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Stastical Approach to Identify Effect of Recession on Real Estate Sector

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Abstract: ***A Recession is a contraction face of the buisness cycle. National Bureau of Economic Research (NBER) is the official agency in charge of declaring that the economy is in a state of recesssion.The general information was obtained from review The aim of the study is to find out the root causes of recession. By doing this the study aims at predicting an early indicative warning to the industry and financial institutions of an impending slowdown and recession.Having enjoyed an extended period of economic prosperity, many industry executives have been closely monitoring the bell-weather indicators in order to better understand what a deep recession will mean to their companies.This reveals the real estate scenario in India before economic recessionary period and after that period. The main indicators and causes of various past recessions were thoroughly analyzed and was observed that stock market crash and oil crises were the major indicators of the major past recessions. Real estate cycles do tend to be fairly long in duration and occur in any asset market which tends to have several defining characteristics. So, clearly there is a strong connection between the development in real estate and the financial markets***
Keywords: Recession,NBER, Indicators & causes of recession,Gdp, Real estate.

I. INTRODUCTION

As per the economic survey presented by Finance Minister Nirmala Sitharaman and prepared by the new Chief Economic Adviser Krishnamurthy Subramanian, Economic Survey 2019 has estimated gross domestic product growth of 7% for the fiscal year 2019-2020. The Indian economy is currently the one of the fastest growing economy in the world with an expected real GDP growth of 7% (2018). India has the potential to grow at rates higher than 5% over the next 30 years surpassing the GDP of developed economies such as Italy, Germany and Japan in the process. India's domestic GDP is expected to grow from current $2.972 trillion (nominal; 2019 estimated) to a $5 trillion by 2024-25 economic survey 2019. Indian economic growth over the past decade has predominantly been supported by buoyancy seen in consumption. India is amongst the very few economies in the region where household consumption accounts for almost 65% of GDP. The economic growth has also been supported by favorable changes in the demographic structure like rising income levels, changing age profile, etc. in the country. Indian economy is experiencing a structural demographic change. The key factors responsible for this demographic transformation can broadly be attributed to;

1) Rising Income levels
2) Changing age profile- relatively young population
3) Attitudinal shifts
4) Nuclearisation of families
5) Emerging middle class
6) Rising share of services businesses and
7) Changing consumption pattern- savings rate declining & consumption increasing.

Favorable changes in the demographic structure is also been supported by the falling interest rate scenario making credit cheaper and increasing fiscal benefit in terms of concession on principal and interest repayments by the government for investments in real estate by individuals. Household consumption continues to be a key growth driver for the Indian economy (accounting for about 65% of GDP) supported by an upward movement in housing demand, which has helped to provide some optimism to the real estate market. The importance of the housing in real estate sector in India can also be evaluated from the fact that for every one rupee invested in the construction of houses, an estimated 75% to 80% (Rs0.75- 0.80) is added to the GDP and the sector is compliant to the development of over 250 other supplementary industries.

The real estate sector is a major employment driver, being the second largest employer next only to agriculture. This is because of the chain of backward and forward linkages that the sector has with the other sectors of the economy, especially with the housing and construction sector. Consequent to the government's policy to allow Foreign Direct Investment (FDI) in this sector, there was a

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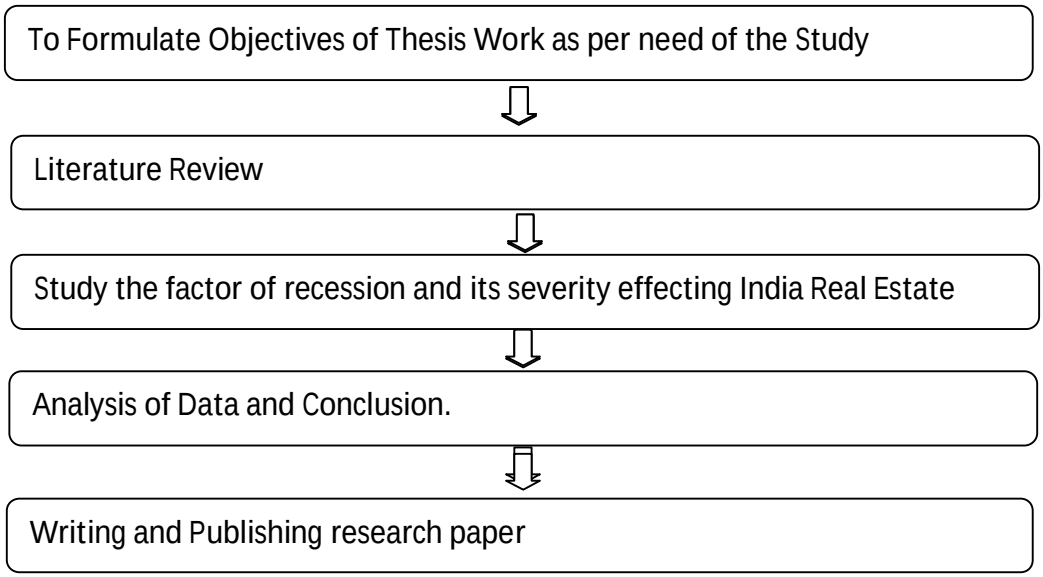
boom in investment and developmental activities. The sector not only witnessed the entry of many new domestic realty players but also the arrival of many foreign real estate investment companies including private equity funds, pension funds and development companies entered the sector lured by the high returns on investments.

The real estate sector has been riding through many highs and lows since then. The industry achieved new heights during 2007 and early 2008, characterized by a growth in demand, substantial development and increased foreign investments. However, by mid of 2008, the effects of the global economic slowdown were evident here too, and the industry took a 'U' turn. FDI inflow into real estate dropped significantly and what had emerged as one of the most promising markets for foreign investments experienced a down turn. The market again try to attained its fascination but recent reports suggests that there has been significant consolidation in the Indian real estate market in past few years on the back of financial distress, demonetization, GST and the implementation of RERA. In the report a compressive study on the India real estate sector; the causes of slowdown of real estate, factors influencing the sector and severity of the factors will be studies on the bases of survey and literature review. A systematic case study is carried in detail to comprehend the consequence on real estate on ground level.

II. METHODOLOGY

A. Overall Methodology

The Primary data will be obtained from the literature review and case study area of Pune city, the data will be collected from Pune Municipal Corporation office and respective ward offices. The research work includes the efforts for study the India real estate and particularizing the indicators, causes and effects of recession.



III. FACTOR AFFECTING REAL ESTATE BUYING

A. General

Qualitative research is used to study the factors influencing the real estate buying and also used in worldwide. The aim of a qualitative research may vary with the disciplinary background, such as a market researcher seeking to gather an in-depth understanding of human behavior and the reasons that govern such behavior against a particular product/ service or situation. The qualitative method investigates the why and how of decision making, not just what, where, when and has a strong basis in the field of sociology to understand government and social programs, and is popular among political science, social work, and education majors. Qualitative data is typically a descriptive data and as such is harder to analysis than quantitative data. The study uses mostly primary data for analysis and also uses some secondary source of data. It incorporates structured questionnaire for data collection through direct interview method.

The sampling detail is as follows.

1) *Sampling Method:* Judgmental Sampling
2) *Sample Size:* Fifty
3) *Rating Scale:* Likert Scale

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B. Method and Factors

The adopted method is using Likert Scale as a tool. For the study purpose, adopted the following likert scale mode:

1) Least Impact
2) Slight Impact
3) Average Impact
4) Considerable Impact
5) Great Impact

The study incorporates 25 factors which is measure the impact of factors persuading the real estate buying behaviour in India. The details of the factors are given in below table

Table 4.9: Factors Persuading Real Estate Buying

Srl. No.	Factors Influencing Real Estate Buying	Legend
A)	Personal Factor	
i)	Purpose of buying property	F1
ii)	Customer Personal Factors	F2
iii)	Social Factors (Family/ Role & Status/ Reference Group)	F3
iv)	Cultural Factors (Religion/ Language)	F4
v)	Amenities	F5
vi)	Quality of people around property	F6
B)	Economic Factor	
i)	Interest Rates	F7
ii)	Gross Earnings	F8
iii)	Rates of Inflation	F9
C)	Real Estate Factor	
i)	Land Price	F10
ii)	Housing Demand	F11
iii)	Construction Quality	F12
iv)	Infrastructure Development	F13
v)	Real Estate Capital Markets Liquidity	F14
vi)	Corporate Culture and Ethics of Developer	F15
vii)	Location	F16
viii)	Appreciation of Property or Rate of Returns	F17
D)	Government Factor	
i)	Government Policies/ Sub Sides	F18
ii)	Political Stability	F19
iii)	Land Regulations	F20
iv)	Overall Impact of Demonetization	F21
E)	Other Factor	
i)	Population Trend	F22
ii)	Global Change And Uncertainty	F23
iii)	Overall Indian Economy	F24
iv)	Geological Factor	F25

The study incorporates severity analysis of factor to influencing Real Estate Buying. Therefore, analysis has been used to extract the factors which are more severe in twenty-six factors to influence the behaviour of buying.

C. Method Used

Various kinds of rating scales have been developed to measure attitudes directly (i.e. the person knows their attitude is being studied). The most widely used is the Likert Scale.

Likert (1932) developed the principle of measuring attitudes by asking people to respond to a series of statements about a topic, in terms of the extent to which they agree with them, and so tapping into the cognitive and affective components of attitudes. A Likert-type scale assumes that the strength/intensity of experience is linear, i.e. on a continuum from strongly agree to strongly disagree, and makes the assumption that attitudes can be measured. Respondents may be offered a choice of five to seven or even nine pre-coded responses with the neutral point being neither agree nor disagree. In its final form, the Likert Scale is a five (or seven) point scale which is used to allow the individual to express how much they agree or disagree with a particular statement.

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In our system of analysis five point scales is used as Least Impact, Slight Impact, Average Impact, Considerable Impact and Great Impact.

Table 1: Data Summary of Filled Sheets

Factors	F 1	F 2	F 3	F 4	F 5	F 6	F 7	F 8	F 9	F10	F11	F12	F13	F14	F15	F16	F17	F18	F19	F20	F21	F22	F23	F24	F25
Respondents	Personal Factor						Economic Factor			Real Estate Factor								Government Factor				Other Factor			
1	5	1	3	4	5	1	2	4	2	5	5	2	4	1	2	5	3	1	3	1	5	2	1	1	2
2	4	2	3	3	3	3	3	5	2	4	4	2	4	0	2	3	5	4	2	1	4	2	1	3	2
3	4	1	2	3	4	4	3	5	4	4	5	3	2	1	2	5	1	3	2	3	2	2	3	3	2
4	5	2	2	4	5	4	3	4	4	2	5	3	2	0	2	3	4	2	2	2	5	2	2	2	3
5	4	2	2	2	4	3	2	5	4	5	5	3	1	1	3	4	3	2	2	2	4	3	2	2	2
6	3	1	2	1	4	4	2	5	4	4	4	2	2	1	2	5	2	4	3	2	5	2	2	2	2
7	5	2	2	3	2	4	2	5	4	4	5	2	1	1	2	4	2	4	2	2	4	2	2	2	1
8	5	1	1	2	5	5	2	5	5	5	4	2	3	1	1	4	4	4	2	1	4	1	1	2	4
9	5	3	3	3	4	3	3	4	2	4	4	2	2	1	4	2	4	4	1	1	5	4	1	1	3
10	5	2	2	3	4	4	2	5	3	5	5	3	3	1	3	5	4	4	3	1	3	3	1	2	3
11	4	2	2	4	5	3	2	5	3	5	4	2	2	1	3	4	4	5	3	2	5	3	2	2	4
12	4	2	2	4	4	4	1	5	4	5	3	2	2	1	4	4	4	2	3	1	5	4	1	3	2
13	5	2	2	2	5	1	3	4	1	4	5	1	3	0	2	5	5	3	4	2	5	2	2	1	1
14	5	1	1	2	5	2	3	5	3	5	1	3	3	0	1	4	2	3	4	2	4	1	2	2	3
15	4	1	1	1	5	2	3	5	4	4	2	3	3	1	3	5	3	4	3	1	5	3	1	2	2
16	5	3	1	2	4	4	4	3	4	4	2	3	2	1	2	5	3	1	4	2	5	2	2	2	3
17	5	2	1	1	5	4	4	5	3	5	4	4	2	2	3	5	4	4	3	1	4	3	1	2	3
18	4	2	1	3	4	4	3	5	4	4	4	4	2	0	3	4	1	4	4	3	5	3	3	3	4
19	2	2	2	2	4	2	4	5	4	3	4	3	2	1	4	5	4	5	4	2	5	4	2	1	4
20	5	2	1	2	5	4	3	5	2	5	4	4	3	2	4	4	2	2	3	3	5	4	3	1	2
21	4	1	3	2	4	4	4	4	5	1	4	3	2	1	2	4	3	3	2	2	4	2	2	1	3
22	5	1	2	2	3	2	4	4	5	2	5	4	2	1	3	5	3	3	3	2	5	3	2	2	2
23	5	1	2	3	5	5	3	5	3	2	2	4	1	0	2	4	5	4	4	2	4	4	2	1	1
24	5	1	2	3	1	4	2	5	4	4	3	3	3	1	1	3	3	1	3	1	5	1	1	1	4
25	5	1	2	3	2	4	3	4	5	4	3	2	3	0	4	5	5	4	1	3	4	4	3	2	2
26	5	3	1	2	2	3	2	5	3	4	4	3	3	1	2	1	3	5	2	2	5	2	2	3	3
27	5	3	1	2	4	4	2	2	5	4	1	4	4	0	3	4	4	3	4	2	5	3	1	2	3
28	4	2	3	2	4	5	2	4	3	4	3	3	4	1	3	3	5	4	4	1	5	3	2	2	3
29	5	2	2	2	4	5	2	2	4	5	4	1	3	0	3	2	4	5	3	2	5	3	2	2	2
30	4	3	2	3	4	5	3	5	5	2	4	2	4	0	2	2	4	4	3	1	4	2	1	2	2
31	5	2	2	2	4	4	2	4	4	3	3	4	3	1	2	4	2	4	4	3	5	2	2	2	2
32	5	2	2	2	5	5	2	5	4	3	4	3	4	1	2	4	5	2	2	2	4	2	1	1	2
33	5	2	1	1	2	4	1	4	2	4	4	3	4	1	2	4	4	5	1	2	5	2	3	3	3
34	4	1	1	3	3	4	4	4	5	1	2	4	3	0	3	4	4	4	3	2	4	3	2	2	2
35	4	3	1	3	3	5	3	5	4	3	5	2	2	1	2	4	5	4	2	2	5	2	2	2	2
36	4	3	2	3	4	4	3	4	4	4	5	1	3	2	2	5	4	5	3	1	5	2	2	2	1
37	4	1	1	4	1	3	4	5	5	4	3	3	4	0	1	2	5	4	3	1	4	3	2	2	3
38	5	2	2	4	3	5	2	5	4	3	4	2	3	1	3	3	5	5	4	3	5	3	1	1	3
39	5	3	2	3	4	1	1	5	5	4	5	3	1	0	3	3	5	5	4	2	5	3	1	1	3
40	5	1	1	4	4	2	3	5	5	4	3	3	2	0	3	4	4	5	2	2	5	3	3	1	4
41	5	3	2	3	3	3	2	5	5	2	5	4	4	1	4	1	5	4	2	2	5	4	2	1	4
42	4	3	1	4	4	4	3	5	4	5	3	4	3	0	4	4	4	5	1	2	5	4	2	1	3
43	5	2	3	4	4	5	3	4	5	5	4	2	3	1	3	4	4	4	2	1	4	3	2	2	4
44	5	2	2	3	2	4	4	5	4	3	5	2	4	1	4	5	5	4	1	1	5	2	2	1	3
45	5	2	3	2	5	4	4	5	4	4	4	1	2	1	3	2	4	5	3	2	5	1	1	3	2
46	4	2	2	3	5	5	2	5	5	5	4	2	1	1	4	3	3	4	2	1	5	3	3	2	3
47	5	2	2	4	3	5	3	5	4	3	2	1	3	0	4	3	5	1	2	1	3	3	1	2	3
48	5	1	2	3	4	4	2	5	3	5	5	3	2	1	3	4	1	3	2	3	4	3	2	2	4
49	5	2	1	1	5	4	1	4	5	3	4	2	3	0	2	1	4	4	2	2	5	4	2	2	2
50	5	2	3	2	3	4	4	5	1	4	5	3	2	1	4	4	3	4	3	1	5	4	1	3	1
Total Impact Value	229	95	92	138	190	185	134	228	190	190	191	134	133	36	135	186	184	182	134	89	228	135	90	93	131
Average	4.6	1.9	1.8	2.7	3.8	3.7	2.7	4.6	3.8	3.8	3.8	2.7	2.7	0.7	2.7	3.7	3.7	3.6	2.7	1.8	4.6	2.7	1.8	1.9	2.6

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The rating will be given accordingly from least to the higher impact value as shown in following table

Table 2: Impact Value for Various Parameters

Srl. No.	Impact Parameter	Impact Value
1.	Least Impact	01
2.	Slight Impact	02
3.	Average Impact	03
4.	Considerable Impact	04
5.	Great Impact	05

Likert Scales have the advantage that they do not expect a simple yes / no answer from the respondent, but rather allow for degrees of opinion, and even no opinion at all. Therefore quantitative data is obtained, which means that the data can be analysed with relative ease.

IV. FACTOR ANALYSIS RESULT

The data summary of the filled sheet is given below. In this data sheet, total fifty respondents have given their ratings on each 25 factors by using Likert's scale of 5 points. The data has been collected in form of physical sheets and all the respondents are the competent persons to avoid error in result analysis.From the rating of the respondents, it has been found that majority of the respondents considered that in Personal factor category, the purpose of buying property and similarly on same line amenities and quality of people around property has considerable impact on the behaviour of buying. In the economic factor category gross earning has the great impact and afterwards Rates of Inflation is having considerable impact. In real estate factor, the respondents not considered any of the factor as great impact but then again Land Price and Housing Demand engaged as considerable impact. Most of the respondents feel that the in government factors, Overall Impact of Demonetization play a vital role in real estate market and thereafter government policies/ sub sides factor influence the individual buyer behaviour for buying property in India. This chapter dealt with various indicators showing the downturn of the economy, causes due to which it occurred and the effects which economy had to suffer during the Recessionary period.

V. CONCLUSION

In the analysis various parameters like declining world GDP growth, decreasing India GDP growth, decline unemployment rate, increasing world merchandise trade volume, decreasing global purchasing managers index, highest ever unemployment rates, increasing import price index reach to its maximum, fluctuating FDI & decreasing To its lowest particularly in 2018, variation in Indian Rupees value continuously decline, falling Indian government bond demonstrating a slow in the phase of India economy.The thesis concludes that in linewith the natural laws of economics, that an economic upturn is followed by an economic downturn, and that the length of the coming downturn often follows the length of the upturn proportionally. This statement points out that a long downturn could be on its way.

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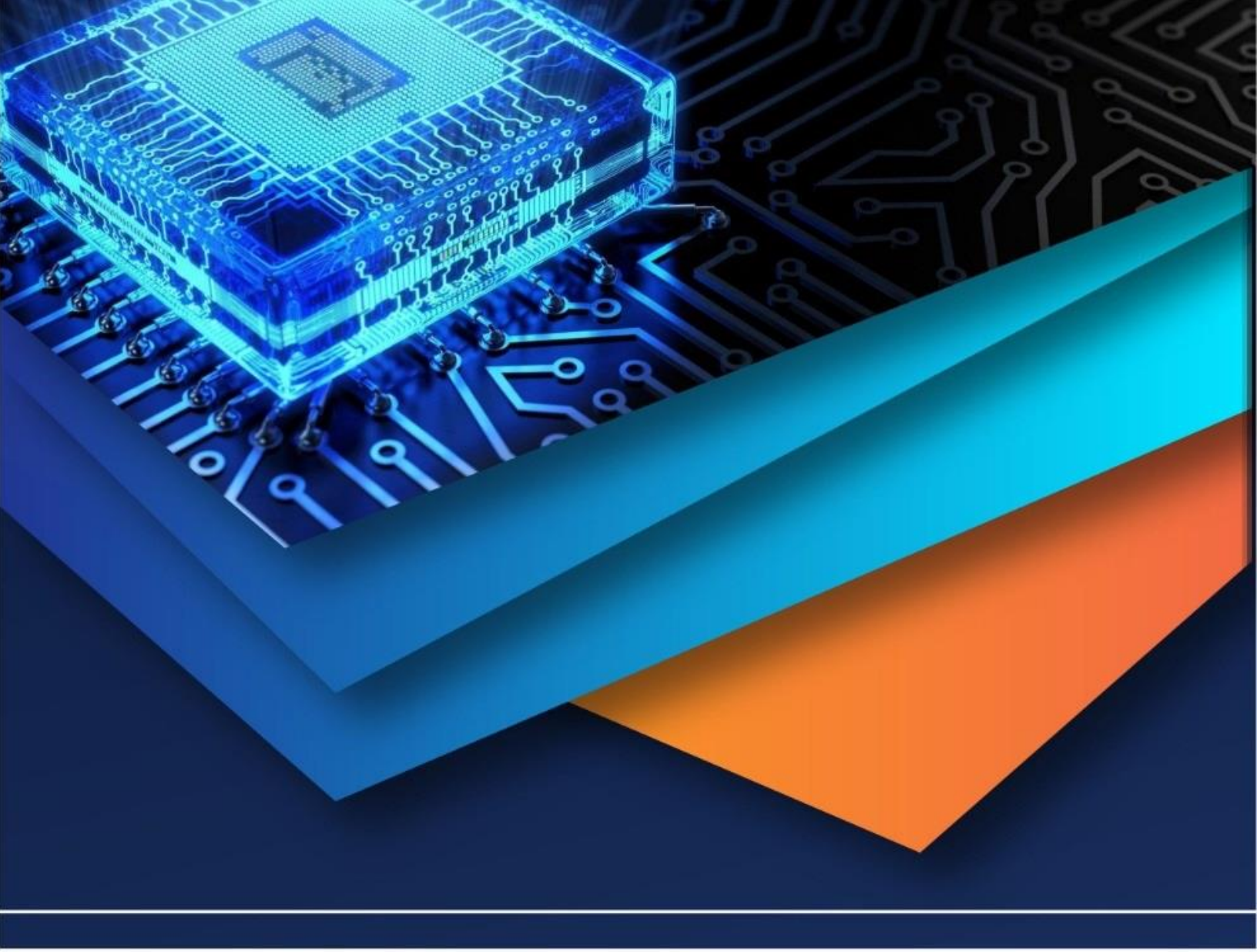

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