



COMPARATIVE ANALYSIS OF URBAN TRANSFORMATION AT FOUR LOCATIONS OF INDORE CITY BY ANOVA

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Abstract:

All cities are transforming due to major factor of globalization, but cities cannot be universal. Every city, for that matter every neighborhood has its own identity and local traditional, societal parameters which affect the transformation. Cities in India have been transformed from either cluster of villages, industrial centers, enjoying historical importance, tourism importance etc. In all cases of transformation, there is diversity within cities. Arch The research paper is an effort to develop a perspective and recognize the diversity within city, among and within settlements. Human cultural features differ from city to city and cultural aspects change over time. Hence the researcher paper has developed method for comparing Urban Transformation of different locations of a city which can be implemented for any city of the developing world.

To study Urban Transformation, five elements were considered in this research paper, the first element was Architecture and Urban Planning, second was Population, third was Policies, fourth Legislation and fifth was Economy. The study comprises of ground observations and analysis of questionnaire, which is prepared to have residents' view regarding Urban Transformation. The questionnaire is weighed in five point Likert scale. Later the results are subjected to ANOVA analysis for testing the hypotheses.

The ANOVA results show that although there is change in types and levels of transformation of different neighborhoods, the overall transformations are not significantly different. Urban Transformation of individual areas therefore, maintains pace with city's overall Transformation. This has been statistically proven in this research paper.

Keywords:

Urban Transformation, Architecture, Planning, Population, Legislation, Policy, Economy.

Cite This Article: Ar. Soma Anil Mishra, Dr. R.K. Pandit, and Dr. G.V. Kulkarni, "COMPARATIVE ANALYSIS OF URBAN TRANSFORMATION AT FOUR LOCATIONS OF INDORE CITY BY ANOVA" *International Journal of Research – Granthaalayah*, Vol. 3, No. 7(2015): 31-39. DOI: <https://doi.org/10.29121/granthaalayah.v3.i7.2015.2983>.

1. INTRODUCTION

The term 'transformation' refers to an act, process or instance of transforming or being transformed {Webster's Dictionary}.



Urban transformation is not just a passive resultant of societal order and societal change, rather it depends upon relations between individuals and the groups they form in society. The transformation that build cultural identity through distinguished design features and building types, have power to introduce new urban life and give new identity and build new concepts in the field of architecture. (Lefebvre, 1996)

Researcher feels that, citizens experience Urban Transformation over a certain time period with slow or rapid change in the city growth and changes in architecture. Impact of global culture is very important as cities compete to become global cities, mirroring global behavior and having new identification of global cultural significance. Urban transformation takes place due to human participation. Transformation is very difficult to be predicted as every individual has specific interest for being a participant in social, political and economic decision making. Societal interest has to overpower individual interest for the participant stake holders of urban Transformation.

Transformation tells the changes in a city over a time period; hence it is an appreciation of the significance of the history of any city's development procedure, pattern and outcome. The urban fabric of present time period is the resultant of successive generations of settlers, who keep on leaving mark in both the physical structure and in the political, economic and social institutions. (Thorns, 2002)

Over the years, the term 'transformation' has developed several meanings which are overlapping with 'transition', 'change', 'innovation', and 'evolution', break through etc. (Murphy, 1995) Urban Transformation evolves from the wave of urban political economy. Urban Transformation encompasses several fields in view of global-local links within and between cities. Some among them are accelerating urban spatial restructuring, public service distribution and political restructuring. Hence it links overall urban outcomes of changing work patterns, residential differentiation, social & political life. (Smith, 1984)

Urban Transformation concerns the expression of social structure and physical structure's relationship within cities. It is a long term changing process within an urban system. (Keltrop, 1997)

The term Urban Transformation has been coined because, the city and its urban fabric do not remain same, it is dynamically changing and mutating into new forms. According to him, urban fabric can best be described as conglomeration of greater and smaller urban concentrations that live in one organism. (Laursen, 2010)

Growth and decline support each other because house hold, business and economy keep on moving without interruption, from one location to another looking for 'good life' and economic and potential appreciation. (Beauregard, 1993) Urban transformation encompasses both growth and decline of the city. It includes positive urban growth as well as negative urban decline; hence



the term ‘dynamic’ suits differentiated urban development taking place. It is a network oriented process. (Soma A Mishra, 2015)

To get more profit, output or pleasure, urban actors interweave the strands of urban structure together which take care of urbanization process and either plan new settings or renew old pockets for reuse (Shane & Graham, 2005). As any alteration in cell’s genetic constitution affects the inherited characteristic in future generation thus bringing a shift in the mechanism of heredity. Same is with the city, a small change in psychology and morphology of it, effects the city as a whole. (Morales & Ignasi, 1996) In present years, a revolution in economy has taken place, shifting from industrial economy to global knowledge based economy, influencing urban fabric. The global society encounters a new pattern of urbanity, comprising of both developing areas and declining areas.

Restructuring of urban fabric is taking place since 1970s due to the main reason of globalization. Along with the above changes, de-regulations of the public administration are moving towards neo-liberalization which contributes to increased polarization. (Mishra & Pandit, 2013)

Hence a new condition of hybrid between growth and decline has emerged. This dynamic relationship is known as urban transformation. To study this dynamic relationship within the city of Indore, which is study area of the researcher, one way ANOVA technique has been used by the researcher.

2. MATERIALS AND METHODS

Hypothesis: There is no significant difference of Urban Transformation in four locations of Indore city.

Sub – Hypothesis shall be as below:

Ho1(i) There is no significant difference of **Architecture and Planning** at four locations of Indore city.

The hypothesis is tested by One Way ANOVA. 80 respondents from each of the four locations are selected and ANOVA is used to analyze the difference. For 95% of confidence interval, the value of Fischer’s Test is 357.078 with total degree of freedom of 318, the significance value/e value reported by SPSS is 0.000. This means hypothesis is accepted that there is no significant difference in Architecture and Planning at four places in Indore.

Means value of Urban Transformation of Architecture and Planning at Zangeerwala is 3.6963, that at Sapna Sangeeta Area is 2.9882; Mean at Nehru Nagar is 3.4334 and same at Bhagiratpura is 2.3449. The means are not significantly different to statistically reject the hypotheses, but close observation shows that Zangeerwala area and Nehru Nagar area are slightly better in case



of Urban Transformation of Architecture and Planning than Sapna Sangeeta Area and Bhagiratpura. “APPENDIX A”

It indicates that at all the places, construction pattern of buildings have changed. It may be possible, the luxury/lavishness may differ but the pattern of construction has changed everywhere in the city. Similarly everywhere, building materials are also modernized in last 20 years at all four places. The numbers of permanent buildings have increased over last 20 years time. Periodic Maintenance of buildings takes place in all four neighborhoods of the city. The roads of city in all four places have become wider and more permanent. Some roads were narrow, they have become wide and the wide roads have become wider than before i.e. all road widths have increased and use of permanent materials for road construction have been adopted in last 20 years. Indore city has lacked in aspect of garden spaces and plantation of large trees, hence people have felt change in micro-climate. The purely residential and purely commercial areas have transformed into areas of mixed use. The city is not good at having public transport system; rather people depend upon private means of communication. Disturbances towards comfort like sound pollution have increased. Finally the city as a whole has transformed and is moving towards urbanization.

Ho1(ii) There is no significant difference of **Population** at four locations of Indore city.

The hypothesis is tested by One Way ANOVA. 80 respondents from each of the four locations are selected and ANOVA is used to analyze the difference. For 95% of confidence interval, the value of Fischer’s Test is 267.776 with total degree of freedom of 318, the significance value/e value reported by SPSS is 0.000. This means hypothesis is accepted that there is no significant difference in Population at four places in Indore.

Means value of Urban Transformation of Population at Zangeerwala is 3.5803, that at Sapna Sangeeta Area is 2.8447; Mean at Nehru Nagar is 3.8059 and same at Bhagiratpura is 2.6539. The means are not significantly different to statistically reject the hypotheses, but close observation shows that Zangeerwala area and Nehru Nagar area are slightly better in case of Urban Transformation of Population than Sapna Sangeeta Area and Bhagiratpura. “APPENDIX B”

It indicates that at all the places number of youth population has increased in last 20 years. People have adopted various means of earning, either through salaried jobs or through their own business. The citizens have better sense of personal fulfillment and growth. Further, people have become more aware towards education than they were 20 years back. More children have started going to schools. Also, citizens have more infrastructure facilities than they had 20 years back. As the population transformation is moving towards positive direction, more people have migrated from different states to the city; hence citizens of Indore have experienced significant demographic and morphological changes in last 20 years.

Ho1(iii) There is no significant difference between **Policies** at four locations of Indore city.



The hypothesis is tested by One Way ANOVA. 80 respondents from each of the four locations are selected and ANOVA is used to analyze the difference. For 95% of confidence interval, the value of Fischer's Test is 399.340 with total degree of freedom of 319, the significance value/e value reported by SPSS is 0.000. This means hypothesis is accepted that there is no significant difference in Policies at four places in Indore.

Means value of Urban Transformation of Policies at Zangeerwala is 3.8896, that at Sapna Sangeeta Area is 2.4354; Mean at Nehru Nagar is 3.7958 and same at Bhagiratpura is 1.8813. The means are not significantly different to statistically reject the hypotheses, but close observation shows that Zangeerwala area and Nehru Nagar area are slightly better in case of Urban Transformation of Policies than Sapna Sangeeta Area and Bhagiratpura."APPENDIX E"
It means that at all the places governing bodies have changed in last 20 years. The new authority has worked in positive direction for developmental works. The authorities have got policy norms changed; the neighborhood boundary limits have been changed. The policies have changed in last 20 years and respect for art and cultural activities exist among citizens and decision makers of Indore city.

Ho1(iv) There is no significant difference between **Legislations** at four locations of Indore city.

The hypothesis is tested by One Way ANOVA. 80 respondents from each of the four locations are selected and ANOVA is used to analyze the difference. For 95% of confidence interval, the value of Fischer's Test is 223.653 with total degree of freedom of 319, the significance value/e value reported by SPSS is 0.000. This means hypothesis is accepted that there is no significant difference in Legislations at four places in Indore.

Means value of Urban Transformation of Legislations at Zangeerwala is 4.0446, that at Sapna Sangeeta Area is 2.6429; Mean at Nehru Nagar is 4.5089 and same at Bhagiratpura is 2.4500. The means are not significantly different to statistically reject the hypotheses, but close observation shows that Zangeerwala area and Nehru Nagar area are slightly better in case of Urban Transformation of Legislations than Sapna Sangeeta Area and Bhagiratpura "APPENDIX C"

It further means that the rules of city building have changed building bye-laws and have become more strict so that unauthorized covering of open spaces are controlled. The legislations have also changed traffic regulations and people have to follow them. The market status of citizens have transformed, now for some commodities, they prefer going to covered malls rather than market places, and for other items of daily needs, open markets are preferred. Due to legislations, infrastructure status have changed and development in the city is taking place due to various financiers, either government, private or public-private partnership.

Ho1(v) There is no significant difference between **Economic Transformation** at four locations of Indore city.



The hypothesis is tested by One Way ANOVA. 80 respondents from each of the four locations are selected and ANOVA is used to analyze the difference. For 95% of confidence interval, the value of Fischer's Test is 336.093 with total degree of freedom of 318, the significance value/e value reported by SPSS is 0.000. This means hypothesis is accepted that there is no significant difference in Economic Transformation at four places in Indore.

Means value of Urban Transformation of Economy at Zangeerwala is 4.3000, that at Sapna Sangeeta Area is 3.3101; Mean at Nehru Nagar is 4.6672 and same at Bhagiratpura is 3.2328. The means are not significantly different to statistically reject the hypotheses, but close observation shows that Zangeerwala area and Nehru Nagar area are slightly better in case of Urban Transformation of Economy than Sapna Sangeeta Area and Bhagiratpura. "APPENDIX D"

It further means that political development and international economy have affected the day to day life activities which are dependent on economic status of individuals. The affordability levels of citizens of Indore city have improved. The infrastructure strength has increased in last 20 years. The financial security mediums adopted by the people, like their banking ways have changed in last 20 years. People have become more aware towards education in all the four areas of Indore and they have started investing more in education activities and progressive medium than they did 20 years.

3. RESULTS AND DISCUSSIONS

S. No	Hypothesis Statement	Significance Level	Hypothesis Judgment
1	There is no significant difference of Architecture and Planning at four locations of Indore city.	0.000	Accepted
2	There is no significant difference of Population at four locations of Indore city.	0.000	Accepted
3	There is no significant difference of Policies at four locations of Indore city.	0.000	Accepted
4	There is no significant difference between Legislations at four locations of Indore city.	0.000	Accepted
5	There is no significant difference between Economic Transformation at four locations of Indore city.	0.000	Accepted

4. CONCLUSION & RECOMMENDATIONS

It has been observed from the results of ANOVA that Urban Transformation has taken place in all the four areas of Indore city and there is no significant difference between the amount or



process of transformation. Zanzeerwala and Sapna Sangeeta are comparatively more developed area than Nehru Nagar and Bhagirathpura, so the level of sophistication and lavishness may be different but changes have taken place in all four locations. The kind of transformation is different but the mean of comparative change from their past conditions is not significantly different. This further signifies that Urban Transformation is taking place in all 4 areas of the city in terms of Architecture & Planning, Population, Policies, Legislation and Economy and the difference in pace is not significant. Architecturally and Planning wise good areas are getting better and worse areas and getting better and worse areas are becoming good.

Population of the morphologically and demographically developed areas is getting more developed and undeveloped areas are getting developed.

Policy makers are paying attention towards the betterment of those areas where policy implementation was already there and also towards those areas where policies were not implemented properly before last two decades.

Legislations are working towards the legally good areas of Indore city and also towards the areas where law and legislations were not followed properly.

Economic level of the citizens of all the 4 locations is getting better that what they used to be 20 years back.

Finally Urban Transformation is happening dynamically at all the four areas selected for study at speed which is not much different. Less transformed areas are getting transformed and already transforming areas are getting more transformed but change is at its job.

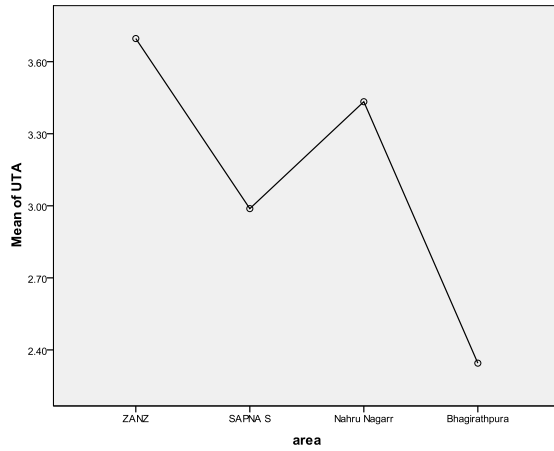
5. ACKNOWLEDGEMENT

The researcher feels honored to acknowledge the selfless help from Dr Mayank Saxena who guided at all stages of research shared the immense knowledge he has. Helped in all good and bad times of the study, taught various minute details and intricacies of research. The contribution of Manita Saxena, Anil Mishra, Ayadi Mishra, Anjan Mishra, Rumpa Mishra, Arvind Shah, Rinita Shah, Shri K.N. Saxena, Mrs Rajlaxmi Saxena Kalp Kartik Varma, Anuj Bansal, Saara, Aarna and Researcher's Parents cannot be just expressed through words.

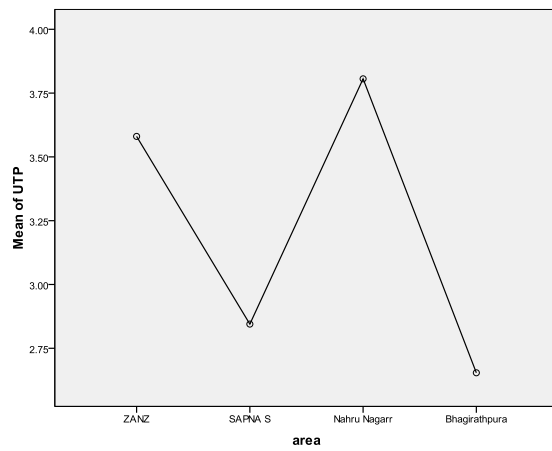


6. APPENDICES

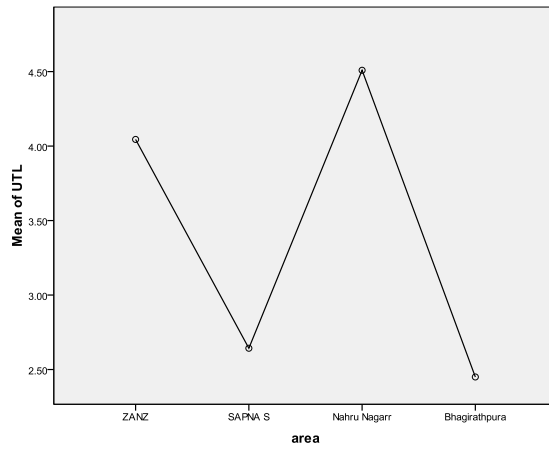
APPENDIX A



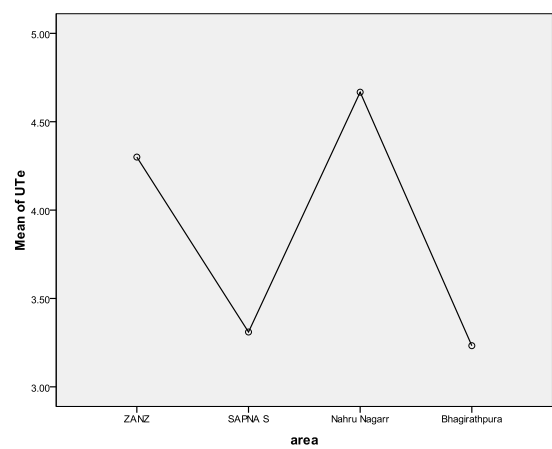
APPENDIX B



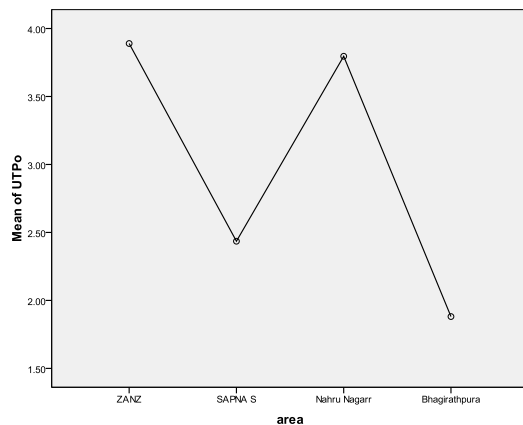
APPENDIX C



APPENDIX D



APPENDIX E





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