

The structural modeling a theory of smart cities based on urban good governance in Iran (Urban management of Tabriz municipality)

- Shahrivar Roostaei ¹
- mohammad reza pourmohammadi ²
- Hakimeh Ghanbari ³

¹ Associate Professor of Geography and Urban Planning, University of Tabriz

² Professor ,Geography and Urban Planning, University of Tabriz

³ PhD student , Geography and Urban Planning, University of Tabriz

Introduction

The implementation of the smart city requires a change in the governmental (institutional) and managerial structure. The government must engage with the private sector and civil society to enforce its rulings. The government must regulate the rules in such a way that these interactions take place. Therefore, creating good urban governance is considered as the most important factor in creating smart cities. The purpose of the smart city is to improve the quality of life of citizens and improve productivity and quality of services provided. (Luis M. Correia & et.al, 2011: 7). The development of effective e-government is a prerequisite for the development of smart cities and a way to establish good urban governance (Taewoo Nam & Theresa A. Pardo, 2011: 22). There is a lack of proper planning to create a smart city and efforts to increase smart quality services in Tabriz Municipality. There is no adequate infrastructure and planning in investing in the development of ICT. The budget is not commensurate with the capital needed to develop information and communication technology. The municipal subdivisions are carrying out sporadic projects with a short-term vision and hope that by continuing this method and entrusting the projects to private sector contractors, the city will be made smarter.

Data and methods

In this study, 376 questionnaires have been completed to examine the effective variables of Tabriz Municipality. Municipal experts have been selected by random cluster sampling.

The questionnaire consists of two parts; the first part of the smart city items consists of 3 concepts and 28 questions. The second part of the items of good urban governance consists of 8 concepts and 40 items. In selecting the thematic concepts of smart city and good urban governance, the theories of experts, the goals of previous research and unique analyzes of third world cities have been considered. After extracting the components and identifying the items, the collected data were entered in SPSS software. Then the data analyzed in the LISREL software. The independent variable is smart city and the dependent variable is good urban governance.

Discussion and conclusion

In structural modeling in LISREL software, According to the Kaiser Criterion, Eigenvalues is a good criteria for determining a factor. If Eigenvalues is closer to one, we should consider that a factor and if Eigenvalues is less than 0.3, then we should not consider that a factor. According to the variance extraction rule, it should be between 0.3 to 0.6. If variance is more than 0.6, then we should consider that a factor. According to the results, among the internal latent variables (dependent variable), the component of accountability with direct effect is 0.78, transparency with direct effect is 0.76, effectiveness is 0.69, participation with direct effect is 0.63, responsibility with direct effect is 0.60, justice With a direct effect of 0.56, consensus with a direct effect of 0.52, regularity with a direct effect of 0.50,

respectively, have the most effects on the hidden external variable (independent variable) of the smart city. The response variable of the components of urban governance with a direct effect of 0.78 has been selected as the most effective variable in the smart city.

The results of the respondents' analysis show that city officials have little accountability to citizens and projects are not based on responsiveness. The concepts of transparency and effectiveness are important after the concept of accountability and according to experts in the urban management of Tabriz have not received much attention.

The results of the analysis show that good governance in urban management guarantees effectiveness, citizen participation, justice, consensus and ultimately the legitimacy of the urban complex. The mentioned factors have an effect on the good governance of Tabriz city, which according to the respondents does not have a suitable structure for their implementation in Tabriz Municipality. In the results, there is a correlation between the external latent variable (smart city) and its observed variables, the internal latent variables and its observed variables, as well as the correlation between the external independent variable (independent variable) and the internal independent variable components (dependent variable). Findings indicate significant numbers related to internal and external latent components and variables. There is also a significant correlation between the observed variables and the hidden variables. The significance of the numbers (t-value) is greater than 1.96.

Results:

The success of a smart city does not depend on capital and technology, but depend on community leadership and intra-group cooperation with good urban governance. The results of this study show that the condition for creating a smart city is good urban governance. ICT development is not possible unless urban management is committed to accountability, responsibility, efficiency, transparency, consensus, legitimacy, justice and participation.

It will be difficult to develop ICT and innovation in the city if the municipality continues to live without paying attention to the needs of the citizens through the sale of building density and the rent economy. This is more implied in the field of technology. Technology usually requires a lot of investment in infrastructure, which unfortunately is not tangible. Considering the direct impact of the components studied in this research, in order to escape the duality in understanding and implementation of the smart city, governance should become good governance. Therefore, introducing laws, transparency and accountability to citizens with a fair approach and obtaining collective opinion of people in participatory projects, will be effective in urban management. The lack of a systematic structure in urban management reduces the number of expert and specialized work in smartening the city and most projects fail. The precondition for accountability in urban management is the specialization of officials and the creation of specialized working groups. Working groups whose approvals are effective and reach the implementation stage. Cities in developing countries such as Tabriz can not create transparent, accountable, coherent and effective management by empty imitating modern technologies or technology imports. In Tabriz urban management, modernization (modernization) is pursued with a misunderstanding. Modernization (modernism) and restructuring of management is not accompanied by it. This dual approach makes the components of smart city and good urban governance that were studied in this study, not successful in implementation.

Key Words: smart city, urban good governance, ICT, structural modeling , LISREL

References:

- صرافی، مظفر (1387)، تحلیل مفهومی شهروندی و ارزیابی جایگاه آن در قوانین، مقررات و مدیریت شهری کشور، پژوهش های جغرافیایی، شماره 63، صص 134 - 115
- کاتوزیان، محمد علی (1383)، اقتصاد سیاسی ایران، از مشروطیت تا پایان سلسله پهلوی، ترجمه محمد رضا نفیسی؛ کامبیز عزیزی، تهران: چاپ دهم، نشر مرکز
- Abdulrahman Alkandari, .a Meshal alnasheet,.b Imad F.T. Alshekhly (2012), Smart Cities: Survey, Journal of Advanced Computer Science and Technology Research Vol.2 No.2, June, pp: 79-90
- Alawadhi, A. Aldama-Nalda, H. Chourabi, J.R. Gil-Garcia, S. Leung, S. Mellouli, T. Nam, T.A. Pardo, H.J. Scholl, S. Walker (2012) , “Building Understanding of Smart City Initiatives,” Lecture Notes in Computer Science 7443 , pp:40– 53.
- Assessing the Progress of the UN Member States, (2002), Benchmarking E-government: A Global Perspective, New York May, 1-81
- Aurigi, A. (2005(, Making the digital city. The early shaping of urban internet space. Aldershot: Ashgate,pp: 1-195
- Bai, X., McAllister, R. R., Beaty, R. M., & Taylor, B.(2010), Urban policy and governance in a global environment: Complex systems, scale mismatches and public participation Current Opinion in Environmental Sustainability, 129-135.
- Carreras, I., Puiggròs, A. and A. Rodríguez-Pose (2012), “Las tendencias mundiales y sus impactos en las grandes metrópolis”, Plan Estratégico Metropolitano de Barcelona .pp: 43-61
- European Commission (2001), European Governance: A White Paper. Brussels: Commission of the European Communities,pp: 1-4
- Greenhalgh, T., Robert, G., Macfarlane, F., Bate, P.,Kyriakidou, O., & Peacock, R. (2005) , Storylines of researchin diffusion of innovation: A meta-narrative approach tosystematic review. Social Science and Medicine, 61(2), pp: 417-430.
- Hafedh Chourabi, Taewoo Nam, Shawn Walker, J. Ramon Gil-Garcia, Sehl Mellouli, Karine Nahon, Theresa A. Pardo, Hans Jochen Scholl (2012), Understanding Smart Cities: An Integrative Framework, 45th Hawaii International Conference on System Sciences,pp: 1-9
- (2010), Smarter Thinking for a Smarter Planet. Available at [http:// www. ibm.com/ smarterplanet /global/ files /us__ en_us__ loud__ ibmlbn 0041 _ transtasman _book.pdf](http://www.ibm.com/smarterplanet/global/files/us__en_us__loud__ibmlbn0041__transtasman_book.pdf).
- Johnston, E.W., Hansen, D.L. (2011), Design lessons for smart governance infrastructures. In D. Ink, A. Balutis, T.F. Buss (Eds.), Transforming American Governance: Rebooting the Public Square?. Ney York: M.E. Sharpe, pp: 1-226
- Joreskog, K., & Sorbom, D. (1993) Lisrel 8: Structural equation modeling with the simplis command. Scientific Software International, pp: 1-226
- Lam, W. (2005). Barriers to e-government integration. The Journal of Enterprise Information Management, 18(5), pp: 511-530
- Lee, S., Yigitcanlar, T., Han, J., & Leem, Y. (2008).Ubiquitous urban infrastructure: Infrastructure planning and development in Korea. Innovation: Management, Policy &Practice, 10(2-3),pp: 282-292.
- Luis M. Correia, Klaus Wünnstel(2011) “ smart cities,application and requirements” IST/IT White Paper 2011-05-20,pp: 1-33

- Mooij, J. (2003). Smart governance? Politics in the policy process in Andhra Pradesh, India. London: Overseas Development Institute, pp: 25-33
- Pardo, T. A., Nam, T., & Burke, G. B. (2011) (forthcoming). E-government interoperability: Interaction of policy, management, and technology dimensions. *Social Science Computer Review*, pp: 7-23
- Puppim de Oliveira, J. A., Doll, C. N. H., Balaban, O., Jiang, P., Dreyfus, M., Moreno-Peñaranda, R., & Dirgahayani, P. (2013). Green economy and governance in cities: assessing good governance in key urban economic processes. *Journal of Cleaner Production*, 58(1), pp:138–152.
- Tranos, E., & Gertner, D. (2012) smart networked? Innovation. *The European Journal of social Science research*. 25(2), pp: 175 – 190
- UNESCAP (2012). What is good governance? From: United Nations Economic Commission for Asia and the Pacific: <http://www.unescap.org/pdd/prs/ProjectActivities/Ongoing/gg/governance.asp>. Accessed 2012/8/1, pp: 1-3
- United Nations Development Programme (UNDP) (2007). *Towards Inclusive Governance*. Bangkok: UNDP Regional Centre in Bangkok, 2-6
- Winters, J. V. (2011). Why are smart cities growing? Whomoves and who stays. *Journal of Regional Science*, 20(10), pp:1-18.