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Investigating the effective factors on forming the correct level of university and city spatial link

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ABSTRACT

Despite the long-standing presence of universities in cities, the nature of the relationship between higher education institutions and urban environments has not even fully realized. The present work aims to determine the direction of the development of academic spaces, which can be effective in determining the appropriate strategy for the development of universities. In the first step, in order to determine the direction and content of development, the real needs of the target community are investigated, and then the relationship between the university and the city in order to achieve social added value and consequently the promotion of the economic interests of parties of relationship is referred to as an inevitable necessity. This study, which is an applied research, uses qualitative content analysis method to investigate this relationship. To determine the correct level of this relationship, the political, physical, social and economic characteristics of the university and the host city are considered to be controlling factors. Meanwhile, if there is no acceptable level of bridging social capital between the two actors, the development plan will fail. Therefore, two constituents, trust and participation, among influential groups should be measured as the most important determinants of the correct level of this relationship.

Keywords: development, academic space architecture, academic space development, university and city, spatial link of university and city, bridging social capital.

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INTRODUCTION

If we compare today's world with the world 100 years ago, we will face dazzling advances in various fields of science, commerce, medicine and services. Inevitably, alignment with these advancements will require empowered graduates. So, students must be trained in a standard, healthy and creative educational system and environment. Hence, educational spaces are one of the areas of environmental architecture that play a major role in a society.

Unfortunately, in Iran, excessive increase in the number of students on the one hand and the lack of educational spaces on the other hand, have led to the forgetting of the fact that university space, like any other space, has its own specific characteristics, and the rent or buy a building and the installation of a sign on the entrance does not solve the problem of shortage of these spaces. Hence, in this period, the need to design suitable patterns for the development of these spaces is felt more than ever. Therefore, it is essential to recognize the necessary requirements to be considered during the development process.

First of all, the definition of the concept of "development" is necessary because, unfortunately, sometimes mistakenly, other concepts such as "growth" and "improvement", which have their own meanings in the scientific and technical world and are completely separate categories, are used as "development". Hence, with specifying an exact definition it can be distinguished from other conceptual areas.

According to Fazeli M. (2012), development is a multidimensional reality and is obviously enclosed in circle of values. In fact, the real needs of the target community determine the direction and content of the development. It is a qualitative category and the "lust of adding some quantitative indicators" is sometimes deceptive. The end of development is happiness. Happiness is a continuum of material benefits to spiritual excellence, to mysticism, to enjoy the adherence to human, historical and cultural values. In other words, development is in our service and we are not the victim of it.

The gate of the development process is the recognition of the real needs of the target community, since it defines the direction and content of the development. Referring to what has happened shows there are different scenarios that dominate academic spaces at different times, but what's happening in the real world is the change of the "social context" of higher education. In the new condition, universities seek to become into public service institutions and higher education has undergone a "transitional period". (Fazeli N. , 2014)

In fact, establishing a relationship between the university and the host city in order to achieve social added value and, consequently, the promotion of the economic benefits of the parties of the relationship have become an inevitable necessity. The history of idea of connection between the university and the city is traceable in the 1970s when the phenomenon of knowledge explosion occurred. Human society entered a new phase of post-industrial and post-modern and this time the theory of 'Open University', that made the university available to all members of society, emerged. It is worth noting that efforts to strengthen the link between the university and the city just did not only happen in Western societies, because we have this pattern also seen in Iranian traditional schools. That schools, unlike today, along with key elements were near to the bazaars and mosques. And spaces were not only limited to teaching and discussion, but as important places for social relations and events, something which unfortunately current campuses have taken a distance and only pay attentions to the internal needs.

Hence, it has become an increased challenge for designers to define the boundaries between the university and its surrounding city. (Lee et al., 2014) In fact, campus edges are frequently flashpoints of bitter controversy. Faced with such strong opposition to external growth, universities and cities have evolved to find new ways to coexist. (Adhya, 2009) However, in this way, our view as an architect is the realization of comprehensive program in the physical form, but it should be noted that only the physical examination cannot lead us to a desirable situation, since the process is far-sighted and closely related to other areas. Therefore, the present study aimed to identify the criteria determining the correct level of this relationship. This study uses qualitative content analysis method to investigate this relationship. Since the output of this research is directly applicable, it can be classified as an applied research.

University and city interactive areas

Unfortunately, despite the fact that a functional relationship between the university and the boundaries of adjacent blocks mutually benefit both parties and improves their quality, but it is seen that the universities are often in the cities but not of the city (Cunningham, 2012). Nowadays, universities are looking to expand their activities to serve the society. In fact, in the future, universities that belong to the higher levels of the society would be more successful. This changing relationship between university and city, as Hoeger points out (2007), is a change in urban realities. The mutual dependencies of universities-local communities may give rise to problems, unless they are resolved in differentiated manners that are respectful of place and time (Theodora, 2007).

In the country of Iran, we are generally faced with the academic space as a closed society and this is despite the fact that strong universities clearly make for strong cities and strong cities underpin strong universities (S.Gertler, 2012). Certainly, in various contexts, because of the structural difference, the way of dealing is different.

City and university interaction can be formed in a variety of ways. In many ways, the success of universities depends fundamentally on the quality of the urban environments in which they are situated (S.Gertler, 2012). As Czuba (2005) points out one of the most important ways is the facilities offered at universities, which involve interaction with individuals, groups and institutions external to the University at the local, regional, state, national and international levels. Hence community service takes the form of intellectual, educational, cultural, scientific, religious and other services. It contributes to social progress, economic growth, spiritual or cultural development of individuals, groups, institutions or the community as a whole. It depends on individual interest and the needs of the community, which are constantly changing, therefore, community service at university must be flexible to allow for these changes. Overall, university's community services aim at contributing meaningfully to the common good. In fact, on the one hand, the university exposes its achievements to the external community and create the opportunity of attracting the public and frees up from its closed environment, and on the other hand, the possibility of use of facilities and the formation of social interactions are provided to the outside audiences and opportunities for improvement are created.

Effective factors on the formation of university and city spatial link

The need to locate the university body in the heart of the city and interact with it does not indicate the using of the same strategy in all of these spaces. Certainly, each context requires special approaches, according to its specific characteristics. Hence, the researchers studied and analysed the relations that govern the successful universities of the world in this field (such as University of Wisconsin-Madison, Yale University, the University of Edinburgh, University of Arkansas, University of Regina, University of Melbourne, McGill University, Osaka University and etc.). In a general summing up, the key factors determining the correct level of this relation are the political, physical, social and economic characteristics of the parties of the relationship: (Table 1)

Table 1. Effective factors on the formation of university and city spatial links

actors	Effective factors		
University	Mission	Mission is the equivalent to existential philosophy and prophecy, and defines the main fields of activity of the organization. (Nadimi, 2005)	
	vision	Vision is the organization's live image in the future, in the full realization of the organization's mission. (Nadimi, 2005)	
	University policies	Values	Values are the basis of the long-standing and fundamental principles of the organization. (Nadimi, 2005)
		the university's position in the urban context	The campus as a separate city
	Physical structure	-Based on the category that Heijer (2008) has pointed out-	The campus as a 'gated community' in the city- with or without the actual gates
		Spatial distribution pattern	-
		University size	The campus integrated within the city
	Social structure	Internal social relationships and interactions	
		How to interact with the surrounding community	
		The amount and way of income collection	
Economic structure	Amount of expenses		
	University economic profit from the proximity with the city		
City	Regional-native policies	City Master Plan	
		Cultural Heritage Criteria	
		The Municipality vision statement	
	Physical structure	City size	
		City form	
	Social structure	Quality of urban environment infrastructure	
		The main social structure of the city	
		The social structure of the local population -where the university located-	
	Economic structure	The main economic structure of the city	
		The economic structure of the local population -where the university located-	
City economic profit from the proximity with the university			

Although university and city spatial link appear in the form of a physical planning, it must be planned in line with social, economic, and political issues. Although the university's position in the urban context, the size and shape of the city and university are influential in the formation of the link, but its success depends fundamentally on the quality of the urban environments. In this process, the architect must return to social realities to know where to start and how to intervene. Because the architect is designing spaces that can change behaviour and adjust them. (Hosseinzadeh, 2016)

Clearly, if this sensitivity is not understood, the architect will not notice the effectiveness of his action in the form of design and construction details on the lives of the people, so that his mistakes can disturb existing relations. Meanwhile, economic issues, on the one hand are city and university economic profit from proximity to each other. And on the other hand, they address the ability of the university to respond to its financial problems. In order to have an economic approach, attention and focus on economic data is not enough, but attention to the concept of supply and demand in the relationship between city and university should also be considered, hence the recognition of the main economic structure of the city and the local economic structure is important. It is worth noting that in this process, direction and boundaries are determined by the macro and micro policies governing the region and the university.

Hence, by recognizing the political, physical, social and economic structure of the university and the city, the needs and abilities are determined and the plan of interaction between the university and the city is based on them. In the meantime, the development of the university is co-ordinated with the development of the host city in the form of a supply-demand system.

Bridging Social Capital -the main factor shaping the relationship between city and university

Any development action is an intervention; therefore, it needs to be considered. In fact, in this case the discussion is not about a single building, so the scale of the design fluctuates between urban design and architectural design. It should be noted that although the identification of political, economic and physical structures is possible through analysis and study, but addressing the social structure from inside to outside without paying attention to the outside feedback certainly leads the designer to devious. Therefore, architect should refer to the views of the groups that are the most affected by this action and then modify the design ideas.

As an actor, the academic institution seeks to develop its own body in the heart of the city with the goal of developing in two dimensions: economic and social. In this process, if the area in which the university is located does not embrace these changes, the project will actually fail. In fact, what forms this connection as the main factor is the existence of social capital at an acceptable level between the academic institution and its surrounding. In order to clarify the subject, we will enter into the discussion of social capital.

Social capital is a new concept that has spread over many decades in most fields with a variety of topics. Although this concept has become increasingly popular in socio-political debates since the 1990s, the term has more precedent in urban studies in ways that can be traced in Jane Jacobs's words (1964). Social capital has been proven in the form of a highly fluid metaphor since Jacobs has gained it, and still has a particular resonance in urban areas. However, the concept has changed to some extent.

Depending on the viewpoint through social capital, different definitions for this concept are presented. In a general definition, social capital can be seen as an aspect of social construction that facilitates interactions of individuals within a social structure (Coleman, 1998). In this way, Coleman emphasizes the usefulness of social capital as a source of cooperation, mutual relations and social development (Alvani et al., 2006).

Social capital, like other forms of capital, is productive and makes it possible to achieve certain goals that will not be achievable in the absence of it. Indeed, in the absence of social capital, other capitals lose their effectiveness, and also it is uneven and difficult to navigate the ways of cultural and economic evolution. (Alvani et al., 2006)

Woolcock & Narayan (2000) believe that social capital has three levels:

- A) Bonding social capital
- B) Bridging social capital
- C) Linking social capital

'Bonding social capital' refers to social ties that rely on similarity and intimacy, but 'Bridging social capital' refers to the connection with external networks that rely on mutual interests instead of personal proximity and common identity. In the meantime, 'Linking social capital' specifically refers to associations of people and individuals with official authority and, in general, refers to communications between individuals and groups that occupy different positions in the structure of power. In the present discussion, that refers to the relationship between the academic institution as an actor and the city, the subject is bridging social capital, since the formation of the spatial link between these two parties without social support will definitely fail. (Fig. 1)

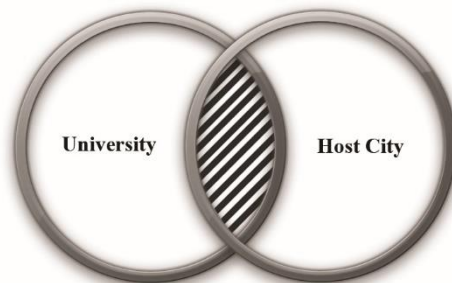


Figure 1. Bridging Social Capital

Many researchers have considered various dimensions and constituents for the concept of social capital, including the Inglehart, Bryant and Norris, Harper, Putnam and others. The present paper does not address this issue because of being away from the main debate. In fact, the purpose of the investigating of these studies was to find the constituents that are appropriate to the subject under discussion and can effectively clarify the relationship between the university and the city. Hence, in the present discussion, bridging social capital can be considered as a set of constituents of 'Trust' and 'Participation' that facilitates coordination and collaboration for mutual benefit between the university and the city and make them more effective in coordinated activities.

The existence of social capital in addition to contributing to social development and facilitating the relations between these two parties will also have an impact on economic development. The effect of social capital on economic performance is often through investment, in such a way that social capital by providing a calm and stable social environment affects the investment and the performance of economic activities [between the university and the city]. It creates a space for business and economic activities that can facilitate economic exchanges and make them less costly. (Souri, 2005)

Therefore, in the planning process, the two constituents should be studied (the amount of trust to the university and the amount of willingness to participate in this action) among the groups that take the most impact from this action. In order to know more about each of them, we define the two constituents:

- Trust: Trust is a kind of feeling that the individual has about the matter that is approved. In fact, social trust is one of the social phenomena that plays a vital role in human relationships and interactions: from the micro level (family) to the macro level (society) and even beyond (global). In general, there are four types of trust in sociology, which include interpersonal trust, institutional trust, trust in environment and generalized trust. In fact, in this study, institutional trust is discussed, because it represents the amount of trust of key shareholders to the academic institution. Trust's evaluation helps the architect to clearly

determine whether the establishment of the spatial link in the community is possible or not. Because if people do not believe in achieving mutual benefit and the effectiveness of their opinions during this project, the development action will not be accepted by them and it will fail.

• Participation: The term of "participation" in the lexical sense means engagement for specific purpose. There has been a lot of discussions about the meaning of the term of participation, but in general the main essence of it can be cited conflict, activity and influence (Nozarpour, 2001). In this study, the aim is to measure the inclination of affecting groups to formal and informal partnerships in order to better relationship between city and university, which can take place in one of the following areas:

1. Mental-Spiritual Partnership: The willingness to cooperate and any mental and intellectual support are in this category.
2. Financial Participation: Individual declares his/her willingness to mutual investment or pay a grant in the project.
3. Physical Partnership: In this type of partnership, everyone will take steps to improve the project process depending on his/her expertise and ability.
4. Instrumental Participation: In this type of partnership, the contributor offers his/her own facilities and equipment such as location, personal facilities, subordinates, etc.
5. Civic Participation: This type of partnership refers to their willingness to participate in religious, literary, artistic, cultural and recreational programs that take place in the university.

Therefore, besides the background factors mentioned above, as Buys and Bursnall (2007) also point out personal and social factors such as trust and participation which are very effective in the interaction between the university and society should also be studied. In order to do this study, the desirable and correct combination of methods and techniques with regard to time, cost and social context is required.

Conclusion

Seeking to respond to the needs of young people in recent years, higher education institutions have been expanding their spaces. In fact, the goal was quantitative spread of these spaces without regard to the needs of the university in the new era. Whereas, if a university consider that it is beyond a learning machine, then its mission in association with the city will definitely be evident in its architecture. Hence, the development plan of academic spaces should, in addition to providing quantitative needs, emphasize the need for social and economic relations with the surrounding society, since this link contribute to the effectiveness of education and it also has bilateral socio-economic profit.

In this way, if the correct level of connection is not created, the damages of this link cause a lot of problems. Although the spatial link between the university and the city appears in the form of a physical plan, it should be planned with regard to social, economic and political issues. Since the design is an organized activity, the architect should, on the one hand, recognize the mission, vision and values of the university along with the physical, social and economic structure governing it, and cite them as limiting elements in the design. On the other hand, by recognizing the physical structure of the city, along with the economic and social structure and macro policies that govern it, she/he will complete the physical planning with the aim of developing mentioned dimensions.

In this process, if the development action is not accepted by the context, the project will actually fail. Hence, by involving the key individuals and groups, the two dimensions (trust and participation) of the concept of bridging social capital are to be comprehensively evaluated. In this way, in the first step, the level of people's trust in the academic institution will determine the success rate of the project, and willingness of the people to spiritual, financial, physical, instrumental and civic participation will indicate the available amount of support to advance development goals. Admittedly, the existence of an acceptable level of trust and participation, in addition to contributing to the formation of social interactions, also provides the basis for economic development, since social capital by providing a stable environment for investment, performance, and efficiency of economic activities between universities and the city will also be effective. (Chart 1)

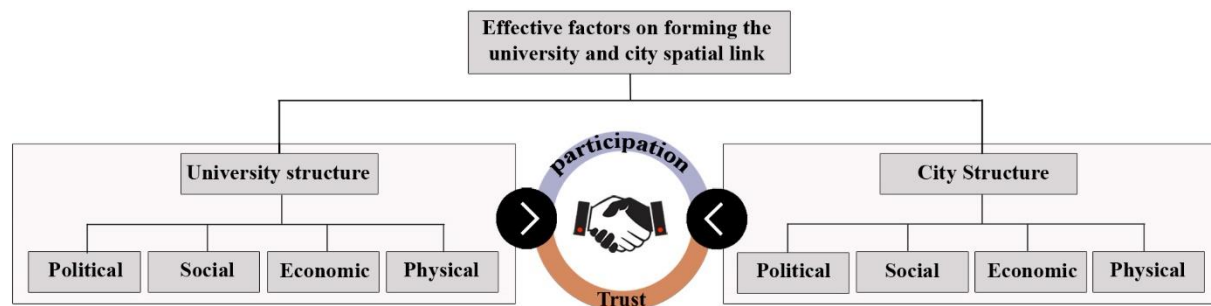


Chart 1. Effective factors on forming the correct level of university and city spatial link

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