Identification of Effective Dimensions on Forecasting Urban Planning with Economic Approach (Case Study: Sustainable Development of Qazvin)

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Abstract: This paper aims to identify effective aspects of forecasting on city management in order to illustrate opportunities and discover the advantages of available tools with economic approach. In terms of purpose, this research is applied, and in terms of data collection, it is descriptive-survey. Sampling method is purposeful and 10 experts were considered as sample size. Consolidated questionnaire was used for data collection. In order to measure validity of the questionnaire, convergent validity test was used. To check reliability, Cronbach's alpha coefficient was calculated as 0.793. KMO and Bartlett's tests, developed mean-variance approach t-test were used. To perform statistical operations, PLS and SPSS 17 were used. In this research, the indexes were identified by using Delphi technique and eight major indexes including quality of life, environmental thinking, transport, compatibility of economic environment, economic infrastructures of the society, economic health of the society, housing, and energy were selected and all hypotheses were confirmed. Finally, three types of forecasting were proposed. This paper tries to present a model for participatory forecast based on urban economy in city management (case study: city of Qazvin). However, three scenarios were proposed considering economic conditions of Qazvin entitled continuation of status, rapid growth and interconnectedness with the global economy, and balanced growth and interconnectedness with the global economy. Therefore, according to these scenarios, practical suggestions were proposed in line with much dynamism of Qazvin urban economy.

Keywords: forecast, urban planning, sustainable development, urban economy
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1- Introduction

Because of the importance of urban life and emergence of metropolises, as complex systems, forecasting has influential role on their destiny. Urbanization of the world and emergence of the world cities are some of the impacts and consequences of life in recent decades. Today, half of the six billion people in the world live in cities. Thus, rapid increase in urban population and urbanization as well as emergence of metropolises has made human societies, particularly underdeveloped countries, in unbalanced conditions. These unbalanced conditions include types of risks that mentioned societies deal with it. Confronting these types of natural and human hazards has become as an inherent element of modern life since hazards are not related only to natural ones, but it usually include risks that human is responsible for it.

The role of cities on the new world is increasing daily. Today, human-friendly world has been urbanized. In this urbanized world, improving human's quality of life as well as development of human civilization depends on urban development. Thus, growing trend of urbanization has created particular opportunities and threats for development process of communities. If opportunities are not used appropriately and a proper response is not presented against threats, urbanization development means increasing economic, social, and cultural challenges and damages. Thus, urban economics, emphasizing on sustainable development paradigm, can build a desirable city for citizens' life. A science has been taken into the center of consideration in scientific and administrative communities considering to the increase in local governments' responsibilities and duties. In our country, majority of experts emphasize on the important issue that city management in Iran requires updating urban economics. Given the importance and necessity of the subject, it has been tried to identify and investigate effective aspects on forecasting urban planning with economic approach (case study: sustainable development of Qazvin city).

Weakness of urban planning system is one of the challenging issues in the field of city management future. Experts agree about lack of proper functioning of this system, but they disagree on proposed solution. Lack of forecasting in urban development system is one of the main factors of flaw in urban planning system. Thus, solution is not merely the principle of planning, but critical study of urban planning and building principles to create new structures is more needed. Methods of recognition and building future require action with social phenomena and planning process. Analysis level of city, as a context of social action, is one of the most important components of forecasting that should be appeared in the framework of city plans.

One of the key concerns in urban planning is to forecast future and limit uncertainty. In fact, one of the main purposes of urban plan is decision-making at present in order to properly direct urban activities in future for citizens' benefit.

At the dawn of urbanization, thinkers such as Daniel (2002), Lewis and Lee (2005) tried to illustrate citizen's future with images and words, but today, it does

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not seem forecasts and long-term perspectives attract modern urban planners' attention. Neglecting future studies in the field of urban planning was condemned by experts and researchers many years ago.

Economic, technological, and socio-demographic changes were occurred rapidly with non-linear models that made prediction for analysts and its compromise for citizens difficult. In this regard, urban planners can hardly forecast since structural changes have abolished traditional models. Confronting this reality, many urban planners have detected their inability for trustworthy forecasts and they moved toward probable and short-term planning, as a solution in a very unclear field (Dator, 1999).

In the recent years, superiority of joint planning has resulted in the loss of future studies. Today, citizens' participation and cooperation among people and private stockholders is a turning point in planning field. In this regard, urban planning is more than a pragmatic process with short-term and medium-term horizons. Compiling perspectives and showing technocratic predictions were considered obsolete because of need for consensus and compromise. When urban planning acts ambiguously in a field with legally strong framework and personal or general decision-making, obviously, it is difficult to create future views with extensive support of local stockholders.

2- Literature Review

Babagheybi Azghandi (2010) in a research entitled "futurology; a new approach in comprehensive management of urban transport" investigated two major problems in plans of comprehensive management of urban transport and considered futurology as a new approach that can be useful for solving transport dilemmas. However, they stated quantity and quality of its impacts on urban transport and application of this knowledge in transportation issues by determining territories of future studies. In addition to introducing the principles, basic definitions and basic concept of futurology, some of the most important methods of futurology were proposed. Finally, by presenting a model, suitable solution was offered for the application of this new knowledge in the field of transportation.

Mafi and Naghdi (2013), in a research entitled "futurology of land use and population growth of Farooj city to 1400 horizon" used descriptive-analytical method and predicted population of Farooj city to 1400 horizon through conventional models. The results indicated that an area equals to 35 hectares will be required level for plan horizon that it will reduce frequency problems in case of exact planning of land use and particular attention to this shortages in next years.

Beyk Babayi and Nakhaei (2014) studied theoretical and conceptual principles of urban sustainable development emphasizing on futurology performance. The results indicated that sustainable environment aspects, socially sustainable conditions, urban sustainable form, and urban sustainable management have influential role on evolution of urban sustainable development theory and

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achievement of sustainable city depends on simultaneous attention to all mentioned aspects. Moreover, increasing urban planners and managers' awareness about development aspects and implementation of measures leading to ecological and social balance prepares the ground for urban sustainable development.

Sasanpoor and Azadbakht (2014) in a research tried to present solutions, aspects, and indicators of good urban governance in futurology approach. In their opinion, once governance is efficient and effective that it can use futurology approaches.

3- Theoretical Principles

Futurology and Foresight

Futurology has created a new subject of strategy and powerful approaches for long-term planning in city management. Futurists support strategic management in each step of planning process (Lucas et al., 2004). Generally, strategic planners, when choosing strategic purposes of sustainable development, concentrate on success criteria such as superior rate of return on investment, economic value added through strategy, optimal share of market, balanced growth, and acceptable risk. Future methodology is ambivalent to these scales and it can work with each of them (Clark & Dickson, 2003).

Standard Urban Planning Process Focusing on Urban Economy

Urban planning can be imagined with two important sets of elements. The first step is illustrated by urban planning value chain and with sequential and hierarchical methods. The second set is composed of horizontal elements providing an integral support for all operational methods of planning value chain. The most prominent elements supporting urban planning process of governmental model, legal framework, are basis of managerial technology and skills.

Global Concentration on Creative Economic Development in Cities

During previous decades, different models and strategies were created to support creative economy to point out the importance of economic balance and stability of a city. One of these theories is development of economy and society that supports and boosts cultural motivations. Thus, creative revival of economy of a city is based on expanding socio-cultural infrastructures to achieve to economic benefits. Table 1 represents five consecutive stages of proposed approach.

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Table1. Five consecutive stages of proposed approach

Formulation of future insights	Traditional futurology tools like scenario planning are used to create future insight and prepare its socio-economic ground in a narrative form. This step should be used naturally for qualitative instruments that facilitate stockholders' cooperation.
Determining functional outcomes	When insights are formulated, they show functional outcomes for the system that elements may illustrate socio-economic flows and local stockholders. This step should be done with semi-quality tools and it should usually limit to urban experts.
Determining parametric consequences	Parametric consequences should provide many signs to create a set of parametric indicators that measure urban development impacts. Parameters that used extensively in urban planning, such as population growth, occupational status, urban land use, urban density, urban distribution, and ratio of mobility, can develop simulation methods of transport and land use. Thus, the third step should be based on quantitative tools and limited to urban experts.
Determining locational outcomes	When parametric consequences are fixed, they can be received for a GIS to observe future urban consequences in terms of place. Today, GIS technology provides a wide range of features to show alphabetical data on digital maps. GIS provides graphic information about urban growth, urban distribution, and infrastructure networks. This step requires complex graphic and quantitative tools that should be managed by experts. However, final product will be realizable easily by stockholders and the public.
Developing strategy	After determining all types of existing consequences in system, the analyst should realize gap between suggested future insight and current location of territory to compound available findings in SWOT analysis. By exiting from an analysis, this should be possible for developing strategies in order to direct future development. Once again, this step requires stockholders participation.

Reference: (Miguel Fernández Güell & Redondo, 2012)

Creating Relationship between Forecasting and Urban Planning in Urban Economy

When a suggested approach is created to connect forecasting tools with urban planning process, scientific usage is presented to assess tool and feasibility. Sustainable development has been chosen because it is a key challenge for contemporary societies. Moreover, since it may induce destructions in the chain of urban planning value, project scenario was selected among all forecasting tools. As it provides sufficient management in uncertainty and complexity, alternative happens then (Eames & Adebowale, 2002). Proposing scenario is a forecasting technique that is used widely and it is targeted (Schwartz, 1991; van der Heijden, 1996), that is prominently qualitative, it combines logical and intuitive analysis and it requires experts' group cooperation. For many forecasting experts, scenario development is an old outcome of future studies since it is creative and capable in dealing with uncertainty. Experimenting stated forecasting follows a methodology of proposed typical scenario that is made of three consequent steps:

- Determining the concept of sustainable development
- Identifying and assessing the process that it may affect sustainable development
- Designing future scenarios to evolution of sustainable development

4- Research Methodology

Since the purpose of this research is to determine relations experimentally, it

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is applied in terms of purpose, and it is descriptive-survey, correlation type, in terms of data collection. Moreover, given that structural equation method was used to test hypotheses, this research is correlation matrix analysis or covariance. In this research, statistical population includes active experts in the field of strategic planning and forecasting in urban economy and management. Random purposeful sampling was used in this research. One of the non-random sampling or targeted types is expert or judgmental sampling. Expert's sampling includes selecting individuals having the experience or knowledge in one field. In some fields, expert sampling is the only useful method for research questions (Berger & Luckmann, 1967). Given that academic experts consider this issue more abstract and theoretically, in return, professional and experimental experts look more pragmatically to business issues. The presence of representatives of both groups can ensure researcher that the issue has been considered from both angels. Investigating related articles, 4 to 14 experts have been proposed (Bhattacharya et al., 2013) (Kannan et al., 2009), (Narasimhan et al., 2006). Table2 represents experts' features.

Table2. Experts' features

Degree	Experience	Field	Experience
Ph.D.	20	Urban economics and management	10 years
M.Sc.	10	Strategic planning	5 years
M.Sc.	11	Urban economics and management	7 years
M.Sc.	14	Urban economics and management	6 years
M.Sc.	10	Urban economics and management	4 years
Ph.D.	14	Urban economics and management	8 years
Ph.D.	18	Strategic planning	11 years
Ph.D.	15	Strategic planning	9 years
M.Sc.	11	Urban economics	5years
M.Sc.	14	Strategic planning	7 years

Reference: (Researchers' findings)

Questionnaire is data collection tool in survey studies. It has been tries in designing the questionnaire to present operational definition the variable by using reliable references. In order to assess validity, convergent validity test was used. Convergent validity is used when obtained scores (values) are highly correlated by two different tools that measure this concept (Khaki, 2011). By doing related calculations, the correlation between the two sets of questionnaires was 0.872 indicating high validity of the questionnaire. To test reliability,

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Cronbach's alpha coefficient was calculated. To calculate Cronbach's alpha, first, the variance of scores related to each subset of questionnaire questions and total variance should be calculated, then, Cronbach's alpha coefficient should be calculated (Sarmad et.al, 1997). Table3 represents that the questionnaire reliability is 0.793 indicating high reliability. Moreover, for statistical operations, PLS and SPSS 17 were used.

Research Hypotheses

The first hypothesis: Environmental thought and urban planning forecast are in line with each other.

H_0: Environmental thought does not affect positively and significantly on urban planning forecast.

H_1: Environmental thought affects positively and significantly on urban planning forecast.

The second hypothesis: statistical population is in line with urban planning forecast.

H_0: The statistical population does not affect urban planning forecast positively and significantly.

H_1: The statistical population affects urban planning forecast positively and significantly.

The third hypothesis: Building houses and urban planning forecast are in line with each other.

H_0: Building houses does not affect positively and significantly performance.

H_1: Building houses affects positively and significantly performance.

The fourth hypothesis: Compatibility of economic environment is in line with urban planning forecast.

H_0: Compatibility of economic environment does not affect urban planning forecast positively and significantly.

H_1: Compatibility of economic environment affects urban planning forecast positively and significantly.

The fifth hypothesis: Energy and urban planning forecast are in line with each other.

H_0: Energy does not affect urban planning forecast positively and significantly.

H_1: Energy affects urban planning forecast positively and significantly.

The sixth hypothesis: society's economic health and urban planning forecast are in line with each other.

H_0: Society's economic health does not affect urban planning forecast positively and significantly.

H_1: Society's economic health affects urban planning forecast positively and significantly.

The seventh hypothesis: Transport and urban planning forecast are in line with each other.

H_0: Transport does not affect urban planning forecast positively and significantly.

H_1: Transport affects urban planning forecast positively and significantly.

The eights hypothesis: Quality of life is in line with urban planning forecast.

H_0: Quality of life does not affect urban planning forecast.

H_1: Quality of life affects urban planning forecast.

Conceptual Model of Research

After studying articles of Miguel Fernández Güell & Redondo (2012) and

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Eames & Egmose (2011), in order to do research, the indicators were extracted from related literature and experts' view by using Delphi technique. In the following, obtained factors were investigated by using exploratory factor analysis technique and the primary conceptual model (figure1) was obtained, finally, the results were tested by using confirmatory factor analysis. After identifying indicators, intended variables were detected by experts and eight main factors were identified by using Delphi technique. The intended factors are distributed. Therefore, the necessity of categorizing them made us design a questionnaire to measure them, and finally, categorize them by using factor analysis. The designed questionnaire had 41 questions of 5-point Likert scale and respondents selected an appropriate option from completely insignificant to very important one. It is noteworthy that, to analyze obtained data of final questionnaire, first, matrix of correlation matrix was calculated, and variables that were correlated with other variables were analyzed. Conceptual model has been presented as figure1. Miguel Fernández Güell & Redondo (2012) selected indicators of population, immigration, economic growth, movement, means of transportation, unemployment, and such issues in urban planning. Table3 represents forecasting indicators in city management based on urban economy according to Miguel Fernández Güell & Redondo, 2012 and Eames & Egmose, 2011.

Table3.Forecasting indicators in city management based on urban economy

Forecasting indicators in city management (Eames & Egmose, 2011)	Forecasting indicators in city management (Miguel Fernández Güell & Redondo, 2012)
Economic factors Environmental factors Transport Adoptability Society Health Welfare Energy	Society population Growth of urban density Immigration rate Dependency rate Replacement level fertility rate Economic Unemployment rate Economically dominant sectors Electrical energy consumption Environment of economic growth A set of selected constants Certain division of waste Movement with private car Close to cycling network Water and urban land consumption Social stability

Reference: (Miguel Fernández Güell & Redondo, 2012; Eames & Egmose, 2011)

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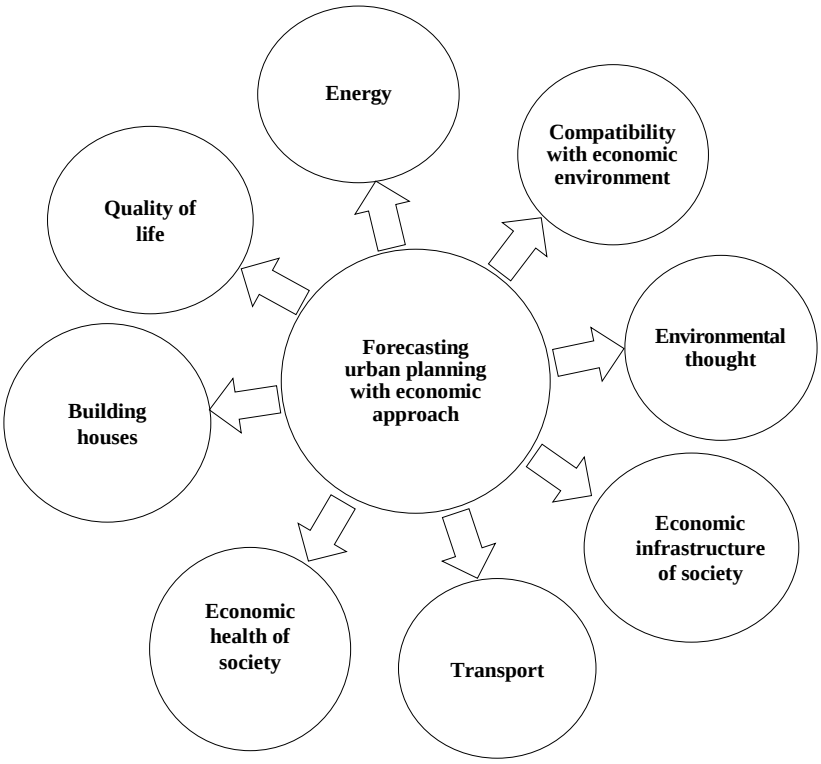

Figure1. Conceptual model
Reference: (Miguel Fernández Güell & Redondo 2012; Eames et al., 2009)

5- Research Findings

Unpredictability principle of the future does not mean that we should not worry about future and only relying on fortune or destiny or waiting for new crises without any previous plan and program, but this principle dictates to adopt a more appropriate solution for future. In this research, first, effective indicators on forecasting in city management were detected, and then, primary model was presented based on detected indicators, finally, three scenarios were proposed based on presented model.

In order to access to this questionnaire, after studying related articles and literature as well as using experts' view with managerial experience, 50 components were extracted among indicators. Data were analyzed by using SPSS. The result of exploratory factor analysis has been presented in table4 to confirm the validity of the questionnaire indices.

After factor analysis, 40 indicators were confirmed among primary indices and they were categorized into eight aspects based on varimax rotation.

The final matrix outlining varimax rotation has been omitted because of page limit, but eight dimensions and its components were stated. It should be said that load factor of 40 confirmed components of varimax rotation was confirmed in the following via SMART-PLS software as it has been specified in figure1.

KMO and Bartlett's Test

According to the result of KMO test that its value equals to 0.918, data can be

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reduced to some basic and fundamental factors. Moreover, the result of Bartlett's test (1577.642) that is significant that the error is less than 0.000 indicates that correlation matrix has not been single among items and there is a high correlation between internal items of each factor. On the other hand, there is no correlation between items of a factor and items of another one. Also, the validity and reliability of research questions have been presented in table5.

Table4. KMO and Bartlett's test about questionnaire indicators

Score of Kaiser-Meyer -Olkin Measure of Sampling Adequacy test		0.918
Bartlett's test of sphericity	Approx. Chi-Square	1577.642
	Degree of freedom	120
	significance	0.000

Reference: (Researchers' findings)

Table5. Validity and reliability of research questions

Dimensions	Number of questions	Cronbach's alpha	AVE	CR
Environmental thought	3	0.8241	0.5234	0.8432
Society	6	0.5473	0.5064	0.8423
Building houses	4	0.7665	0.5116	0.8636
Compatibility with economic environment	3	0.7352	0.5793	0.8641
Energy	6	0.7648	0.5366	0.8549
Economic health of the society	6	0.8454	0.5447	0.8947
Transport	4	0.8053	0.6389	0.8466
Quality of life	8	0.8657	0.5026	0.8364

Reference: (Researchers' findings)

The Method of Developed Variance Mean and Cronbach's Alpha

In this research, structural equation modeling (SEM) including confirmatory factor analysis by using SMART-PLS software was used. In which, Average Variance Extracted (AVE) method is applied to examine convergent validity. According to Fornell and Larcker, high standard of 0.5 for this mean is an appropriate developed variance.

Furthermore, to measure reliability, Cronbach's alpha and composite reliability methods were used. Cronbach stated that more than 0.7 is standard rate for Cronbach's alpha, and Bagazi stated that more than 0.6 for composite reliability (Cronbach, 1951). The values

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of mentioned coefficients have been represented in table5 indicating appropriate validity and reliability of research questions.

Measurement

The conceptual model of research was tested by using Partial Least Squares Method by SMART PLS software. T-values is more than standard absolute value of 1.96 indicating significant relationships between research dimensions as represented in diagram1. In diagram1, path coefficients that indicate intensity of equation have been represented. The numbers on the paths indicate path coefficient, numbers inside the circles, for endogenous variables, indicate R2, and numbers of arrows of latent variable indicate factor loads. Figure 1 represents factor loads of questions related to each dimension.

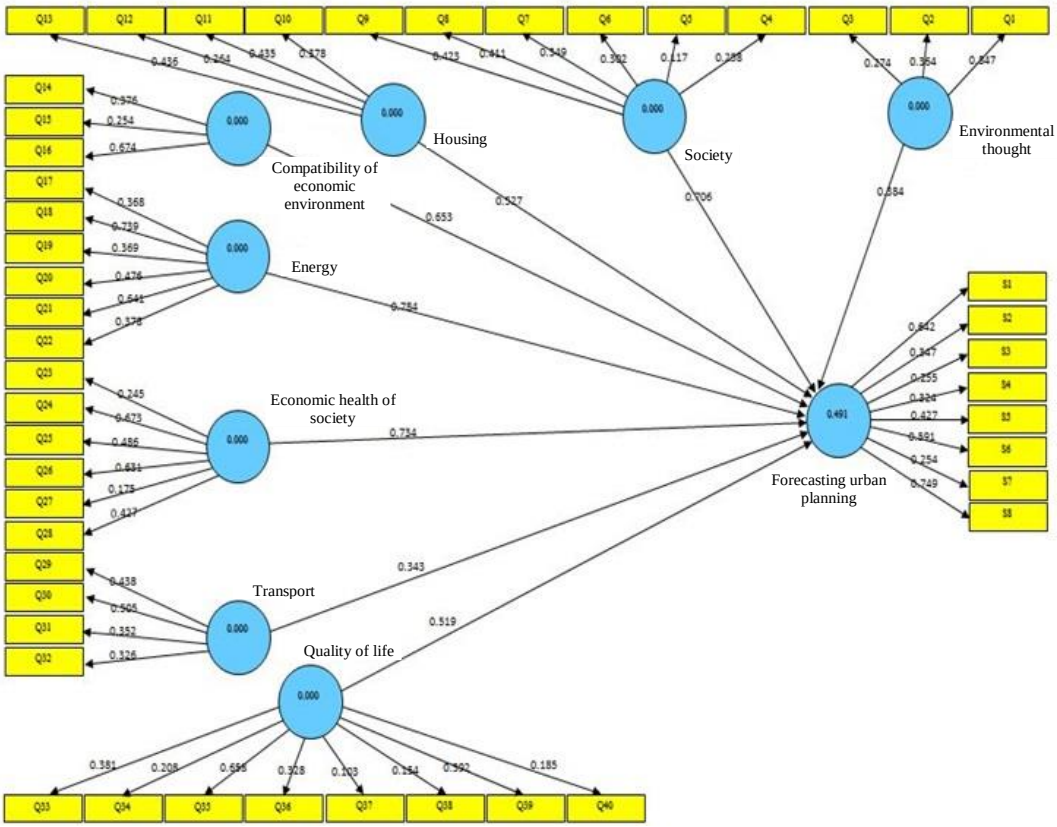

Diagram1. Research model in the case of standard estimation of coefficients
Reference: (Researchers' findings)

In this diagram, numbers or coefficients are divided into two categories. The first category contains measurement equations that they are the relationships between latent variables (circle) and observed variables (rectangles). These equations are called factor loads. The second category includes structural equations that they are relationships between two latent variables and they are used for test hypotheses. According to the model in case of estimation of coefficients,

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factor loads and path coefficients can be estimated. Based on factor loads, an index having the most factor load, they have more shares in measuring related variable and an index with smaller coefficients has less share in measuring related structure.

Numbers in the circles are the indicators of the coefficient of determination. The coefficient of determination investigates that what percent of variance of a dependent variable is determined and explained by independent variable(s); therefore, it is natural that this value equals to zero and for dependent variable is more than zero. As this rate is higher, impact factor of dependent variables is more on independent ones. According to the coefficient of determination of the model, it can be said that all forecasting aspects of urban planning, including environmental thought, society, housing construction, compatibility with economic environment, energy, economic health of the society, transport, and quality of life, could totally explain 49.1 percent of forecasting variable variance of urban planning and the rest of 50.9 percent is related to prediction error and it can include other influential factors on urban planning forecast.

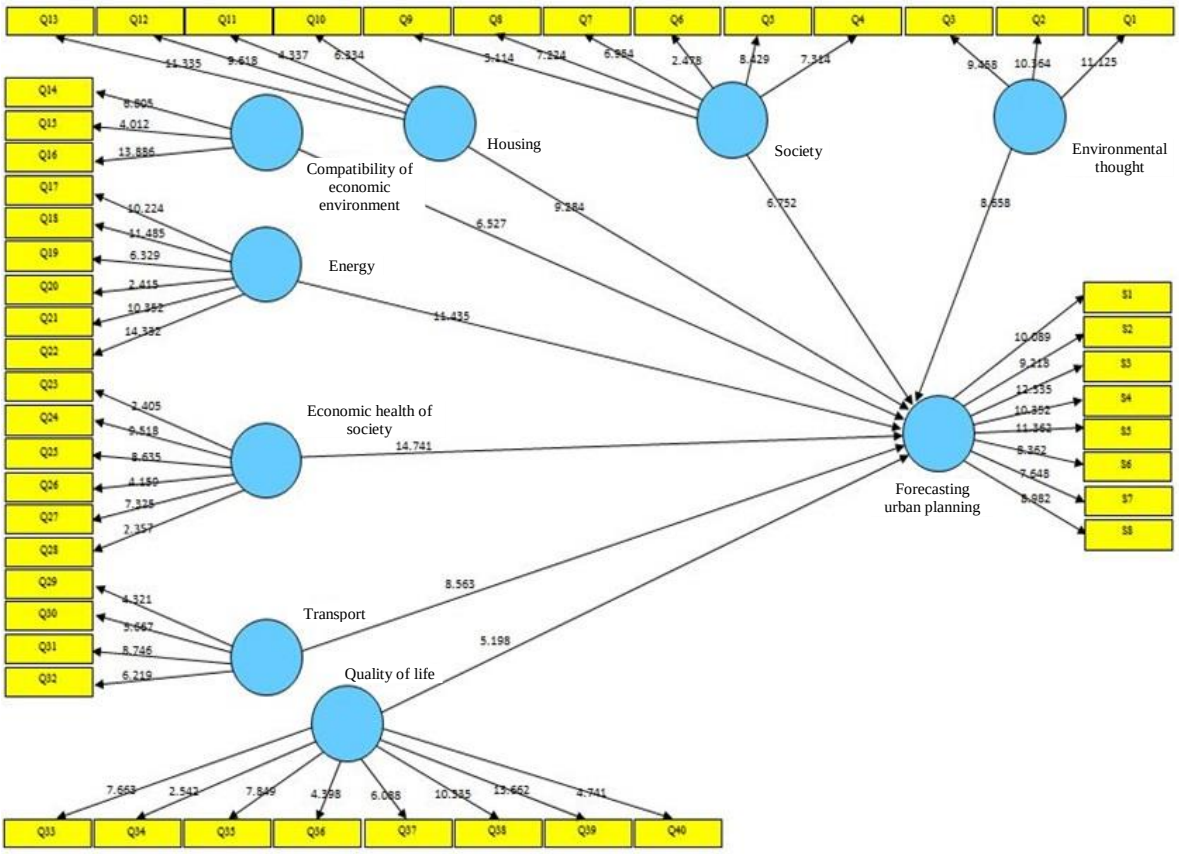

Diagram2. Research model in the case of significant coefficients

Reference: (Researchers' findings)

Diagram 2 represents different research models in the case of absolute significant coefficients. In fact, this model tests all measurement equations (factor loads) and

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structural equations (path coefficients) by using t-statistic. According to this model, path coefficient and factor load are significant at confidence level of 95 percent. If t-statistic is more than 1.96, factor load or path coefficient is not significant. If T-statistic is more than 2.58, path coefficient and factor load will be significant at 99 percent. Another type of relationship between latent variables in structural equation model is direct impact one. Direct impact is one of the components of structural equations model indicating relationship between two variables. Generally, these kinds of relationships are assessed by ANOVA. In fact, this kind of impact indicates assumed causal linear effect of one variable on the other. Inside a model, each direct impact specifies and explains a relationship between a dependent variable and independent one. In addition, a dependent variable can be an independent variable in another direct effect and vice versa. Moreover, in a multiple regression model, a dependent variable can be related to several variables and in a multivariate analysis of variance (MANOVA), one independent variable can be related to several dependent variables.

The issue that dependent variable can sometimes become independent one creates the third relationship entitled indirect impact. In fact, this effect is because of independent variable impacts on dependent variable via one or several mediator variables. This impact, mediator variable toward one variable, plays the role of independent variable and it plays the role of dependent variable compared to other variable. Table 6 represents direct impacts, T-statistic, and the result of research hypotheses.

Table6. Direct impacts, T-statistic, and the result of research hypotheses

Research hypotheses	Direction	path coefficient (β)	T-statistic	Result of research hypotheses
Environmental thought→ urban planning forecast	Direct	0.384	8.658	Confirms
Society → urban planning forecast	Direct	0.706	6.752	Confirms
Housing construction → urban planning forecast	Direct	0.527	9.284	Confirms
Compatibility of economic environment → urban planning forecast	Direct	0.653	6.527	Confirms
Energy → urban planning forecast	Direct	0.784	11.435	Confirms
Economic health of society → urban planning forecast	Direct	0.734	14.741	Confirms
Transport → urban planning forecast	Direct	0.343	8.563	Confirms
Quality of life → urban planning forecast	Direct	0.519	5.198	Confirms

Reference: (Researchers' findings)

Finally, forecasting scenarios are proposed based on urban economy as follows:

Continuation of Current Trend

In the first scenario, perspective of next 10 years of urban economy does not

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seem desirable in case of continuation of current trend. With this condition, annual growth of Iran's gross domestic product (GDP) will be 9.3 percent. According to this prediction, main sectors of Iran's economy, including agriculture, oil, industry and mining, and services, will be increased 1.3, 0, 7.5, and 4.4 percent respectively. In this situation, investment growth will be 9.3 percent and employment rate will be 1.13 percent. Moreover, perspective of goods export rate will be 9.0 percent and non-oil exports will be 6.5 percent as well. Exports growth of industrial goods will be 6.5 percent while imports rate will be increased 9.3 percent. Therefore, foreign trade balance will be negative in case of current trend and foreign investment growth will not be more than 9.3 percent, but in 10 next years, Iran's liquidity growth will be 3.27 percent on average and inflation rate will be 22 percent. In this scenario, there will be considerable lack of all kinds of resources regarding a prolonged economic downturn. "Return to the basics" is presented by previous development model failure leading to challenges and social frustrations. Public and private representatives are fully aware of need to sustainable development considering to unresponsiveness by the economic realm and technology.

Rapid Growth and Interconnectedness with the Global Economy

In the second scenario, in order to facilitate in the process of urban economy development, it has been suggested to connect with global economy after entrance to the World Trade Organization (WTO). In this case, urban economy growth will be 6.8 percent on average and per capita income growth will be 2.7 percent. If forecasted programs are achieved, agriculture, oil, industry and mining, and services sectors will experience the growth of 9.4, 1.2, 6.11, and 5.9 percent respectively. It is estimated that Iran's unemployment rate will be 1.13 percent and inflation rate will be 5 percent in case of connecting with global economy. This is despite the fact that unemployment rate and inflation rate have been 3.1 percent and 8.14 percent respectively for the first 9 months of this year according to the governmental formal statistics. In case of joining to WTO, liquidity growth rate will be 16 percent while it was more than 8.18 percent during the mentioned period. Non-oil exports will be 8.15 percent on average in this case. This scenario will be occurred once there would be all types of sources. However, at this time, governmental and private representatives will react slowly or passively to sustainability problems. This scenario acts like a guide to improve allocation of focused resources for improvement of market signs. Mostly, this scenario is applied during crisis practically that economic stabilization and adjustment enjoy high priority. As a result, generally, criteria of relative prices improvement are along with criteria of controlling rate of increase in the general level of prices. The main aspect of this scenario is to grant a wide space to private sector to have activity in that arena. The important point is that private sector is considered as a core of development having the role

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of dynamic sector and responsible for creating relationship between underdeveloped and advanced sectors of economy to other sectors of economy. This scenario has non-interventionist essence based on innovation and entrepreneurship (to advance urban economy).

Balanced Growth and Interconnectedness with Global Economy

Development based on balanced growth is the third scenario that is mentioned for 10 next years. In this situation, it has been estimated 70 percent GDP growth. However, to achieve this goal, the growth of agriculture, oil, industry and mining, and services sectors should be increased 9.4, 1.2, 7.10, and 7 percent respectively. In addition, the growth rate of goods exports, non-oil exports, and industrial exports will be 6.4, 1.10, and 4.12 percent respectively. In this scenario, growth rates of liquidity and inflation would reach to 17 and 8 percent respectively. It can be said that this scenario begins when the scenarios of rapid growth and interconnectedness with global economy terminates i.e. with direct aim to improve redistribution of income and wealth. This strategy has been developed to prioritize regulations that directly benefit low-income classes of society. There are three approaches in this scenarios; the first; emphasis on more employment and production for poor classes of the society, the second; redistribution of a part of surplus income of city growth among the poor, and the third; prioritize to provide basic needs (food, clothing, housing, health programs, primary and secondary education) that make more political and economic power available for the poor. The prevailing thought is that this strategy requires redistribution of productive assets, particularly land reforms. Moreover, the poor people's participation should be increased in governing the society and organize them in the form of social and political groups. This strategy has been emerged as a response to failure of growth-based strategies in decreasing the number of the poor or improving their life levels. The main purpose of this strategy is improvement of income and wealth distribution through direct involvement of the government and prioritizing the poor people's need and creating a more equitable society.

6- Conclusion

Expansion of cities and increase in their population not only needs planning for providing housing and determining suitable orientation to develop in priority of officials and planners, it is also necessary to make facilities and determine appropriate solutions to protect agricultural lands, gardens, other natural and environmental resources and economy of cities. This need stems from the fact that providing food and other necessities of human communities that deepened on agricultural and livestock products is endangered by uncontrolled expansion of cities into the gardens and agricultural lands. This can be a threat for the future of human and providing its health and needs. On the other hand, uncontrolled and unplanned developments of urban societies are a threat to provide welfare and service needs of societies and it creates problems for residents of these

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societies. Solving such problems has long been followed by urban planning and design in the framework of development plans. The findings are not conclusive since methodology approach should be investigated in a wide range of urban issues. These findings lead to identify effective factors on urban forecasting in city management. In summary, fundamental research is to integrate forecasting methods with urban planning process to obtain a more sustainable development model in urban economy. Finally, it should be said that our country is in initial stage in this issue. Given that it is extremely necessary to deal with this issue, there is no alternative but using global experiences, localizing them, improving existing trends, and drawing a better perspective for the future of our cities. It has been tried in this research to present three scenarios according to the results:

Practical Suggestions for the First Scenario: Continuation of Current Trend

The first strategy: Propelling basic economy of city from industrial economy toward service economy (top and technical services) based on private sector

First policy: Empowering activities depending on superior services and creating motivational factors in mentioned sector

Suggested plan:

a. Creating a corridor, and science and technology park in the city of Qazvin (constructing incubator for research centers)

b. Preparing the ground to support universities and research centers of top services

The second policy: Focusing all financial matters, banking, insurance, exhibition, central offices and so on, industries and most services in the city of Qazvin

The third policy: Reforming model of work, activity, and supply in the city of Qazvin toward producing top goods and services through motivational factors

Suggested plan:

a. Reforming the model of sales of goods aiming to reduce need to private car in the city, particularly in the historical center of Qazvin (selling goods in the place and deliver it with guarantee at home)

b. Supporting and encouraging unions and guilds in the city of Qazvin and granting special privileges for superior unions and guilds in supporting and implementing strategic development of cities

Practical Suggestions of the Second Scenario: Rapid Growth and Interconnectedness with Global Economy

The first strategy: Propelling goods and services toward productions with regional advantage

The first policy: Adopting replacement policy of Qazvin Province from raw and semi-finished materials to finished goods

Suggested plan:

Developing and implementing regional spatial planning

The second policy: Encouraging and supporting all complementary industries of raw and semi-finished materials

The third policy: Collecting more tolls from exporters of raw and semi-finished materials from Qazvin Province

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The fourth policy: Playing evolutionary longitudinal and transversal role of industry and services of Qazvin with other Iran's production units, central Asia, and the Middle East in order to integrate in the global economy

The second strategy: Establishing a wide, secure, and fast connection network of transit services nationally and internationally

The first policy: Preparing the ground for spatial link of Qazvin city, as a national terminal, with other internal and external areas of the country

Suggested plan: Connecting with Tehran two-lane high-speed rail and making road and rail standards with southern and western provinces

Suggested plan: Preparing the ground to construct regional airport by triangulation method among important surrounding cities

The second policy: Providing services and supporting infrastructures transit of goods in the city of Qazvin

Practical Suggestions of the Third Scenario: Balanced Growth And Interconnectedness with Global Economy

The first strategy: Extensive information on national and international level to introduce investment opportunities of city of Qazvin

Suggested plan: Establishing a public information about investment opportunities in the city of Qazvin

Establishing a constant working group to re-identify new investment opportunities in different sectors in the framework of strategic development plan and announcing them extensively and transparently

Collecting all or at least half of tolls related to giant cement factory of Abyek and other similar border plants for Qazvin aiming to develop the province and compensation for environmental damages

The second policy: creating motivational and supporting factors to absorb investment in Qazvin Metropolis nationally and internationally

Suggested plan: Creating international relations offices and consulates of foreign countries

The third policy: International information and relationship with embassies to attract foreign entrepreneurs and investors, particularly Islamic countries

The fourth policy: Creating complementary and processing industries of food and garden products

The fifth policy: Encouraging and supporting the processing and packaging industries related to garden and agricultural products, considering to the conditions of food price in the world

The sixth policy: Utilizing modern technologies, geneticist and irrigation mechanization, and planting and harvesting crops in the region

Suggested plan:

Communicating between universities and research centers with agriculture sector and related industries

Protecting water resources and especially aqueducts relying on superior technology in cooperation with universities and research centers

The seventh policy: Using tourism capacities of agriculture sector to protect, maintain, and develop these resources

Suggested plan:

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Holding ecotourism tours and changing gardens to general resort

The eighth policy: Establishing a big market (stock market) for agricultural and horticultural products, tools and equipment, goods related to agriculture, horticulture and animal husbandry.

7- References

Babagheyby Azaghandi, A. (2010) Futurology; a new approach in comprehensive management of urban transport, *traffic studies*, issue 16.

Bas, E., & Guillo, M. (2015). Participatory foresight for social innovation. FLUX-3D method (Forward Looking User Experience), a tool for evaluating innovations. *Technological Forecasting and Social Change*, *101*, 275-290.

Berger, P. L., & Luckmann, T. (1967). The social construction of reality: A treatise in the sociology of knowledge. *New York: Anchor*.

Beyk Babayi, B., Nakhaei, M. (2014). *Theoretical and connectional principles of sustainable development from urban sustainability perspective emphasizing on pathology performance*, national conference on architecture and sustainable urban perspective.

Bhattacharya, S., Chandrasekhar Iyer, K., & Momaya, K. (2013). Enablers of growth in Indian construction companies: a comparative study of polar cases. *International Journal of Organizational Analysis*, *21*(3), 428-453.

Bhattacharya, S., Momaya, K. S., & Iyer, K. C. (2012). Strategic change for growth: A case of construction company in India. *Global Journal of Flexible Systems Management*, *13*(4), 195-205.

Clark, W. C., & Dickson, N. M. (2003). Sustainability science: the emerging research program. *Proceedings of the national academy of sciences*, *100*(14), 8059-8061.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *psychometrika*, *16*(3), 297-334..

Deytoor, J. (1999). Futurology as an applied knowledge. Translated by Ebrahimi, S.A., Malekifar, A. *Quarterly journal of approach*, 20th issue.

Dierkes, M., Hoffmann, U., & Marz, L. (1996). *Visions of technology: Social and institutional factors shaping the development of new technologies*. Campus-Verlag.

Eames, M. (2006). Reconciling environmental and social concerns: findings from the JRF research programme. *The Joseph Rowntree Foundation, York, The Homestead, 40*.

Eames, M., & Adebowale, M. (2002). Sustainable development and social inclusion: towards an integrated approach to research. *Policy Studies Institute, Joseph Rowntree Foundation, York.*

Eames, M., & Egmose, J. (2011). Community foresight for urban sustainability: Insights from the Citizens Science for Sustainability (SuScit) project. *Technological Forecasting and Social Change*, *78*(5), 769-784.

Eames, M., Mortensen, J. E., Adebowale, M., & Iudicissa, I. (2009). Community engagement for science and sustainability.

Felt, U., Fochler, M., Müller, A., & Strassnig, M. (2008). Unruly ethics: on the difficulties of a bottom-up approach to ethics in the field of genomics.*Public Understanding of Science*.

Heydarali, H. (2010). *Understanding scientific method in behavioral sciences*, 11th edition, Tehran: SAMT.

Kannan, D., Diabat, A., Alrefaei, M., Govindan, K., & Yong, G. (2012). A carbon footprint based reverse logistics

[DOR: 20.1001.1.23452870.1395.4.15.4.9]

network design model. *Resources, conservation and recycling, 67,* 75-79.

Kannan, G., Murugesan, P., Senthil, P., & Noorul Haq, A. (2009). Multicriteria group decision making for the third party reverse logistics service provider in the supply chain model using fuzzy TOPSIS for transportation services. *International Journal of Services Technology and Management, 11*(2), 162-181.

Kemp, R., & Loorbach, D. (2006). 5. Transition management: a reflexive governance approach. *Reflexive Governance for Sustainable Development, Cheltenham, UK and Northampton, MA, USA: Edward Elgar*, 103-30.

Khaki, Gh. (2011). *Research method with thesis writing approach.* Tehran: Baztab.

Lucas, K., Walker, G., Eames, M., Fay, H., & Poustie, M. (2004). Environment and social justice: Rapid research and evidence review.

Maab consultant engineers, (2004). From prediction to forecasting. *Journal of urban development inquiries,* issue9.

Mafi, E., Naghdi, A. (2013). *Futurology of urban lands and population growth of city of Farooj to 1400 horizon,* the first national conference on geography, urbanization, and sustainable development.

Mahdizadeh, J. (1997). The concept and area of urban system of Tehran, *Journal of architecture and urbanization,* issues 6 and 7.

Miguel Fernández Güell, J., & Redondo, L. (2012). Linking territorial foresight and urban planning. *Foresight, 14*(4), 316-335.

Najafi Motiei, M., Noornbakhsh, M. (2005). Modern technologies in the future of cities (emphasizing on ITC); *Journal of urban development inquiries,* issues 13 and 14.

Narasimhan, R., Talluri, S., & Mahapatra, S. K. (2006). Multiproduct, multicriteria model for supplier selection with product life-cycle considerations. *Decision Sciences, 37*(4), 577-603.

Paya, A. (2007). *Futurology and cities' future,* scientific forum on futurology, strategic research and planning center of Tehran, committee of education and human force.

Quist, J., & Vergragt, P. (2006). Past and future of backcasting: the shift to stakeholder participation and a proposal for a methodological framework. *Futures, 38*(9), 1027-1045.

Sarmad, Z., Bazargani, A., Hegazi, E. (1997). *Research methods in behavioral sciences,* Tehran: Agah Publication.

Sasanpoor, A., Azadbakht, M. (2014). *Futurology method in good urban governance,* the sixth national conference on urban planning and management with approach to components of Islamic city.

Schwartz, P. (1991). The art ofthe long view: planning for the future in an uncertain world.

Shove, E., & Walker, G. (2007). CAUTION! Transitions ahead: politics, practice, and sustainable transition management. *Environment and Planning A, 39*(4), 763-770.

Van der Heijden, K. (1996). Scenarios: the art of strategic conversation.

Van Lente, H. (1993). *Promising technology: the dynamics of expectations in technological developments* (Vol. 17). Eburon.

Wachs, M. (2001). Forecasting versus envisioning: A new window on the future. *Journal of the American Planning Association, 67*(4), 367-372.

Wilsdon, J., & Willis, R. (2004). *See-through science: Why public engagement needs to move upstream*. Demos.

[DOR: 20.1001.1.23452870.1395.4.15.4.9]