal of Urban Affairs* 13, 367–382. <https://doi.org/10.1111/j.1467-9906.1991.tb00261.x>
- PwC, 2019. *Emerging trends in real estate*.
- Raftery, J., 1991. *Principles of Building Economics: An Introduction*. BSP Professional books.
- Rangaswamy, D., 2016. Real Estate (Regulation and Development) Bill, 2013 – Some Missing Links. *Bharati Law Review* April-June, 2016, 53–74.
- Reddy, A., Kumar, A.P., Kinhal, D., Joshi, D., Atreya, S., 2018. Protection of Real Estate Sector under RERA, in: *15 Legal Reforms for a Progressive Karnataka*. Vidhi: Centre for Legal Policy, Bengaluru, pp. 27–28.
- Reichstein, T., Salter, A.J., Gann, D.M., 2005. Last among equals: a comparison of innovation in construction, services and manufacturing in the UK. *Construction Management and Economics* 23, 631–644.
<https://doi.org/10.1080/01446190500126940>

- Revicki, D., 2014. Internal Consistency Reliability, in: *Encyclopedia of Quality of Life and Well-Being Research*. Springer. Springer, Dordrecht.
- Rohilla, S., Goel, U., 2020. RERA: Critical Analysis of Act, Implementation and Impact on the Right to Housing. *National Journal of Real Estate Law* 2.
- Roulac, S., 1996. The Strategic Real Estate Framework: Processes, Linkages and Decisions. *Journal of Real Estate Research* 12, 323–346.
<https://doi.org/10.1080/10835547.1996.12090843>
- Rwelamila, P.D., Ogunlana, S., 2015. W107-Construction in Developing Countries - Research Roadmap - Report for Consultation.
- Saunders, M., Lewis, P., Thornhill, A., 2007. *Research Methods for Business Students*, 4th ed. Pearson Education Limited.
- Sengupta, U., 2019. The State-led Housing Development in Brazil and India: A machinery for Enabling Strategy? *International Journal of Housing Policy* 19, 509–535. <https://doi.org/10.1080/19491247.2018.1510076>
- Sengupta, U., Murtagh, B., D'Ottaviano, C., Pasternak, S., 2018. Between Enabling and provider approach: Key shifts in the national housing policy in India and Brazil. *Environment and Planning C: Politics and Space* 36, 856–876.
- Singh, J., 2020. Contextualizing Land Question in a Green Revolution Area: Agrarian Transformation and Politics in Western Uttar Pradesh, in: *Land and Livelihoods in Neoliberal India*. Springer, pp. 71–84.
- Soundararajan, N., 2017. *Affordable Housing – The Next Steps*. Pahle India Foundation.
- Sridhar, K.S., 2010. Impact of Land Use Regulations: Evidence from India' Cities. *Urban Studies* 47, 1541–1569. <https://doi.org/10.1177/0042098009353813>
- Srinivasan, R., 2017. Organising the Unorganised: Role of Platform Intermediaries in the Indian Real Estate Market. *IIMB Management Review* 29, 58–68.
<https://doi.org/10.1016/j.iimb.2016.12.001>
- Ssegawa-Kaggwa, J., Ngowi, A.B., Ntshwene, K., 2013. Using a Situation Analysis to Identify the Construction Industry Deficiencies in Botswana. *Journal of Construction in Developing Countries* 18, 1–18.
- Strassmann, W.P., 1970. The Construction Sector in Economic Development. *Scottish Journal of Political Economy* 17, 391–409.

- Sue, V.M., Ritter, L.A., 2007. *Conducting Online Surveys*. SAGE Publications.
- Sun, H., Fan, Z., Zhou, Y., Shi, Y., 2010. Empirical research on competitiveness factors. *Engineering, Construction and Architectural Management* 17, 240–251. <https://doi.org/10.1108/09699981011038042>
- Tandel, V., Patel, S., Gandhi, S., Pethe, A., Agarwal, K., 2016. Decline of rental housing in India: the case of Mumbai. *Environment and Urbanization* 28, 259–274. <https://doi.org/10.1177/0956247815620316>
- Tavakol, M., Dennick, R., 2011. Making sense of Cronbach’s alpha. *International Journal of Medical Education* 2, 53–55. <https://doi.org/10.5116/ijme.4dfb.8dfd>
- Theurillat, T., Rerat, P., Crevoisier, O., 2015. The Real Estate Markets: Players, Institutions and Territories. *Urban Studies* 52, 1414–1433. <https://doi.org/10.1177/0042098014536238>
- Thi, C.H., Swierczek, F.W., 2010. Critical success factors in project management: Implication from Vietnam. *Asia Pacific Business Review* 16, 24. <https://doi.org/10.1080/13602380903322957>
- Tiwari, P., Parikh, J., 2000. Housing Paradoxes in India: Is there a solution? *Building and Environment* 35, 59–75. [https://doi.org/10.1016/S0360-1323\(00\)00000-0](https://doi.org/10.1016/S0360-1323(00)00000-0)
- Tiwari, P., Rao, J., 2016. *Housing Markets and Housing Policies in India*. ADBI Working Paper Series 565. Asian Development Bank Institute.
- Tripathi, K.K., Jha, K.N., 2018. An Empirical Study on Performance Measurement Factors for Construction Organizations. *KSCE Journal of Civil Engineering* volume 22, 1052–1066. <https://doi.org/10.1007/s12205-017-1892-z>
- Tsou, W.-L., Sun, C.-Y., 2021. Consumers’ Choice between Real Estate Investment and Consumption: A Case Study in Taiwan. *Sustainability* 13. <https://doi.org/10.3390/su132111607>
- Tukel, O.I., Rom, W.O., 2001. An empirical investigation of project evaluation criteria. *International Journal of Operation and Production Management* 21, 400–416.
- Turin, D.A., 1978. *Construction and development*. Habitat International 33–45. [https://doi.org/10.1016/0197-3975\(78\)90032-2](https://doi.org/10.1016/0197-3975(78)90032-2)
- Turin, D.A., 1973. *The Construction Industry: Its Economic Significance and Its Role in Development*. University College Environmental Research Group, London.

- United Nations, O. of the U.N.H.C. for H.R., 2009. The Right to Adequate Housing (Fact Sheet No. 21) (No. 9). Office of the United Nations High Commissioner for Human Rights.
- Vishwanath, T., Lall, S.V., Dowall, D., Lozano-Gracia, N., Sharma, S., Wang, H.G., 2013. Urbanization beyond Municipal Boundaries: Nurturing Metropolitan Economies and Connecting Peri-Urban Areas in India. The World Bank.
- Watters, C.G., Weng, C. (Xiao-C., 2003. Does the Housing Market and Absence of Consumer Bankruptcy Protection Make Interpretation (III) of the Chinese Marriage Law Beneficial to Women, not Men? *The Property Law Journal* 101–122.
- Weddikkara, C., Devapriya, K., 2001. Demand and Supply Trends and Construction Industry Development (A Case Study in the Sri Lankan Construction Industry). *The Australian Journal of Construction Economics & Building* 91–105.
- Wells, J., 1986. *The Construction Industry in Developing Countries: Alternative Strategies for Development*. Routledge Kegan & Paul.
- Wells, J., 1984. The Construction Industry in the Context of Development: A New Perspective. *Habitat International* 8, 9–28.
- Wexler, M.E., 1996. A comparison of Canadian and American housing policies. *Urban Studies* 33.
- Williams, B., Onsmann, A., Brown, T., 2010. Exploratory factor analysis: A five-step guide for novices. *Australasian Journal of Paramedicine* 8.
- Wolfe, J.M., 1998. Canadian Housing Policy in the Nineties. *Housing Studies* 13, 121–134.
- Wong, J.M.W., Chiang, Y.H., Ng, T.S., 2008. Construction and economic development: The case of Hong Kong. *Construction Management and Economics* 26, 815–826. <https://doi.org/10.1080/01446190802189927>
- Wong, J.M.W., Ng, S.T., Chan, A.P.C., 2010. Strategic Planning for the Sustainable Development of the Construction Industry in Hong Kong. *Habitat International* 34, 256–263.
- World Bank, 1984. *The Construction Industry: Issues and Strategies in Developing Countries*. Washington, D.C., U.S.A.

- Xia, N., Zou, P.X.W., Liu, X., Wang, X., Zhu, R., 2018. A Hybrid BN-HFACS Model for Predicting Safety Performance in Construction Projects. *Safety Science* 101, 332–343. <https://doi.org/10.1016/j.ssci.2017.09.025>
- Yamin, S., Gunasekaran, A., Mavondo, F.T., 1999. Relationship between generic strategies, competitive advantage and organizational performance: An empirical analysis. *Technovation* 19, 507–518.
- Yin, R., 2013. *Case Study Research: Design and Methods*, 5th ed. SAGE Publications, India.
- Yusof, N.A., Abujarad, I.Y.A., Badree, M.H., 2012. The Effectiveness of Government Incentives to Facilitate an Innovative Housing Delivery System: The Perspective of Housing Developers. *Theoretical and Empirical Researches in Urban Management* 7.

APPENDIX I: QUESTIONNAIRE I

GENERAL INFORMATION

1. Name:

E-mail ID:

Please use ✓ to mark your responses

2. Type of Real Estate Sector/Construction Industry Stakeholder

Promoter/Developer	
Lawyer/Advocate	
Chartered Accountant	
Project Manager/Cost Manager	
Architect	
Financier	
Broker	
Insolvency Resolution Professional	
Legislator/Policy-maker	
Regulatory Authority/ Judicial Body/ Quasi-judicial Body	
Researcher	
Other (Please specify)	

3. Experience in/with the Real Estate Sector/Construction Industry in India (in years)

Less than 5	
5-10	
Greater than 10	

SECTION I

1.1 Variables affecting Real Estate Asset Delivery

I.	Variables from the <i>framework of law</i> (Suggested thought-frame: In mass urban housing supply by private real estate promoters/developers, what is the extent of contribution of following variables, to <i>deficient supply of housing?</i>)	Very Low – Very High				
		1	2	3	4	5
1	Absence of stringent professional repercussions to project professionals involving in malpractice					
2	Lack of clear stipulations/directives ensuring revamp of undelivered projects, after takeover by regulatory authority					
3	Absence of penal provisions for regulatory authority upon non-performance of statutory obligation of project-takeover and consequent delivery					
4	Provisions allowing for variations from sanctioned plans and specifications					
5	Lack of exhaustiveness of the terms and conditions of exchange in ‘Model Agreement for Sale’ as prescribed by regulatory authorities					

6	Drawbacks in provision relating to formation of an association/society/ federation of allottees (Ex: Formation of an association/society/federation with allottees who have merely 'booked' units)					
7	Framing of counter-productive rules by regulatory authority regarding exemptions from project registration with the authority					
8	Ambiguity in calculation of amount withdrawable by promoter/developer from 'designated project bank account' (Refers to multiplicity in interpretation of withdrawable amount)					
9	Absence of statutory prohibitions on front-loading of sale price payable by consumers (Front-loading refers to such a design of consumer payment timeline, which leads to collection of amounts much higher than actual proportion of project progress)					
10	Lack of clarity in calculation of compensation amount					
11	Limited collective expanse (breadth) of existing real estate laws					
12	Excessive regulatory and compliance requirements for real estate asset development					
13	Absence of competitiveness in regulatory environment ('Regulatory competition' refers to competition amongst lawmakers to bring in changes and adaptations in law to improve business environment)					
14	Poor property rights system and transparency in land markets					
II.	Variables from the <u>execution of law</u> (Suggested thought-frame: In mass urban housing supply by private real estate promoters/developers, what is the extent of contribution of following variables, to deficient supply of housing?)	Very Low – Very High				
		1	2	3	4	5
1	Lack of co-ordinated working of sector regulators, urban local bodies, government agencies and parastatals					
2	Absence of single window approval system for projects					
3	Non-uniformity in interpretation and adoption of central laws by state governments					
4	Delays in framing of rules under statutes					
5	Dilution of statutes through framing of counter-productive rules					
6	Absence of well-established, standardized grievance redressal procedure					
7	Restrictive nature of procedures, rules and regulations under law (Ex: Presence of either offline/online registration of complaints; High charges to register complaints)					
8	Inadequate evaluation of applications for project registration with regulatory authority					
9	Irregularity by promoters/developers in filing of project progress on web-page of regulatory authority					
10	Regulatory authority' inadequate monitoring of mandatory filing of project progress by promoters/developers					
11	Delays in settlement of disputes by judicial and quasi-judicial bodies					
12	Inadequate usage of punitive provisions by judicial/quasi-judicial bodies					
13	Complexity and unviability of present system of order/verdict execution					
14	Lack of pro-activeness of regulatory authority in intervening and/or taking-over undelivered projects					

15	Ambiguity in interpretation and application of force-majeure clauses for delays in projects <i>(Force majeure: Unforeseeable circumstances that prevent someone from fulfilling a contract)</i>					
16	Inadequate enforcement of strict adherence to stipulated building codes and by-laws					
17	Non-disbursal of precautionary information pertaining to defaulting service providers on web-page of authority, for the benefit of consumers					
18	Lack of pro-active response of regulatory authority to 'source information' shared about unregistered projects <i>(Source information: Complaints regarding non-registration of projects)</i>					
19	Insufficiency of trained manpower at regulatory authorities, judicial/quasi-judicial bodies and urban local bodies					
20	Absence of adequate deterrents to real estate project professionals indulging in malpractice <i>(Ex: Inadequate co-ordination of regulatory authority/quasi-judicial bodies with professional institutions/bodies that can revoke professional licenses/memberships of defaulters)</i>					
21	Lack of judicial teeth under statutes to hold lending agencies accountable for poor due-diligence					
22	Lack of initiatives promoting out-of-court settlement of disputes <i>(Ex: Setting-up of conciliation forums)</i>					
23	Inadequate physical infrastructure for execution of law at state/district levels <i>(Ex: Lack of adequate number of benches of courts; Absence of designated execution officers for execution of orders etc.)</i>					
24	Inadequacy of information technology (IT) infrastructure and support systems					
25	Complexity in usage of information technology (IT) systems in place					
26	Insufficiency of outreach and awareness programmes for stakeholders					
27	High litigation charges <i>(Inclusive of charges for filing of cases, advocate charges, other related expenses etc.)</i>					
28	Prevalence of forum-shopping in litigation <i>(Forum shopping: Practice adopted by some litigants to have their legal case heard in court thought most likely to provide favourable judgment, leading to over-burdening of certain courts)</i>					
29	Difficulties arising from changing government officials					
30	Corruption by bureaucrats/government officials					
31	Presence of political influence on bureaucrats/government officials					
32	Presence of bureaucratic red-tapism <i>(Red-tapism: The practice of requiring excessive paperwork and tedious procedures before official action can be considered or completed)</i>					
33	Influence of promoters'/developers' lobby					

III.	Variables from <i>policy interventions</i> (Suggested thought-frame: In mass urban housing supply by private real estate promoters/developers, what is the extent of contribution of following variables, <u>to deficient supply of housing?</u>)	Very Low – Very High				
		1	2	3	4	5
1	Absence of a central agency (along with regional groupings) for managing industry/sector development					
2	Absence of 'industry' status to real estate sector (Conferring 'industry' status basically leads to a sector' inclusion in state/central industrial policy, with special schemes and subsidies suitable for a sector' distinct demands, along with legal and procedural benefits like capital and interest subsidies, single window fast-track clearance processes, exemptions or relaxations from stamp duty, tariffs and other duties.)					
3	Inadequacy of policy back-up to sector-specific programmes and projects (Ideally, 'Policy' at the top level is followed by 'Program' at the middle level, which is further followed by 'Project' at the bottom-most level)					
4	Lack of continuity and inter-connectedness in policies, programmes and projects					
5	Need for decentralized design and implementation of policies					
6	Mismatch between target-consumers of housing policies to demand driving-consumers of housing market					
7	Mismatch between intended policy-target-consumer groups to actual on-ground policy-beneficiary-consumer groups					
8	Ineffective monitoring of policy implementation					
9	Inadequacy of direct intervention and subsidies to real estate sector					
10	High statutory taxes, levies and charges upon real estate transactions					
11	Unaffordability of housing stock to housing policy-target-consumer groups					
12	Housing supply-loss and price-hike created by regulated zoning, floor area ratio restrictions and urban land ceilings					
13	Ineffectiveness of measures aimed at limiting of speculation of land and housing (Real estate speculation: Buying property with an intent to resell it at a higher price in near future. Speculation needs to be controlled to keep housing prices within acceptable limits.)					
14	Outdated development control regulations (Ex: Town and Country Planning Acts; Building by-laws; Zoning Regulations etc.)					
15	Multiplicity of local bodies and parastatals involved in urban housing delivery					
16	Lack of efficiency in functioning of housing boards and housing corporations					
17	Lack of low-cost funding for project land acquisition by promoters/developers					
18	Lack of ease of access to formal housing finance by varied classes of consumers					
19	Lack of ease of access to project finance by promoters/developers					

20	Under-penetration of housing finance companies					
21	Lack of access to foreign direct investment by real estate sector					
22	Regulated access to external commercial borrowings by real estate sector <i>(External Commercial Borrowing (ECB): An instrument that helps Indian firms and organizations to raise funds from outside India in foreign currencies)</i>					
23	Difficulties in sourcing of input commodities (building materials) for real estate development					
24	Instability of building material prices					
25	Lack of incentive schemes for adoption of sustainable, low cost materials and technologies in construction					
26	Lack of comprehensiveness of building codes and by-laws					
27	Lack of comprehensiveness of professional standards regulating the functioning of real estate professionals					
28	Inadequate dissemination of productivity benchmarks, sector-specific standards and developments					
29	Lack of affordable, safe and accessible modes of public transport infrastructure and other basic services					
30	Inadequacy of upfront public consultation/engagement in policy-making					
31	Insufficiency of stakeholder training and awareness programmes					
32	Lack of collaborative forums and research groups for sector reform studies					

1.2 Factors of Real Estate Asset Delivery and Demand

I.	Time-boundness <i>(Suggested thought-frame: In mass urban housing supply by private real estate promoters/developers, what is the extent of contribution of following <u>delays and disruptions</u>, to reduction in demand for <u>investment/consumption/speculation in housing asset class</u> and/or <u>investment in housing developer groups</u>?)</i>	Very Low – Very High				
		1	2	3	4	5
1	Delays in approvals and sanctions by urban local bodies (ULBs)					
2	Delayed execution of construction works					
3	Delays in title transfer and physical possession hand-over timeline					
4	Disruptions to project finance disbursement timeline					
5	Disruptions to pre-set sale target timeline of promoters/developers					
6	Delays by consumers/buyers in making payments to promoters/developers at different stages of project development					
7	Delays in timely performance of duties by regulatory authorities, judicial and quasi-judicial bodies					
II.	Cost-certainty <i>(Suggested thought-frame: In mass urban housing supply by private real estate promoters/developers, what is the extent of contribution of following <u>cost-escalators</u>, to reduction in demand for</i>	Very Low – Very High				
		1	2	3	4	5

	<i>investment/consumption/speculation in housing asset class and/or investment in housing developer groups?)</i>					
1	Poor project budget estimation and costing practices					
2	Siphoning of consumer cash-inflow					
3	Poor project budget monitoring and control systems					
4	Disruptions to project finance disbursement channels					
5	Deviations by consumers/buyers from staged payment timelines <i>(Refers to the timeline provided by promoters/developers reflecting the amounts collectible from consumers at different stages of development of a project)</i>					
6	Disruptions to pre-set sale target timeline of promoters/developers					
7	Presence of excessive penal and compensatory liabilities upon promoters/developers					
8	Changes in tax regime and regulatory charges <i>(Ex: Regulatory charges for approvals, stamp duty, registration etc.)</i>					
9	Unavoidability of speed money and grease payments <i>(Speed money/Grease payments: Payments made to fasten a routine process or service, such as gaining project approvals/permits)</i>					
III.	Scope-adherence <i>(Suggested thought-frame: In mass urban housing supply by private real estate promoters/developers, what is the extent of contribution of following <u>scope-deficiencies</u>, to reduction in demand for <u>investment/consumption/speculation in housing asset class and/or investment in housing developer groups?</u>)</i>	Very Low – Very High				
		1	2	3	4	5
1	Lack of legal validity of project development <i>(Ex: Non-securing of commencement certificate prior to beginning of development works)</i>					
2	Lack of legal validity of exchange <i>(Ex: Absence of completion/occupancy certificate; Non-execution of registered conveyance deed etc.)</i>					
3	Insufficient degree of detail in disbursed scope and specifications					
4	Non-uniformity in disbursed scope and specifications					
5	Unforeseen scope creep during project execution <i>(Scope creep occurs when original goals of a project get expanded during actual execution of works)</i>					
6	Intentional defections and variations from disbursed scope and specifications					
IV.	Consumer Skills <i>(Suggested thought-frame: In private-sector mass urban housing demand by consumers, what is the extent of contribution of following <u>poor skills of consumers</u>, to existent <u>deficient supply of housing assets for investment/consumption/speculation?</u>)</i>	Very Low – Very High				
		1	2	3	4	5
1	Poor numerical skills and capabilities					
2	Lack of understanding of architectural drawings and details					
3	Poor technical knowledge of project scope and specifications					

4	Lack of understanding of legal terms in allotment letter/agreement for sale/conveyance deed					
5	Poor financial skill-set (Ex: Interest payable/receivable; Monetary liabilities/receivables; Taxes; Charges etc.)					
V.	Awareness of Consumer Legislation (Suggested thought-frame: In private-sector mass urban housing demand by consumers, what is the extent of contribution of following <u>poor legal understandings of consumers</u> , to existent <u>deficient supply of housing assets for investment/consumption/speculation?</u>)	Very Low – Very High				
		1	2	3	4	5
1	Poor knowledge of duties and liabilities of different stakeholders					
2	Lack of awareness of existent spectrum of legal rights					
3	Lack of knowledge of existent remedies upon violation of legal rights					
4	Lack of awareness of relevant legal forums and commissions to access remedies					
5	Lack of awareness of limitations in existent legal framework (Legal Framework refers to the set of laws, regulations and rules that apply in a country)					
VI.	Consumer Engagement (Suggested thought-frame: In private-sector mass urban housing demand by consumers, what is the extent of contribution of following <u>poor engagements of consumers</u> , to existent <u>deficient supply of housing assets for investment/consumption/speculation?</u>)	Very Low – Very High				
		1	2	3	4	5
1	Inadequate due-diligence prior to purchase of assets					
2	Absence of timely enquiries of project progress					
3	Non-availment of legal remedies upon violation of legal rights					
4	Inability to overcome procedural hurdles to availing of remedies					
5	Difficulties in getting pronounced judicial orders executed					
6	Non-exercise of collective-will through formation of an association/society/federation of allottees					
VII	Affordability (Suggested thought-frame: In private-sector mass urban housing demand by consumers, what is the extent of contribution of following <u>affordability-deterrents</u> , to present <u>mismatch in supply of housing assets for investment/consumption/speculation?</u>)	Very Low – Very High				
		1	2	3	4	5
1	Over-pricing of housing stock					
2	Low levels of household income					
3	High mortgage interest rate					

1.3 Construction Industry Output Demand Stimulation

I.		Real Estate Investment-led Construction Industry Output Demand Stimulation				
1) Capital Infusion into Real Estate Promoter/Developer Groups (Suggested thought-frame: Rate the <u>existent degree of stimulation of construction industry</u> through <u>following modes of capital infusion into promoter/developer groups</u> involved in housing delivery)		Very Low – Very High				
		1	2	3	4	5
1	Private equity (Direct investment in shares of a company, outside of stock exchange)					
2	Publicly traded equity (Investment in shares of a company through stock exchange)					
3	Private debt (Refers to loans to companies by private investors and private markets, rather than by banks or public markets)					
4	Publicly traded debt (Refers to loans that have been securitised)					
2) Real Estate Consumer/Buyer Investments in Housing Assets Real Estate Investment: Refers to purchase of properties to gain from <u>both rental income as well as appreciation of assets</u> over a long period of time (Suggested thought-frame: Rate the <u>existent degree of stimulation of construction industry</u> through <u>buyer investments</u> in following housing assets)		Very Low – Very High				
		1	2	3	4	5
1	Land					
2	Apartments/Flats					
3	Standalone Residential Units					
II. Real Estate Consumption-led Construction Industry Output Demand Stimulation Real Estate Consumption: Refers to purchase of properties for <u>personal use</u> by buyers (Suggested thought-frame: Rate the <u>existent degree of stimulation of construction industry</u> through <u>consumer/buyer consumption</u> of following typologies of housing)		Very Low – Very High				
		1	2	3	4	5
1	Low Income Group Housing (< Rs. 3500/sft)					
2	Standard Housing (Rs. 3500 – Rs. 4000/sft)					
3	Mid-segment Housing (Rs. 4000 – Rs. 4500/sft)					
4	Premium Housing (Rs. 4500 – Rs. 5000/sft)					
5	Luxury Housing (> Rs. 5000/ sft)					
6	Super-luxury Housing (> Rs. 5500/sft)					

III	Real Estate Speculation-led Construction Industry Output Demand Stimulation <i>Real estate speculation: Refers to purchase of properties with an intent to re-sell after quick appreciation of assets in a short span of time</i> <i>(Suggested thought-frame: Rate the <u>existent degree of stimulation of construction industry through consumer/buyer speculation in following housing assets</u>)</i>	Very Low – Very High				
		1	2	3	4	5
1	Land					
2	Apartments/Flats					
3	Standalone Residential Units					

SECTION II

*Suggested thought-frame: From your experience in the real estate sector/construction industry, rate the **required level of improvement** of following parameters **to enhance time-boundness, cost-certainty and scope-adherence in real estate asset delivery***

2.1 Time-boundness

I	Time-boundness: Stakeholder Performance	Very Low – Very High				
		1	2	3	4	5
1	Coordinated and co-operative working of project delivery stakeholders					
2	Timely sourcing of building materials, construction manpower and project professionals for execution of works					
3	Efficiency in project planning, monitoring and control systems					
4	Adequacy of quality and quantity of manpower at urban local bodies, regulatory authorities, judicial and quasi-judicial bodies					
5	Efficient usage of information technology (IT) systems, project management software etc. by project delivery stakeholders					
6	Clarity in statutory prescriptions concerning the timeline and procedure of take-over of undelivered projects by regulatory authorities					
7	Penal provisions for non-timely take-over/non-delivery of projects by regulatory authorities					
8	Adherence to prescribed timeline for registration of conveyance deed, hand-over of physical possession of property & necessary project documents and plans					
II	Time-boundness: Inflow of Cash					
1	Timely disbursement of project funds by lending agencies					
2	Prudent design of project finance pay-back timeline by financiers					
3	Rational design of sales timeline by promoters/developers					
4	Well-balanced standardised design of staged-payment-timeline by promoters/developers, to be adhered to by consumers/buyers of assets					

2.2 Cost-certainty

I	Cost-certainty: Budgeting and Monitoring	Very Low – Very High				
		1	2	3	4	5
1	Detailing of drawings and specifications					
2	Accuracy in estimation and costing practices					
3	Provisioning for contingency amount in budgeting <i>(Contingency amount is set aside to cover unexpected costs that arise during project execution)</i>					
4	Efficiency in project planning, monitoring and control systems					
5	Timely creation and disbursal of project progress reports to stakeholders					
II	Cost-certainty: Financial Accessibility and Management					
1	Ease of access to low-cost funding for land acquisition by promoters/developers					
2	Ease of access to project finance by promoters/developers					
3	Penetration of housing finance companies					
4	Facilitative measures to channelize private sector investment into housing					
5	Regulatory reforms to ease access to foreign direct investments by the sector					
6	Regulatory reforms to allow access to external commercial borrowings (ECBs) by real estate projects					
7	Well-balanced standardised design of consumer'/buyer' staged-payment-timeline by promoters/developers					
8	Ethical working of project professionals (architects, engineers and chartered accountants) under promoters/developers					
III	Cost-certainty: Regulatory Charges and Miscellaneous Expenses					
1	Stability of tax regime and tax slabs					
2	Reasonability of statutory taxes, levies and charges upon real estate transactions					
3	Concessions in and waiver of regulatory charges to stimulate demand/supply					
4	Procedures and safeguards for whistle-blowing of corruption in government offices					
5	Implementation of e-payment system for transactions with urban local bodies					

2.3 Scope-adherence

I	Scope-adherence: Validity of Project Development and Exchange	Very Low – Very High				
		1	2	3	4	5
1	Securing of commencement certificate prior to beginning of construction works					
2	Securing of a range of statutory approvals and permits from urban local bodies and parastatals					
3	Adherence to approved project plans and specifications					

4	Abidance of mandatory registration of project with regulatory authority, prior to advertising/marketing/booking/sale or offering for sale					
5	Securing of occupancy certificate and/or completion certificate prior to allowing for consumer/buyer occupancy					
6	Execution of registered conveyance deed in favour of allottee/association of allottees/competent authority					
II	Scope-adherence: Disbursal of Project-scope					
1	Clarity on the extent of mandatory detailing of project scope and specifications in relevant documents to be disbursed to consumers					
2	Strict implementation of statutory safeguards, provisions and procedures pertaining to variations/deviations from sanctioned plans and specifications					
3	Stringency of penal liabilities for variations/deviations from sanctioned plans and specifications					

APPENDIX II: INTERVIEW GUIDE

Major legal and policy issues identified to be affecting the residential real estate market in Bengaluru

1	Legal System	Comments
1.1	Poor property rights and lack of transparency in land market <i>(Ex: Poor land records; Disputable ownership of land etc.)</i>	
1.2	Excessive regulatory system and difficulties faced in compliance <i>(Ex: Too many permissions required from government agencies for any kind of real estate development)</i>	
1.3	Absence of competitiveness in regulatory system <i>(This refers to the absence of spirit among lawmakers to bring necessary changes in relevant laws, from time to time, to improve business environment)</i>	

2	Execution of Law	Comments
2.1	Presence of red-tapism in bureaucracy <i>(The practice of creating excessive paperwork and following tedious procedure before official action is initiated/approval is given)</i>	
2.2	Absence of 'single window system approval' for clearing projects	

3	Policy Interventions	Comments
3.1	High level statutory taxes and charges in terms of property registration, stamp duty etc. upon real estate transactions	
3.2	Instability in the prices of building materials <i>(Ex: Increase in prices of steel, cement etc.)</i>	
3.3	Lack of incentive schemes for adopting sustainable, low cost materials and technologies in real estate sector	
3.4	Housing supply-loss and price-hike created by regulated zoning <i>(Ex: Restrictions while constructing high rise buildings in terms of design, floor area, built up area etc.)</i>	

Major supply-side issues i.e. delays, cost escalators and scope deterrents identified in the residential real estate market in Bengaluru

4	Delays	Comments
4.1	Delays in giving approvals/sanctions by urban local bodies (ULBs)	
4.2	Delays caused by regulatory authorities <i>(Is it difficult to fix time limit for disposal of cases filed under the Real Estate (Regulation and Development) Act, 2016?)</i>	
4.3	Delayed execution of construction works	

5	Cost Escalators	Comments
5.1	Role of speed money and grease payments <i>(Payment made to fasten a routine process or service, such as gaining project approvals/permits)</i>	
5.2	Changes in tax regime and regulatory charges <i>(Ex: Introduction of changes to 'Goods and Services Tax' regime; Changes to stamp duty charges, property registration charges etc.)</i>	
5.3	Presence of excessive penal and compensatory liabilities upon promoters/developers <i>(Ex: Imposition of high penalty on defaulting real estate developers by Real Estate Regulatory Authority and high compensation payable to home buyers by defaulting developers)</i>	

6	Scope Deterrents	Comments
6.1	Lack of legal validity in the documents of assets created by real estate developers <i>(Absence of completion/occupancy certificates for projects; Non-execution of registered conveyance deed etc.)</i>	
6.2	Unforeseen elements creeping in during project execution <i>(For example, when the actual period of project execution gets expanded due to unavoidable circumstances)</i>	

Major demand-side factors identified in the residential real estate market in Bengaluru

7	Consumer Skills	Comments
7.1	Numerical skills and capabilities	

	<i>(Are home-buyers familiar with taxes applicable to real estate transactions, interest on loan, built-up areas of flats etc.?)</i>	
7.2	Understanding of architectural drawings and details <i>(To what extent do home-buyers understand architectural designs/drawings, architectural conventions and symbols?)</i>	
7.3	Poor financial skill-set <i>(Ex: Poor knowledge among home-buyers about the taxes applicable on purchase of real estate properties and lack of awareness about the penalty payable by them for breach of agreement for sale)</i>	

8	Awareness of Consumer Legislation	Comments
8.1	Awareness of relevant legal forums and commissions to access remedies <i>(Are home-buyers aware of relevant legal forums/courts to approach for legal remedies etc.?)</i>	
8.2	Knowledge about existent remedies upon violation of legal rights <i>(Are home-buyers aware of relevant legal remedies available to them under different laws/statutes?)</i>	

9	Consumer Engagement	Comments
9.1	Difficulties in getting pronounced judicial orders executed <i>(Upon getting a recovery order from Real Estate Regulatory Authority (RERA), home-buyers are often left helpless when the said orders are not adhered to by real estate developers/promoters. Is there a need to have execution officers under RERA?)</i>	
9.2	Non-existence of collective-will among home-buyers for formation of an association/society/ federation to protect their interests	
9.3	Timely enquiries about project progress <i>(Do home-buyers make frequent and timely enquiries with real estate developers about project progress?)</i>	

10	Affordability	Comments
10.1	Payment of high rate of interest on housing loans by home-buyers	
10.2	Low levels of household income	
10.3	Over-pricing of housing stock	

APPENDIX III: QUESTIONNAIRE II

Please use ✓ to mark your responses

General Information

1. Name:

Email ID.:

2. Please mention the kind of residential real estate asset that you have purchased in the recent past or wish to purchase in the near future.

<p>a) <input type="checkbox"/> Low Income Group Housing (< Rs. 3500/sft)</p> <p><input type="checkbox"/> Standard Housing (Rs. 3500 – Rs. 4000/sft)</p> <p><input type="checkbox"/> Mid-segment Housing (Rs. 4000 – Rs. 4500/sft)</p> <p><input type="checkbox"/> Premium Housing (Rs. 4500 – Rs. 5000/sft)</p> <p><input type="checkbox"/> Luxury Housing (Rs. 5000 - Rs. 5500/sft)</p> <p><input type="checkbox"/> Super-luxury Housing (> Rs. 5500/sft)</p>	<p>b) <input type="checkbox"/> Land</p> <p><input type="checkbox"/> Apartment/Flat</p> <p><input type="checkbox"/> Standalone Residential Unit</p>
<p>c) <input type="checkbox"/> 1-BHK</p> <p><input type="checkbox"/> 2-BHK</p> <p><input type="checkbox"/> 3-BHK</p> <p><input type="checkbox"/> 4-BHK</p> <p><input type="checkbox"/> Other (Please specify):</p>	

3. Purpose behind the purchase of residential real estate asset:

- Personal use
- Renting-out
- Re-sale
- Other (Please specify):

4. Nature of home buyer:

- First-time home buyer
- Repeat home buyer

1. Skills

Numerical Skills									
<i>How easily understandable are the below mentioned illustrations?</i>					Very easy – Very difficult				
					1	2	3	4	5
1	You have won a cash prize. You have two payment options: a) Receive Rs. 1,00,000 now b) Receive Rs. 1,00,000 after three years.								

	Which option would give you better returns? <i>Option (a), because although the amount receivable shall be the same in both the situations, you can earn interest on the money if you have it in your hands now.</i>					
2	Suppose you made a deposit of Rs.1000. You have two yield options: a) Opt for simple interest at the rate of 10% per annum b) Opt for compound interest at the rate of 10% per annum Which option would give you better returns? <i>Option (b), because at the end of the 2nd year, For simple interest, Deposit = Rs. 1200. For compound interest, Deposit = Rs. 1210.</i>					
3	Pricing of a flat for sale = Rs. 90 Lakhs <i>If applicable tax is 5%, then the tax to be paid = 5% * 90,00,000 = Rs. 4,50,000.</i>					
Please rate your <u>abilities</u> in the following <u>numerical skills</u>		Very easy – Very difficult				
		1	2	3	4	5
1	Basic mathematical operations <i>Ex: Addition, Subtraction, Multiplication and Division.</i>					
2	Measurement of areas of regular shapes <i>Ex: Area calculation of a square □ plot.</i>					
3	Measurement of areas of irregular and skewed shapes <i>Ex: Area calculation of a plot of this shape: ▽</i>					
4	Conversion between various units of floor area measurement <i>Ex: Can you easily convert values from square metre to square feet, square metre to acre etc.?</i>					
<u>Understanding of Architectural Drawings and Details</u>						
Please rate your <u>abilities</u> in the following <u>architectural skills</u>		Very easy – Very difficult				
		1	2	3	4	5
1	Knowledge of different types of architectural drawings <i>Ex: Do you know the difference between floor plan drawings, elevation drawings and sectional drawings?</i>					
2	Ability to read and understand different kinds of architectural drawings <i>Ex: How well can you read and understand floor plan drawings, elevation drawings and sectional drawings of a residential building?</i>					
3	Knowledge of scales used in architectural drawings <i>Ex: Do you understand what scales like 1:100, 1:1000 etc. mean in architectural drawings?</i>					
4	Ability to correlate different kinds of architectural drawings <i>Ex: Can you correlate the 'elevation' with the 'ground floor plan' of a house?</i>					
5	Knowledge of architectural conventions and symbols <i>Ex: Depiction of walls, stairs, doors, windows etc.; Depiction of 'north direction' arrow.</i>					
<u>Technical Capabilities</u>						
Please rate yourself in the following <u>technical capabilities</u> with respect to real estate asset purchase		Highly aware – Highly unaware				
		1	2	3	4	5
1	Understanding of the meaning and significance of different kinds of usable areas <i>Ex: How aware are you of the difference between carpet area, built-up area and super built-up area? Does 'carpet area' include balconies and verandahs?</i>					
2	Knowledge of the number, types and areas of apartments/plots/standalone houses for sale					
3	Nature of fixtures, fittings and amenities used in a project <i>When a particular brand of sanitary ware or floor tile or door type is mentioned in a residential project advertisement/brochure, do you understand the advantages and disadvantages of the concerned brand?</i>					
4	Ability to identify additions/alterations/changes from sanctioned plans and specifications <i>Ex: Can you correlate the actual flat/apartment with sanctioned architectural drawings/details to identify the differences between the two?</i>					

Legal Understandings		Highly aware – Highly unaware										
<i>Please rate yourself in the following legal understandings with respect to real estate asset purchase</i>		1	2	3	4	5						
1	Awareness of developer/promoter entity <i>Ex: Type of developer/promoter company - Public limited, Private limited, Partnership etc.; Proprietors and share-holders of the company etc.</i>											
2	Knowledge of joint development (if any) between developer/promoter and land-owner <i>Ex: Verification of Power of Attorney; Reading of the terms of Joint Development Agreement etc.</i>											
3	Knowledge of inclusions and exclusions in the prescribed sale price <i>Are you aware of charges (if any) in addition to the agreed sale price of a flat/plot?</i>											
4	Awareness of price escalation clauses in agreements <i>Are you aware of events/occurrences which permit escalation of agreed sale price of a flat/plot?</i>											
5	Knowledge of the purposes of different kinds of documents <i>Do you know the difference between an allotment letter, an agreement for sale and a sale deed?</i>											
6	Understanding of stage-wise payment plan and repercussions of non-payment/untimely payment <i>Ex: Are you aware of the interest payable to promoter/developer upon non-payment of money on due date as per the agreement for sale?</i>											
7	Awareness of rules relating to formation of an association/society/federation of allottees <i>Ex: Are you aware that an association of allottees needs to be formed within a period of three months from when more than 50% of plots or apartments or building have/has been booked by the buyers?</i>											
8	Awareness of force-majeure clauses and their implications <i>Ex: Do you know the meaning of 'force-majeure'? What are those specific events that fall under 'force majeure' as per the agreement for sale?</i>											
9	Knowledge of the purposes of commencement certificate, occupancy certificate, completion certificate, etc. <i>Do you know how different a commencement certificate is from a completion certificate or an occupancy certificate?</i>											
10	Knowledge of mortgage/charge created on property <i>Do you know whether the developer/promoter has mortgaged your flat/plot with a bank? What is the impact of such mortgage?</i>											
Financial Understandings		Highly aware – Highly unaware										
<i>Please rate yourself in the following financial understandings with respect to real estate asset purchase</i>		1	2	3	4	5						
1	Awareness of interest payable/receivable upon breach of terms of agreement for sale, rebate for early payments, cancellation charges etc.											
2	Knowledge of taxes applicable upon the sale of immovable property at different stages of development <i>Are you aware of the following?</i> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"><i>Purchase of under-construction real estate</i></td> <td style="width: 50%;"><i>GST applicable</i></td> </tr> <tr> <td><i>Purchase of real estate post issuance of occupancy certificate/completion certificate or after first occupancy</i></td> <td><i>GST not applicable</i></td> </tr> <tr> <td colspan="2"><i>Further, GST rates differ for under-construction properties when input tax credit is availed and when the same is not availed by developers/promoters.</i></td> </tr> </table>	<i>Purchase of under-construction real estate</i>	<i>GST applicable</i>	<i>Purchase of real estate post issuance of occupancy certificate/completion certificate or after first occupancy</i>	<i>GST not applicable</i>	<i>Further, GST rates differ for under-construction properties when input tax credit is availed and when the same is not availed by developers/promoters.</i>						
<i>Purchase of under-construction real estate</i>	<i>GST applicable</i>											
<i>Purchase of real estate post issuance of occupancy certificate/completion certificate or after first occupancy</i>	<i>GST not applicable</i>											
<i>Further, GST rates differ for under-construction properties when input tax credit is availed and when the same is not availed by developers/promoters.</i>												
3	Knowledge of development charges imposed by competent authorities <i>Ex: Infrastructure development charges: Charges levied for developing major infrastructure such as highways, bridges, and transport systems in the city in which project is located. External development charges: Charges paid to civic authorities for the maintenance of civic amenities within the periphery of, or outside a project for its benefit.</i>											
4	Awareness of land cost, ground rent, municipal/other local taxes, charges for water/electricity, maintenance charges, mortgage loan and associated interest, encumbrances, other project-related liabilities etc., payable by the developer/promoter prior to hand-over.											

2. Awareness of Consumer Legislation

Knowledge of Duties and Liabilities						
Please rate your awareness of the following aspects of real estate legislation ?		Highly aware – Highly unaware				
		1	2	3	4	5
1	<p>Knowledge of prescribed duties and liabilities of different stakeholders involved in housing delivery</p> <p><i>Ex: Are you aware of the duties of a developer/promoter and the professionals working under him/her (viz. architect, engineer, chartered accountant etc.)? Do you know of the specific powers of Real Estate Regulatory Authority (RERA), City Development Authority, Municipality etc.?</i></p>					
2	<p>Awareness of the terms of ‘Model Agreement for Sale’</p> <p><i>‘Model Agreement for Sale’ - A particular format of agreement for sale, as prescribed by Real Estate Regulatory Authorities of different states. Have you gone through the prescribed ‘Model Agreement for Sale’?</i></p>					
3	<p>Understanding of the applicable ‘Defect Liability Period’</p> <p><i>Defect Liability Period: Warranty period following the handover of housing, during which the developer/promoter is responsible for rectifying any kind of defect and damage in goods and services provided to home buyers, as per the agreement for sale. Are you aware of how long the defect liability period, as prescribed under the Real Estate (Regulation and Development) Act, 2016, is?</i></p>					
4	<p>Knowledge of the timeline of execution of sale deed, handing over of physical possession of housing and project-specific documents</p> <p><i>Are you aware of the timing of execution of sale deed in your favour? Are you aware of the timing from when occupancy of a flat is legally allowed for?</i></p>					
5	<p>Awareness of applicable representations, insurances and warranties to be collected from the developer/promoter</p> <p><i>Do you know of all the representations, insurances and warranties that an association/society/federation of allottees must be collecting from the developer/promoter?</i></p>					
Knowledge of Rights and Remedies						
Please rate your awareness of the following aspects of real estate legislation ?		Highly aware – Highly unaware				
		1	2	3	4	5
1	<p>Understanding of legal rights under various real estate sector-specific laws/statutes</p> <p><i>Are you aware of your rights as a home-buyer? Have you looked into and understood your rights under different laws/statutes?</i></p>					
2	<p>Knowledge of available legal remedies under different laws/statutes</p> <p><i>Do you know of the different legal remedies available to you when you fail to gain the possession of your flat/plot on time?</i></p>					
3	<p>Knowledge of the hierarchy of judicial forums and commissions to access judicial remedy</p> <p><i>Do you know of the different courts and judicial forums to approach in case of deficient performance of real estate developers/promoters?</i></p>					
4	<p>Knowledge of legal costs associated with different forums and commissions</p>					
5	<p>Understanding of legal framework and associated limitations in the framework of law</p> <p><i>Legal Framework: A set of all laws, regulations and rules that apply for a particular sector in a country. Do you understand the existent legal system in India, especially its efficiency in residential real estate sector?</i></p>					

3. Engagement

Due-diligence									
<i>Please rate your engagement with the following aspects of due-diligence prior to real estate asset purchase?</i>					Highly engaged – Highly unengaged				
					1	2	3	4	5
1	Check of the legal capacity of developer/promoter to enter into a binding contract to sell/lease/mortgage the property <i>Do you scrutinize documents, if any, relating to Joint Development Agreement (JDA), Special Purpose Vehicle (SPV) etc.?</i>								
2	Check of the nature of rights of developer/promoter in the property being sold <i>Ex: Freehold right; Right of perpetual lease; Tenancy right etc.</i>								
3	Check of the source of right/title of developer/promoter <i>Ex: Right/Title by Purchase, Inheritance, Partition, Gift, Will or Perpetual Lease..</i>								
4	Examination of legality of construction <i>Ex: Adherence to building by-laws and zoning restrictions; Securing of commencement certificate; Securing of completion certificate/occupancy certificate etc.</i>								
5	Scrutiny of encumbrances, charges or mortgages over the property								
6	Scrutiny of power of attorney possessed by developer/promoter								
7	Investigation of land records, mutation entries of project land parcel, khata extracts, certificates etc.								
Availing of Legal Remedies									
<i>Please rate your engagement with the following aspects of legal remedy-seeking after real estate asset purchase?</i>					Highly engaged – Highly unengaged				
					1	2	3	4	5
1	Seeking of timely legal advice upon violation of terms of allotment letter/ agreement for sale/ conveyance deed								
2	Timely engagement with remedies upon violation of legal rights								
3	Securing the execution of judicial orders/judgements with respect to your residential real estate asset								
Pro-active involvement with project progress									
<i>Please rate your post-purchase engagement with the following aspects of residential real estate asset development?</i>					Highly engaged – Highly unengaged				
					1	2	3	4	5
1	Acquiring of timely project progress update from project professionals								
2	Frequent visits to project site to assess progress								
3	On-time payment of money to developer/promoter as per agreed payment timeline								
3	Verification of project progress update on the website of real estate regulatory authority								
4	Probing and availing of information pertaining to fellow allottees/buyers in real estate project								
5	Calling for timely formation of an association/society/federation of allottees/buyers by developer/promoter								
6	Collective activism by association/society/federation of allottees against variations/deviations from sanctioned plans and specifications <i>Do you as a home-buyer push for collective decision-making and activism by association/society/federation of allottees against any kind of variation/deviation from sanctioned plans and specification by developer/promoter?</i>								
7	Collective engagement with project progress up till the execution of sale deed, hand-over of physical possession of housing and transfer of necessary project documents to association/society/federation of allottees								

4. Affordability

<i>Please rate the following parameters relating to affordability of residential real estate assets.</i>						
Pricing of housing stock		Highly unrequired – Highly required				
		1	2	3	4	5
1	Ease of access to credit for purchase of assets					
2	Ease of access to real estate brokers who work collaboratively with both developers/promoters and consumers, for the benefit of both parties					
3	Easing of regulatory charges, taxes, duties etc. upon real estate transactions <i>Ex: Registration charge; Stamp duty etc.</i>					
Household income levels		Highly adequate – Highly inadequate				
		1	2	3	4	5
1	Adequacy of household income to market pricing of associated housing stock <i>Suppose you belong to the 'Middle Income Group' category, how adequate is your income/earning to the kind of housing being offered in the market for the 'Middle Income Group'?</i>					
Mortgage loans and Interest rates		Highly unrequired – Highly required				
		1	2	3	4	5
1	Lowering of mortgage interest rates					
2	Widening of accessibility to housing mortgage loans					
3	Reduction of compliances to availing of housing mortgage loans					

APPENDIX IV: PROFILE OF INTERVIEWEES

Sl. No.	Code	Profile
1	R1	Executive Vice President - Quality, Safety and Technology, Private Sector Real Estate Promoter/Developer Group
2	R2	Senior Manager, Quality, Safety and Technology, Private Sector Real Estate Promoter/Developer Group
3	R3	Chairman, Private Sector Real Estate Promoter/Developer Group
4	R4	Vice President – Procurement and Contract, Private Sector Real Estate Promoter/Developer Group
5	R5	Real Estate sector-specific Researcher, Institute of National Importance
6	R6	Real Estate sector-specific Researcher, Institute of National Importance
7	R7	Director – Operations, Private Sector Real Estate Promoter/Developer Group
8	R8	Director-in-Chief (Planning & Development), Private Sector Real Estate Promoter/Developer Group
9	R9	Manager, Industrial Finance Branch, Public Sector Bank
10	R10	Manager, Industrial Finance Branch, Public Sector Bank
11	R11	Chartered Accountant, Private Sector Real Estate Promoter/Developer Group
12	R12	Real Estate Researcher on urban governance issues
13	R13	President, Flat Owners' Welfare Association
14	R14	Retired IAS Officer, Government of India
15	R15	President, Home-buyers' Welfare Association
16	R16	Secretary, Real Estate Regulatory Authority
17	R17	Joint Secretary, Real Estate Regulatory Authority
18	R18	Revenue Inspector, Real Estate Regulatory Authority
19	R19	Deputy Controller of Accounts, Real Estate Regulatory Authority
20	R20	Executive Engineer, Real Estate Regulatory Authority
21	R21	Adjudicating Officer, Real Estate Regulatory Authority
22	R22	Advocate, High Court of Karnataka

LIST OF PUBLICATIONS

Publications in International Journals

1. Krishnamurthy, A.D., Mahesh, G., 2022. Consumer Centricity as a Delivery Strategy for Assets in the Real Estate Sector: An Analysis of the Framework and Interpretation of Law. *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction* 15. [https://doi.org/10.1061/\(ASCE\)LA.1943-4170.00005](https://doi.org/10.1061/(ASCE)LA.1943-4170.00005).
2. Krishnamurthy, A.D., Mahesh, G., 2023. Analysis of Sources of Claims in Residential Real Estate Asset Delivery. *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction* 16. <https://doi.org/10.1061/JLADAH.LADR-1025>
3. Krishnamurthy, A.D., Mahesh, G., 2024. Influence of Legal Environment on Housing Delivery. *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction* 16. <https://doi.org/10.1061/JLADAH.LADR-1024>.
4. Krishnamurthy, A.D., Mahesh, G., 2024. Stimulation of construction industry output through enhanced efficiency of Indian residential real estate sector. *Built Environment Project and Asset Management*. <https://doi.org/10.1108/BEPAM-04-2023-0079>.

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Educational Background

Degree	Year	Field of Study	Institute
B. Arch	2012-17	Architecture	BMS School of Architecture, Bengaluru
M. Tech	2018-20	Construction Technology and Management	National Institute of Technology Karnataka, Surathkal