Chapter 7: Findings and Suggestion

Chapter provides brief discussion of Findings of the study also this chapter suggest some aspects of study which should be beneficial for the concerned person in the area of real estate.

7.1. Findings of the Study

This study come out with some key outcomes which can be useful in determination of the movement of real estate market prices as well as for the understanding the investment pattern in the current real estate market.

1. Trend in Real estate:-

The outcome pertaining to the Trend analysis shows the clear picture about the trend and linkages in housing price Indice as majority of real estate segment 80% comprise of housing segment. Besides this study also reveals the pattern of FDI in Indian real estate segment and tried to identify the linkages of FDI in India as well. The detailed outcome mentioned as under.

1) Association of HPI an FDI in real estate with the selected variables

Correlation analysis was carried to examine the relative degree of co-movement between housing price index and key economic indicators and major financial market indices to identify the association between them. The coefficients of correlation between housing price index and interest rates range between -0.7415, which shows an inverse relationship between the housing price Indice and the Interest Rate in India, The association between FDI in Real estate sector and the Housing Price indices was -0.6294 and Inflation in India and Housing Price Index also bearing the inverse relationship which was -0.2074. Thus the mentioned economic variables show the inverse relationship between housing price Indice and selected economic variables. The strong positive relation observed with GDP per capita, Nifty market Indice and Gold Indice which were 0.9485, 0.7073 and 0.877 respectively. Moreover silver market Indice also shows the positive relationship which is 0.573 which is moderate in compare to other market indices.
The analysis of FDI in real estate shows the inverse relationship with the GDP per capita and gold indices which are -0.501 and -0.5046 respectively. Further Nifty Indices and Silver Indices also show inverse relationship with the FDI in real estate which was -0.4463 & -0.1964 respectively. The positive relationship observed with Inflation rate and interest rates which were 0.6479 and 0.1483 respectively.

2) Trend in Housing Price and FDI

Trend of Housing Price Indices along with the Trend of Foreign Direct Investment and GDP per capita of the nation for the period of 2007-2015 shows large deviation with the upward move but there is a similar trend observed in all the variables during the initial period and continues till the year 2010. Housing Price indices and other major financial market indices including Gold Indices, Silver Indices and Nifty indices shows all the market indices shows the upward trend as they all rose upward with the time being along with the slight upward move of FDI in real estate.

Further from the time series it can be observed clearly that, though, during the starting year 2007 there was a huge deviation in the movement of all the selected variables but they are following the upward trend except interest rate. Interest rate dramatically started declining since the beginning year 2007 till 2010 then it moves slight upward when there is a declining trend in the FDI investment in the real estate segment during the year 2010 onwards. And momentum continues and FDI in real estate adopted the stagnant trend from year 2011 to 2015. GDP per capita shows the balanced movement and rose quite slowly over mentioned period. It shows the balance trend with the FDI in real estate.

In the beginning all the market indices shows the upward trend. Besides that FDI in real estate and Nifty indices shows the slight upward move and both moves along together for the selected time span as depicted on the time series Figure-5.6. Rest of the variables like Gold and Silver Indices bearing the high fluctuating trend and creates quite differences in a trend which makes the time series non stationary between the FDI in real estate and GOLD and Silver indices movement. Which indicate the long run relation between the variables.
3) Linkages of HPI and FDI in real estate with the other Variables

Regression value of Interest rate is 0.0106 and GDP per capita is 0.0003 which is less than 0.05 therefore it implies that the variable is statistically significant and they are having an impact in the long run but in case of inflation rate it shows the insignificant result of regression which shows that in short run there is no relation of inflation with the HPI moreover value of R squared for this regression is 0.975979 =, which can confer that there is a 9.75% variation in Housing price indices explained by Interest rate, GDP per capita and the inflation rate.

All the selected market indices including Nifty market Indice, gold market Indice and Silver market Indice caring the significant influence on the Housing price indices as predicted by the regression statistics. Further the value of the R square for the regression with these markets is 0.984443. This value shows that 9.84% variation in the housing price Indice explained by the selected market variables which includes Nifty Market Indice, Silver Market and Gold Market Indice.

Further regression stastics with the FDI in real estate segment and selected key economic indicator shows the significant relationship with the economic variables. And the calculated R square value for this stat is 0.781659. this further confers that, 7.82% variation in the FDI in real estate can be explained by the Selected key economic indicators which includes Interest rate, GDP per capita and the inflation rate. Further the estimated linkages between the FDI in real estate and Major Market variables pretend to have moderate relationship between the FDI in real estate and Major market indices, the calculated R Squared value for this statistics is 0.533034. This confers that 5.33% variation in the FDI in real estate can be explained by the Nifty Indice, Gold Indice and Silver market Indice Movement.

4) Cointegration and Prediction of Long Run Association between the Variables

Test of Unit Root is a pre requisite for the testing cointegration through the Engle granger causality test, and further cointegration is possible only after the stationarity of the time series. As the multiple regression shows the result on the basis of non-stationary time series there might be the suspicious relationship exist in the long run. For the purpose of identify the suspicious relation between the variables cointegration test adopted.
The most commonly approach for stationarity of time-series data is Augmented Dickey and Fuller (ADF) test, proposed by Dickey and Fuller (1979). The test static in the uhat is less than 0.05 and suggested that, the time series for the tested variables are stationary and can be tested further for the cointegrating relationship amongst the variables to investigate the suspicious relationship in the long run. The cointegrating regression shows the R squared value 0.9615 which entails that there is a 9.6% aggregate variation observed because of the selected economic variables in the Housing Price indices. Further Interest rate explains 16.1566 and GDP per capita bearing 0.29% variation in the housing price indices. 9.65% aggregate variation in the housing price indices caused by selected market indices. Further Nifty Indice dominates 0.0094% variation in the HPI. 9.9% aggregate variation in the housing price index explained by the key economic variables and the major market variables. Interest rate and inflation rate explains the highest variation in housing Price Indice which are -15.7806 and -7.33955 respectively. Approx. 8.78% aggregate variation in the FDI in real estate explained by the key economic variables and the major market variables. The 3.52% inverse effect explained by the gold Indice and further 12.19 variation explained by the GDP per capita.

The overall picture of Trend analysis suggests that there is a significant effect of Key economic indicators and Market Indices in long run on the Housing Price Indice and FDI in real estate segment.
2. **Investment Pattern in Real estate:-**

Investment pattern analysis was carried based on the data collected from the respondents through structured questionnaire, Target respondents for the survey was the real estate buyer. The detail finding for the real estate Investment Pattern mentioned below

1) **Linkages between the Demographics and Real estate Investment Pattern**

The analysis shows that majority of the respondents are Real estate consumer out of which 190 respondents reported as a Female and 715 respondents observed as a male. Further Real estate investor contributes 167 male purchaser and 41 female contributors. The rest of respondents are identified as a Speculator in the real estate market. Out of which 31 female and 107 male buyers reported.

a. **Education and Real estate Investment**

The analysis of Education and real estate investment shows that, majority buyer of the real estate are the Post graduate in education and out of them 441 are the real estate consumers, 106 are real estate investor, The rest 59 respondents are identified as Speculators. Another education category observed as graduate respondents. Out of which 294 respondents are the real estate consumers. 53 respondents are investors and the rest 37 respondents are Speculators. Below graduate category of education contains 102 real estate consumers, 29 investors and 30 speculators of the real estate market. Further from the professionally qualified respondents 35 respondents are the real estate consumers, 5 are the investors and only 4 are the speculators. The rest (Other) educational qualified respondents includes 33 are the real estate consumers, 15 investors and 8 Speculators. This category of respondents includes highly qualified people.

b. **Occupation and Real estate Investment**

Out of total respondents’ Real estate consumers are 109 retired respondents who have invested their retirement money in the real estate segment for the future survival and security purpose. 421 salaried class of people who want to secure their own house. 185 professionals and 190 business class respondents. Real estate buyer includes 17 retired
respondents, 101 salaried respondents, 53 Professional respondents, and 37 business class respondents. Speculators include 18 retired respondents, 58 respondents are the salaried respondents, and 36 are Professional class respondents and 26 business class respondents.

c. Life Stage and Real estate Investment

The analysis depicts that, the respondent who are single in relationship status 27 are the retail real estate buyers. 25 single respondents are the commercial real estate buyers, 53 are the housing segment buyers and the rest 2 are holding the other form of real estate. The Widow/Saperated/divorced respondents, they hold a minimum real estate in each segment, the real estate in investment in this stage is least in compare to the other family stages. Like the highest 8 respondents hold housing and the rest proportion is lower than this. The response is better in the joint family life stage which shows that 303 respondents holding the housing segment investment, 91 holding an investment in the commercial and retail real estate segment. The second highest response observed in the Young Married with child phase, in this phase majority 195 respondents hold the investment in the housing segment, 62 in commercial real estate segment, 59 in retail real estate segment, and the rest observed in the other segment of the real estate which are 19. Further the young married with no child stage of life contains 82 housing sector respondents, 24 commercial segment respondents, 30 retail real estate buyer and rest 4 invested in the other forms of real estate.

d. Income and Real estate Investment

Housing segment investment-buyers are highest in the income group of Rs. 500,000 – Rs. 10,00,000. Which are 205 respondents out of the total respondents. The Commercial real estate buyers are also highest in the income group of Rs. 500,000 – Rs. 10,00,000. Further retail real estate shows the same result for the highest 70 respondents in the mentioned category above and other investors 20 respondents, are highest in the income group of Rs.15,00,000 – Rs. 20,00,000 income group.

e. Region and Real estate Investment

The highest Real estate consumers (295 respondents) are observed in the Central Gujarat which includes the pose areas of Gujarat including capital city of the Gujarat e.g.
Ahmedabad, Gandhinagar Baroda Kheda etc. Real estate investors (75 respondents) are also counted highest in the area of central Gujarat. Speculators in the real estate segment are (52 respondents) and this is highest and observed from North Gujarat region. This includes the cities like Mehsana, Patan, and Himmatnagar etc.

f. Age and Real estate Investment

The analysis shows that, buyer having an age group of 41 Years – 50 Years bearing the highest investment-purchase in each segment of real estate. Further 328 respondents in housing, 123 respondents from commercial real estate, 112 respondents from retail real estate segment and 25 respondents from the other segment of the real estate having an age group of 41 Years – 50 Years. This is considered as a matured age group. The Least investment is observed in the age group of 20 Years – 30 Years. Which is highest in the housing 73 respondents, this age group is also considered as an early maturity age group.

g. Advertisement Impact on Investment Pattern

The result shows that, Word of Mouth (Viral Publicity) is the best source of Real estate marketing as majority respondents in Housing (405 respondents) and Retail real estate segment (137 respondents) influenced by the word of mouth publicity and attracted to invest in the particular segment, while Commercial Real estate segment (122 respondents) shows that, Builder Advertisement plays a crucial role for attracting people towards commercial real estate investment.

2) Analysis of Demographic Variable Influence on Investment Pattern

The brief response analysis Statistics shows that out of total 1251 respondents 79.10% respondents were male respondents who intent to purchase or already purchased the real estate, rest of the respondents i.e. 20.90% were female. So Real estate market buying and investment decision is male dominated. Further the majority 47% buyer of the real estate were of age group 41 Years - 50 Years, which is considered as a highly maturity age under which the decisions are quite analytical and future oriented. Moving further the education plays a crucial role in the investment decision here majority 48.8% buyer of the real estate falling in the Post Graduate education category which is the one of the good indicator for
the market because investment decision should be taken based upon keeping all aspects in mind. **Continuing Further**, So far as the income group is concern majority buyer falling under the income group of **Rs.5,00,000 – Rs.10,00,000**, Which are also called as a lower middle class group.

Test of Annova suggest that all the demographic variable having significant influence on specific category of the real estate investors. This can influence their investment pattern.

Purchase Pattern of Real estate Consumer having the significant value of 0.004 and 0.009 with their age and Stage of Life Cycle respectively, which is least among all categories so it can be concluded that Age and Stage of Life Cycle having the highest influence in the investment pattern of the Real estate consumer. Real estate Investor having the least significance value of 0.022 and 0.005 with their region and gender respectively, which is least among all categories so their investment pattern influenced by their region and gender. Real estate Speculators in Real estate market having the least significance value of 0.02, 0.005, 0.002 with Education, Occupation, Income respectively, so Speculator’s Investment pattern in real estate influenced by their Education, Occupation and Income.

3) **Analysis of Real estate Investment Pattern by Category of Respondents**

For the purpose of the research category of the real estate buyer have been divided in three categories. **Real Estate Consumer**, purchasing the real estate for their own consumption or shelter purpose. **Real Estate Investor**, those who purchase real estate for the purpose of the long term profitability and consider real estate as a long term investment tool. **Speculators in Real estate**, those who purchase real estate for the sake of short term profitability and booking a profit in the short term by selling the real estate. Out of all the responses 72.3% were observed as a **Real Estate consumer**, 16.6% Buyer of the real estate are **Real Estate investor**, 11% buyer of the real estate market identified as the **Speculator**.

The segment specific analysis shows the segment of the real estate in which respondents holds their real estate investment. 58% respondents holds their purchase/investment in the housing segment, 19% of the respondents holding the commercial segment property, The same proportion also observed in the segment of Retail Real estate which is 19%, 4% respondents invested or purchased the other category of real estate which includes free hold.
property and Land etc. Further the Holding period statistics shows that, 54% of the investor/buyer in the real estate market holds their property for the average period of Less than five years, 26% respondent holds their real estate property for the period of 5 years to 10 years and further 8% holds it for the period of 10 Years to 15 Years. The real estate portfolio analysis shows that, The analysis of the current investment/purchase portfolio represent that 66% buyer have purchased the real estate worth of Rs. Rs.10,00,000 to Rs.20,00,000 which is highest in all respondents.

Analysis of finance to the real estate shows that, 37.5% prefer to purchase the real estate through their own payment. 21.2% respondents prefer to buy the real estate through the Loan from the Private sector bank and 18.8% agreed to finance their real estate through the Public sector loan. For the Initial Payment of the purchased real estate 60% respondents received the proof, 26% respondents haven’t received any proof for initial payment and The rest 14% respondents don’t want to disclose such payment matter. Further it reveals that, 64% respondents made payment through the cheque. 21% respondents paid the initial amount through the cash mode. 12% respondents utilised different mode of payment available for making a payment like online transfer and Demand draft. 3% respondents revealed that they made payment half in cash and half through the cheque.

The survey shows the highest real estate buyer 18.9% had the information about the particular property through the word of mouth. The other source contains Advertisement though the Builder/Property holder (16.9%), Sign Boards and hoardings (15.3%), Other Sources (E.g., Television, Radio etc.) (13.5%) and through the Print Media (News Paper, Magazine etc.) (12.3%). Further it came to notice that, majority real estate purchaser (23.2%) validate the information through the Check Real Estate Scheme Related Documents. 17% respondent agreed to Check the Prototype or Facilities mentioned in Advertise. 12% respondents agreed that they use to verify the feasibility of the basic necessity, 13.50% respondents don’t want to verify the information because they trust the developer or builder. 16.60% respondents keen to know about the documentary proofs.
4) Factors influencing Investment Pattern in Real estate

a. Personal and Behavioural Factor Influence on the Real estate Investment Pattern

The analysis shows that Overall 64.6% of the respondents “agree” that they buy real estate as a longer horizon investment and for the purpose of the future capital gain. Overall 58.4% of the respondents “agree” and “strongly agree” that they buy real estate for the purpose of the short term investment and making a short term profit out of the such investment and Overall 41.1% of the respondents “agree” that they buy the real estate for the purpose of their own consumption and utilization. 57.4 % of the respondents “agree” and “strongly agree” that they consider their savings capacity while investing in the real estate market. 54.2 % of the respondents “agree” and “strongly agree” that they consider their Experience of the Real Estate market while investing in the real estate market. 57 % of the respondents “agree” and “strongly agree” that they consider their Knowledge towards Real Estate market while investing in the real estate market.

Chi square states that, Experience of the Real Estate Market, Level of present income of the respondents are the key influencing variables on the real estate investment pattern. Regression statistics shows that Out of all behavioural variables studied “Risk aversion capacity”, “Perception towards price levels”, “Income level”, “Saving capacity”, “Borrowing capacity”, “Experience of market”, “Knowledge of market” contributed the highest positive influence to construct the investment pattern. The total variance explained by the behavioural variables to the investment pattern is -0.03 %.

b. Market and Investment Specific Variable influence on the Investment Pattern

Investment Pattern – Comparative investment Variables combination of attributes accounts for only 4.62 % of variance in purchase intention value that is very low. Investment Pattern – Market specific Variables combination of attributes accounts for only 5.94% of variance in purchase intention value that is very low as well. Out of all market specific variables studied Market Situation”, “Market News”, “Market Advertisement” and “Market Return” contributed the highest positive influence to construct the investment pattern. The investment specific variable influencing investment pattern are “Better return”, “Other benefits”, “Low risk” contributed the highest positive influence to construct the investment pattern.
pattern. The chi square statistics also support the mentioned influence of the selected variables mentioned above.

c. Economic & Cost specific and Legal Variable influence on the Investment Pattern
Out of all Economic and Cost specific variables studied “High demand against stagnant supply”, “Lower liquidity position of the consumer/investor”, “Inflation effect”, “Price levels of consumables”, “construction cost”, “Rate of interest” contributed the highest positive influence to construct the investment pattern. “Land Clearance Certificates”, “Property documentation”, “Necessary local authority approvals” are the Legal variables contributed the highest positive influence to construct the investment pattern. The total variance explained by the Economic & Cost specific and Legal Variables are 8.44 % and only 2.97 % respectively.

d. Facility Variable influence on the Real estate investment Pattern

The analysis of Facility specific attributes and Investment pattern, the analysis shows that Investment Pattern – Facility specific Variables combination of attributes accounts for only 0.37 % of variance in purchase intention value that is very low in compare to the other factors. Out of all Facility specific variables studied “Price affordability”, “Sufficient infrastructure”, “Basic facilities”, “Availability of necessary facilities”, “Transportation”, “Availability of People-work force” contributed the highest positive influence to construct the investment pattern.
7.2. Suggestions of the Study

1) Analysis of Association between Housing Price Index and the key economic indicators & market indices suggested that housing price having a inverse correlation with the interest rates and positive relation with the Inflation rate, so decrease in real estate prices will push up the prices of the real estate segment. So investor needs to analyze the price trend of the market along with the inflation and interest rate before investing in the real estate segment. Also this has been proved further through the regression and cointegration tests.

2) Intervention of FDI in real estate segment push up the prices of real estate, so there is a strong short term as well as long term association between FDI in real estate and real estate market. So trend in long term shift and major movement can be observed in real estate market because of fluctuations in the FDI investments in the real estate. So real estate players need to concentrate on the intense competition created by the new players entered in to the market through the FDI route.

3) Economic variables of the nation influence the FDI as well as the real estate prices, so the developers and investors in the real estate market needs to study the trend based on the economic fundamentals to understand the price movement in the real estate segment

4) Investment pattern in real estate segment in all categories of investors e.g. Real estate investors, Real estate speculators and Real estate consumers affected by their demographics. So developers of the market need to consider these variables while launching a new project site or scheme.

5) Study gathered identified several crucial factors on the basis of its relation to the real estate investments, so real estate market players need to consider the factors while starting a new scheme of real estate market. This factors includes Behavioural and personal move of the investors, Facility required and desired by the real estate prospect, Perceived economic and cost specific variables, Legal variables, Market and investment specific variables.