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Evaluating the Role of Physical and Functional Factors in the Socialization of Traditional Iranian Markets Using Space Syntax Technique (Case Study: Tabriz Bazaar)*

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Abstract

Problem statement: Sociability is one of the crucial concepts in multifunctional urban spaces to establish appropriate social relations among people. One of the basic human needs is to communicate with others. Meeting social needs of a person and the occurrence of social relationships requires a defined place and space which can establish a set of social and cultural relationships among different groups of people in a particular place. It is essential to pay attention to the social dimension of space in buildings and to find the link between spatial qualities and social concepts, including socialization, in the success of these spaces. Bazaars have been among the community spaces with high social cohesion potential in urban society, so that the life of city and Bazaar have always been interconnected, and in many cases, cities gain meaning and notion by Bazaars. Today, due to the change in the structure of urban space and patterns of people's lives, the impact of people's lives and the lack of proper adaptation to the traditional physical environment, Bazaar is at the risk of becoming a museum-Bazaar place, paying no attention to the physical and functional aspects.

Research objective: The purpose of this study is to measure the level of socialization in the market, recognizing its social context and factors affecting its social quality, by analyzing the structure, coherence, market cohesion and prioritizing physical-functional aspects. Attention to the social quality of Bazaar and the restoration of social life in it requires the recognition of its social context and effective factors.

Research method: The research method in this article is descriptive-analytical and uses UCL Depth Map software and Space Syntax's Technique in order to measure the degree of Bazaar socialization, understanding its social context and factors affecting the social quality of the Bazaar, by analyzing structure, integration, Bazaar solidarity, and prioritizing physical-functional aspects.

Conclusion: The results show that the spatial values of Space Syntax in different parts are fundamentally different so that the structure and social cohesion of Bazaar have significantly been reduced and the measure of the interconnectedness of the newly constructed streets has increased. As a result, the necessity of paying attention to the changes and consequences of urban development is evident from the physical and functional aspects to enhance the Bazaar's social characteristics.

Keywords: *Socialization, Physical- Functional Factors, Space Syntax, Tabriz Grand Bazaar.*

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Introduction

Human naturally requires a strong social interaction. Humans are social beings and always tend to communicate to other beings, and exploit every opportunity to meet and interact through the local characteristics of public spaces such as streets, markets, squares and parks, and a sense of social belonging. (Cattell & Evans, 1999; Cattell & Herring, 2002; Cattell, Dines, Gesler & Curtis, 2008). People can grow when faced with unfamiliar social processes and spend part of their daily lives in the public space. This changes the space and transforms it into a place far from contradictory, leading to greater solidarity among the people. Therefore, everyday spaces for sense of community are spaces for maintaining relationships and communication that affect people's sense of peace and increase the social morale (Cattell et al., 2008). Therefore, socialization can be defined as spatial quality providing the opportunity for individuals to get rid of their problems, interact together, spend leisure time for different groups, and being present in the place (Sennett, 1974, 215). This place with good social quality, fosters social inclusion and citizenship and contributes to social cohesion. Live cities tend to have systems with more active and recognizable public spaces in the city where it is possible to meet, relocate, and interact with people. Physical space is essential to respond to social needs by providing opportunities for social experiences, and public spaces in cities can respond to these needs. However, in contemporary societies, the downward trend of audience presence in public spaces and the weakening of the social sense of place have led architectural and urban planners to examine the issues of social quality of place, the extent of user's attraction and the promotion of social belonging in public spaces (Gehl & Svarre, 2013; Carmona, De Magalhães & Edwards, 2002; Carr, Francis, Rivlin & Stone, 1992). Meanwhile, less attention has been paid to the communal-commercial spaces, so that isolation and reduced social interactions have caused problems

in the socialization of these spaces. In this research, as a case study, the Iranian market (Bazaar) was studied from a socio-architectural point of view. By studying the traditional architecture of Iran, it has witnessed a public market space with multiple socio-economic and cultural functions. With the gradual elimination of many social, cultural, religious activities and the one-sided look at markets that reflect the negative effects, superficial developments of modernism in contemporary architecture, and unpleasant developments have taken place in these spaces; and it seems that the past concept of the market, as a context for social, cultural, and even political events, has undergone physical, functional, and conceptual changes. Therefore, one can ask the research questions as to what changes have occurred in the social structure of the Bazaar. What are the physical and functional factors influencing the socialization of the Bazaar? What have changed and how have these components changed in the Bazaar?

One of the appropriate tools for measuring sociability, is spatial syntax, or spatial theory that includes a set of analytical, quantitative, and descriptive tools for analyzing spatial structures in various forms such as buildings, cities, interiors, or landscapes (Hillier & Hanson, 1984, Hillier, 2007). The technique aims to describe different aspects of relationships between the morphological structure of human-made environments and social structures and events. It is possible to give quantitative descriptions of built spaces. (Topçu & Kubat, 2007, 4) In this paper, we evaluate the Choice, Integration and Connectivity among spaces, social quality and function of the bazaar.

Background research

Bazaars as public spaces are part of the urban environment of many cities in the world (Ouria, 2019, 1) and belong to all citizens (Pirnia, 2007). Bazaars can play a variety of roles in environmental sustainability, enhancing sense of belonging and attachment, economic and social (Ashworth, 2005).

Bazaar is an important urban element in China, Italy, and Islamic countries including Turkey and Iran (Mack, 2002) and many scholars have evaluated it from various aspects. Bazaar in Indonesia and Morocco (Khairunnisa & Tjung, 2019; Geertz, 1978), Iranian Bazaar (Adelzadeh, 2016; Masoudi Nejad, 2005; Karimi, 1998; Hanachi & Yadollahi, 2011; Kalan & Oliveira, 2014; Pourjafar, Nazhad Ebrahimi & Ansari, 2013), Italian Bazaar (Mack, 2002), Romanian Bazaar, (Watts & Costina, 2004) Bazaar in India (Tumbe & Krishna Kumar, 2018; Deka, 2017), Georgian Bazaar (Khutsishvili, 2018) have been studied with different economic, cultural, historical and other perspectives.

Although Bazaar is as a socio-economic space in the world, but comprehensive social studies and evaluation of important factors influencing socialization have been less studied. In Iranian cities, the Bazaar was a place for the economic activities, in the cultural and social fields and the place for many occupations; and knowledge and trust formed the basis of marketers' activities. It was considered as the center of economic, social and cultural activities and the social component of bazaar was not separated from its economic component. Hence, these Bazaars are called commercial-social markets (Masoudi Nejad, 2005, 187; Hanachi & Yadollahi, 2011, 124). Bazaar, as an important institution in society, has been familiar with other parts of traditional Iranian society and has been raised from human needs and created and sustained to meet the needs of the people; and hence, it has been called the heart of the economy of Iranian cities (Rajabi, 2006, 17). Thus, Bazaar demands a space in which all human economic, cultural, social and spiritual needs are met and the experience of several centuries of Bazaar shows that space has the characteristic to meet human needs. As can be seen in Table 1, important factors in socialization of Bazaar are briefly outlined.

Studying Bazaar at the spatial as well as the socio-economic level is a key issue for understanding how the social, economic and spatial structure of the

city interacts with each other during the traditional era (Masodi Nejad, 2005). The multiplicity of roles has provided many subjects for architecture, anthropology, economics, sociology, history and politics scholars who have either directly analyzed or used Bazaar analysis as a complement to their study (Arianfar, 2007, 11).

Bahar (2001) in "Socio-cultural changes and institutional development in Iran, case study of Bazaar" has investigated the process of globalization and its impact on Tehran Bazaar, Marsusi & Khani (2011) in "The Study of Economic Function of Tabriz Bazaar and its Surrounding Areas", and Rajabi (2006) in "Bazaar morphology" book, has done Bazaar evaluation in various dimensions and its history. Esmaeeli Sangari & Omrani (2008) in "History and architecture of Tabriz bazaar", has analysed history and evolution of Bazaar and finally the history of Bazaar in Tabriz, and Hanachi & Yadollahi (2011) in "changes of Tabriz historical Bazaar", have examined the role of Bazaar in political, social change and the need for attention. Bazaar as a valuable historical legacy, Parchami & Mohammadi (2015) "Changes in the economic structure of the Bazaar and factors affecting it (Case study of Tabriz Bazaar)", analyse the economic changes in Bazaar through modernization (including technology, media and means of transportation). Also, Pourjafar et al. (2013) in "Effective factors in structural development of Iranian historical bazaars case (Tabriz Bazaar)" has examined the internal and external factors influencing Bazaar structure, and Abbasi, Habib & Mokhtabad (2015) in "the analysis of environmental factors affecting the meaning component in traditional Iranian Bazaar" has analysed influencing induction of sense of place, collective memory, sense of belonging and evaluation of how traditional spaces respond to human needs to create meaning components in the environment and Hosseinzade Dalir & Ashena (2011) in "Visual Order in Iranian Traditional Urban Planning Case Study: Tabriz Bazaar" was to

Table 1. Important Factors in Bazaar Socialization. Source: Authors.

		The role of Bazaar in the city
Human needs	Material Needs	<ul style="list-style-type: none"> - The abundance and variety of goods to satisfy different styles of society - Trading and creating economic prosperity in the city and increasing people's purchasing power - Meeting the needs of the people (urban and rural) for essential commodities and supplying them with necessities <ul style="list-style-type: none"> - Trading in both internal and external dimensions - Appropriate economic Efficiency due to import and export of the goods - Bazaar, the place for the offer of produced goods by the villagers and the exchange of two-sided goods and improvement of the economic conditions of the people
	Social Needs	<ul style="list-style-type: none"> - Meeting and exchanging information in Bazaar <ul style="list-style-type: none"> - Interaction among marketers - social spaces for interaction and communication among people <ul style="list-style-type: none"> - Partnering with marketers to solve people's problems - Helping poor people by marketers - Cooperation and participation of people in Bazaar for restoration of Bazaar <ul style="list-style-type: none"> - Leisure in the Bazaar - The local Bazaar for older people to interact together <ul style="list-style-type: none"> - Performing various events in Bazaar
	Cultural Needs	<ul style="list-style-type: none"> - Performing religious ceremonies and observance of national ceremonies in Bazaar <ul style="list-style-type: none"> - Bazaar , the place for cultural activities - Educational and religious centers and Bazaar with specific sanctity for individuals <ul style="list-style-type: none"> - To attract people from different subcultures and create a general culture - Low crime and social anomalies due to specific culture of behavior in the Bazaar - A culture of helping and respecting to neighboring rights and promoting it in Bazaar
	Spiritual needs	<ul style="list-style-type: none"> - Holding religious ceremonies and closing Bazaar at specific religious times and honoring people's holiness <ul style="list-style-type: none"> - To set up congregational prayer in mosques inside Bazaar <ul style="list-style-type: none"> - Numerous sanctuaries in Bazaar - Central mosques to engage marketers to solve problems for people and other marketers - Credibility and trust among marketers due to adherence to religious principles in Bazaar
urban Economy		<ul style="list-style-type: none"> - Strengthening the city's economic base on increasing trade and exchange of goods with neighboring countries and Europe <ul style="list-style-type: none"> - Increased tourism and thus impact on the socio-economic structure of the city <ul style="list-style-type: none"> - Strengthening economic interaction with surrounding cities - Bazaar , The city's economic element and the economic pattern split based on business principles from Bazaar to city <ul style="list-style-type: none"> - Diverse functions in Bazaar and a central role in society - The heartbeat market of economy in Iranian cities
Physical space		<ul style="list-style-type: none"> -Space according to human needs - Space has special features to meet a variety of human needs <ul style="list-style-type: none"> - Spatial segmentation tailored to human needs - Dividing space into open and closed and semi-open spaces and creating spaces for people to be present

understand the concept of visual quality and order in traditional Tabriz Bazaar, Mohammadzadeh & Fallahnejad (2009) in “Development Compatibility of Pedestrian Spaces of Bazaar and Tarbiat Pedestrian Malls of Tabriz City” the comparative study of new and old commercial context and the need to pay attention to planning and design to reduce conflicts, commercial, social and recreational functions of traditional context, Shahsavarani (2014) in “reviewing the role and position of Tabriz ancient city and Bazaar in written sources” analysed a review of Tabriz Bazaar from a historical perspective, Zangi Abadi, Alizade & Rajabnia (2012) in “Strategic planning to organize

traditional Iranian Bazaar (Tabriz Grand Bazaar)”, offered appropriate strategies based on Bazaar strengths and weaknesses. Nevertheless, the social studies in the public space of Bazaar in the midst of pale scientific studies and studies of the role of Bazaar due to the perceived shortages of study resources are important.

Theoretical framework

Urban space is incomplete and incorrect regardless of its social processes. Many scholars attach more importance to social space than physical space. Social space is a social product and every society and its style of production produces its own space.

The centrality of everyday social attitudes and actions in space is seen in relation to the importance of spatial aspects of social organization of space. Therefore, space is at the heart of the continuity of historical and social processes, and involves conflict over meanings and values. Continuous relationships between elements through shape, color, texture and pattern of continuity form the perception of organizational elements in space and prevent any change and disruption in space (Lefebvre, 1991, 116). Then, space is essentially an important “objective” feature of social life; it is what causes social life to “come true” in the form of human experience (Lechner, 1991, 200).

Human nature requires that individuals need strong social interaction with other beings, and take advantage of every opportunity to meet and interact, through local features of public spaces such as streets, markets, squares and parks, and a sense of community. The presence of sociable public spaces is an important complement to the socialization of individuals. The socialization of public spaces promotes the spirit of solidarity and the individual growth of the people of the city regardless of race, age, socio-economic status, gender and public space. (Efroymsen, Thanh Ha & Thu Ha, 2009, 16; Kurniawati, 2012, 477). The public space is a component of the physical-spatial organization that shapes the city for social interaction. Complementary public space is an event that occurs and explains the activity, behavior of residents and social users of the public space. Physical public space is one of the many conditions for the formation of a public social space. The social character of the place (Selle, 2001, 29-30) comes from its functionality and elegance. The social space focuses primarily on the user and supervisor who are active in the city. As the social space, the space for movement and exposure to activities related to public space and user behavior is determined by a sign, symbol, etc (Laepfle, 1992) to measure the process of socialization of space. Generally, there have been

many studies that are presented in Table 2. These factors are often expressed in both physical and functional dimensions. The functional component occurs as subset of the physical component and is an important element in explaining the semantic pattern of place and the semantic component forms the basis of many functions, especially social function in place. Functions (and in general activity change) change the social meaning of the place. Therefore, a detailed qualitative study of the physical and functional components is important in understanding the degree of socialization of the place (See Table 2).

Physical factor is one of the determinants of socialization of public space. Considering some of the physical factors of public space is effective and type of social interactions in space and the application of these factors increase the rate of social interactions (Mardomi & Ghamari, 2011). Physical features of architecture include color, texture, form, light, materials, scale, structure, readability and invitations to entrances, ornaments that are based on human needs and type of activity in space (Salehi Nia & Memarian, 2012; Motalebi, 2006). Many scholars have emphasized on physical components as effective social interactions as well as the spatial organization with certain characteristics (Pasalar, 2003). Since space has social logic, understanding the quality of adapting space is important because social patterns have conceptual burden in the spatial systems (Hillier & Hanson, 1984) that improve social interactions and by properly organizing and arranging the physical space, it provides the suitable interactive space with adequate function (Archea, 1999). These features, by creating meanings and activities appropriate to the changing characteristics of the physical environment (Falihat, 2006, 63), create centers of activity in different parts of space; and the physical space, befitting facilities, has an organizational system, specific patterns of activity reinforce and facilitates the formation and establishment of social relationships in the activity environment. Physical features such as geometry

Table 2. Important Factors in Socialization from theorists' Viewpoint. Source: Authors.

Theorists	Important factors in the socialization of public spaces from theorists' viewpoint
Whyte (1998)	Emphasizing the role of physical factors as a central element of the social life of the residents
Norberg-Schulz (1980, as cited in Thwaites, 2001, 251)	Emphasis on understanding the relationship between space and human and understanding of form-making knowledge
Daneshpour & Charkhchian (2009) - Montello (2007) - Valins (1993) - Hunter (2010) - Rugel et al. (2019)	- Physical, visual, social access, convenience and ease of access - Accessibility (visual access to different places) - Physical access (public access) - Routing (an interpretation of Shape characteristics, motion systems and environmental communications) - Access to natural space (very important for strengthening social relations)
Gehl (1987); Baba & Austin (1989); Carr et al. (1992) Zimring et al. (2005), Ulrich & Barach (2006)	Comfort and security
Giles-Corti & Donovan (2002)	Emphasis on physical elements - increasing access to social activities and interaction between the individual and the physical-social environment
Peters & Haan (2010)	Emphasizing the coherence of social reality in a multicultural society
Carmona et al. (2010)	- Duration of activity and attention to the environment (sun, wind), physical environment, psychological conditions (personality of space) - Physical design strategies based on sense of comfort and management..
Cooper Marcus & Francis (1998)	Aesthetics, art, and public perception (important aspects of public space quality that are not well understood. It discusses how people perceive space and how to use space or not to use it)
Cattell et al. (2008)	Facilities to increase cohesion (lack of it reduces the quality of people's relationships) (such as living space, playground and communal spaces)
Dempsey (2009) Torrington & Tregenza (2007) Geboy (2007)	Natural Features (Air and Light Quality)
Rishbeth (2017)	- Diversification in facilities and activities - Furniture (furniture designed organically)
Shaftoe (2008)	Celebrations-security, economic factors
Pasaogullari & Doratli (2004)	Accessibility , physical and functional structures
Blomkvist. et al. (2005)	Noise
Montello (2007)	- Spatial planning (the spatial design is directly related to the three physical features of visual differentiation, visual accessibility and complexity of the design) - People's ability to identify place in order to navigate a given cognitive and behavioral environment
-Maas et al. (2009) -Carpiano & Hystad (2011) -Hadson (2007)	- Facilitate social contact - Social communication, social capital (for example, potential health-promoting resources of the community linked to its social networks), social support (both qualitatively and quantitatively, with increasing social cohesion and psychological improvement, it has a more indirect effect on qualitative dimension) - Social Solidarity

and dimensions of space, relationships and spatial circulation, security, environmental comfort, accessibility, spatial order, form, coordination of elements are characteristics of activity spaces that create experiences, perceptions and symbolic

meanings, people's perceptions and affect the people (Karbalaei Hosseini Ghiyasvand & Soheili, 2019, 364). Functional components, by emphasizing the social-behavioral nature, allow for the establishment of social relationships and interactions (Barker,

1968). Understanding the functional elements, by affecting the extent and the quality of people's presence in space and their interaction (Daneshpour & Charkhchyan, 2007, 23), causes various social events in space that lead to the relationship between people and their utility. Thus, the attractiveness of space increases and during these events, it provides the appropriate space for electrification of interactions among people and attracting them to engage in dialogue (Whyte, 1980). Also, functional factors facilitate functional relationships of space, readability and spatial transparency, better understanding by users, comfort communication and interaction among people and improve these relationships in space (Heidari & Zaeimi, 2017, 63). These features include a variety of activities, readability and facilities.

Research method

The research method in this study is descriptive - analytical that firstly, the information is gathered using library resources and scientific articles. Then, the social structure of Bazaar was evaluated using a space syntax technique (and with DepthMap software). Spatial configuration and the way urban spaces are combined are the main contributors to the distribution of socio-economic activities as well as city-wide movement distribution patterns (Lotfi & Bakhtiari, 2014). Spatial configuration and the type of communication between urban spaces form the pattern of movement in the city and enhance the structure of the urban space and by understanding this relationship one can quantitatively identify the pattern of movement in the city and use it to understand the social structure (Hillier, 2007, 8). In this technique, the relationship between spaces is graphically represented in a building or city, and quantitative phenomena are quantitatively evaluated by mathematical analysis (ibid., 20). Therefore, graph analysis is performed by preparing axial maps and importing them into the Depthmap. After gathering quantitative data and calculating the degree of Integration, Connectivity

and Choice, these parameters are analyzed. In this article, the main factors involved in the degree of socialization and the strengths and weaknesses of Bazaar in relation to these factors are evaluated, calculating the Integration, connectivity and choice, field studies, interviewing people in Bazaar (The results of the statistical analysis are indexed in an article titled Assessment of Socialization in Tabriz Market.). The case study is the Tabriz Bazaar, one of the most complete examples of traditional Iranian Bazaars, which has historically maintained its social and cultural identity (UNESCO, 2016). Unlike other Iranian Bazaars, this one is not linear, but rather expansive in four directions and forms a communication network consisting of a number of parallel and intersecting orders. The two main Rasteh¹ are the North-South Rasteh (old and new Rasteh), which are almost parallel to each other and a number of Rastehes is perpendicular to these Rastehes. Rastehes, Sārāies² and Timchehes³ in Bazaar, act as streets and main and secondary bypasses, complement each other. Figure 1 shows the position of Tabriz Bazaar along with its important Rastehes.

Analysis

The plan of Bazaar is prepared by Depth MAP firstly, and its communication path network such as main routes (Rasteh), corridors (Dallan) and paths connected to the surrounding streets are identified. Then, the degree of overlap, control, depth and spatial connectivity was under evaluation via Depth MAP. The red lines represent the highest overlap and spatial connectivity and the most common choice of people for passing through. Figure 2 shows the analyses by Depth MAP, where the red lines represent the highest value and the blue lines represent the minimum value.

According to the figures, the highest overlap is seen through the street leading to Bazaar, the main Rasteh of the new Bazaar and the path connected to the three Sārāies which ultimately terminates at a newly constructed street (Pahlavi St.). The

highest overlap is observable through Ghiz-Bastani and Panbe-Foroushan Rastehes, and ultimately, the shoemakers' Rasteh shows the highest integration. However, the main Rasteh of old bazaar which is parallel to the new bazaar, forms one of the main

components of the whole bazaar and has a longer history than the new Rasteh exhibits lower overlap among others, This has led to the provision of more expensive and high-quality goods through Rastehes and malls with a high degree of overlap,



Fig. 1. Bazaar of Tabriz and surrounding area. Source: Archive of technical office of Tabriz Cultural Heritage Organization



Fig. 2. Segment Map: (a) Integration Map of Bazaar of Tabriz, (b) Connectivity Map of Bazaar of Tabriz, (c) Choice Map of Bazaar of Tabriz. Source: Authors.

and also, led to the gap in Bazaar and goods, the stagnation and frustration of other parts of Bazaar as a whole and the decrease in the number of people moving through these Rastehes. According to Table 3, the most significant number of choices

exists on Daraee Street and the entrance of the Sārāy, which also indicates the importance of the street for people to pass and enter Bazaar complex. According to the results shown, the highest degree of Integration and Connectivity occurs in the

Table 3. Segment Map: Choice, connectivity, Mean depth, Integration measurement of Bazaar of Tabriz. Source: Authors.

Segment Map	Measurement	Space Title	Function	Segment Map	Measurement	Space Title	Function
Integration	193.529 190.848	Daraie Street	Business-pass edge Connectivity	Integration	196.532	The entrance path from the street towards Sārā Seyed Hossein Ghadim, Seyed Hossein Meyani and the new and finally Mir Abolhassan	Sārā: Sitting and green space and commercial space on the edge
Choice	189.081 50742 48332.6 44039			6			
Integration	200.662 197.009	New Rasteh Bazaar	Commercial spaces Connectivity	Integration	179.009	Old Rasteh Bazaar	Commercial spaces
Choice	176.636 47806 47646.6 47482			6			
Integration	192.842 191.162 186	Gizbasdi Bazaar	Commercial spaces	Integration	185.094	Kafshdoozan Bazaar (shoe makers) to Najjārlār (Carpenters) Bazaar	Commercial spaces (shoes, boots ...)
Integration	192.842 191.162 186	Bazaar-e panbechi (bazaar cotton) to (Gizbasdi Bazaar)	Commercial spaces (cotton, ...)	Connectivity	6	Sadeghieh bazaar	Wool, silk textile, oil, carpet repair, carpet storage, rug and carpet bazaar
Connectivity	6	Mirzā-Shafi Timcheh	Carpet bazaar	Connectivity	6	Iki Gāpilār Sārā (two gates (doors))	Sārā: Sitting and green space and commercial space on the edge
Connectivity	6 5	Mirzā-Abulhasan Sārā	Sārā: Sitting and green space and commercial space on the edge	Connectivity	5	Muzaffariyya Timcheh	Carpet bazaar
Connectivity	6	Gorjilar Sarāyi and Fatali-Beyg Timcheh	Sārā: Sitting and green space and commercial space on the edge	Connectivity	6	Uch Timchalar (Three Timchas) of Haj Sheikh	Clothes Bazaar
Connectivity	6 5	Amir Sārā	Sārā: Sitting and green space and commercial space on the edge 45816	Choice	48599 43762	Sārāy haj hossein Qadim	Sārā: Sitting and green space and commercial space on the edge
Connectivity	6	Shazde Bozorg Sārā	Sārā: Sitting and green space and commercial space on the edge				

southern part of the old and new orders and the connection point of the two Rastehes. According to [figure 3](#), it can be deduced that the gradual change in Bazaar environment has eliminated the importance of core axes and some sort of differentiation in Bazaar function ([Fig. 3](#)).

To evaluate the main causes of socialization and its main causes of decline in the northern parts of Tabriz Bazaar, marketers and people's perspective were evaluated using field measurement method. Due to the strong social role of Bazaar in the city, its physical and functional structure is very influential in creating a social sense. Due to the quality of the design, the physical factors in creating the appropriate quality of spaces, the combination of filled and empty spaces (open and closed and semi-open), the composition and variety of uses, the improvement of activity meanings, user satisfaction, the use of geometry commensurate with the space requirement and aligning the characteristics of the space with cultural-indigenous values and creating a connection with the city, creates good social interaction and relationships in Bazaar. By aligning the characteristics of the space with indigenous cultural values and integrating it with the city, it creates an appropriate social interaction and Bazaar relations. But the functional factors include establishing a proper relationship with the cultural, social and religious centers of Bazaar in the economic structure and creating a multifunctional space, utilizing the corporate system, creating an active space for performing ceremonies and holding various rituals in Bazaar, allowing people and marketers to attend there and providing a good basis for social activities. Proper communication of people with Bazaar through spatial pleasant hierarchy with Iranian cities is the basis for people's participation in organizing urban space and holding many important urban events. Thus, in defining the index, two important physical and functional factors are referred to in [Table 4](#) with reference to the theoretical foundations and data obtained from the spatial syntax technique.

• Physical factors

- **Accessibility and mobility:** As seen in [figure 3](#), Tabriz Bazaar has the main axes of movement, that communication ways link these Bazaars to the outer spaces and urban gates. Therefore, accessibility and consequently Bazaar entrances have an important physical role in socialization that today, due to urban change, many of these entrances have been removed, and hence access paths have been reduced. Decrease in Bazaar permeability is one of the most important causes of declining socialization in the northern part of Bazaar, which by reducing the amount of traffic, freight and pedestrian traffic, there is a link between the market and the outer wall through the Darai Street.

- **Spatial proportion:** In Bazaar, in addition to the entrances, Sārāis (along Bazaar entrances), adheres to the spatial hierarchy of land uses and enhances access to various spaces, including Rasteh and Timchehes, etc. And the readability of space increases. In this case, spatial proportion increases spatial Integration.

- **Dimensions and geometries:** Dimensions and sizes of spaces, coordination of small dimensions with large space elements, placement of pauses and stoppages with appropriate proportion in Rasteh and nodes created in chārsugis⁴ are the most important physical factors in increasing the extent of people's presence in space. Providing a suitable space for movement and interaction among people, the width of Rasteh and their height provides a suitable spatial segmentation between passage and commercial spaces. The number of floors in Sārāies and Timchehes increases the users and creates the applicable space for different functions in Bazaar.

- **Visual impression:** Visual attraction of space is effective in attracting the people. As we have seen, most spatial communication and choice occurs at Sārāy due to the particular spatial attraction. Sārāies provide a space for social interaction through accessibility by creating a suitable space for interaction and visual communication among users.

Table 4. Various definitions and indicators in Bazaar. Source: Authors.

Important definitions and indicators in Bazaar		Important sub-indexes in Bazaar	
Public and Social Space - Production and Trade		Bazaar growth from the inside to out according to the surrounding spaces	
Bazaar ,spiritual element in urban context		Cultural and social values and its reflection in the city	
A market consisting of hierarchical spaces		To meet the private needs of Bazaar according to different spatial layers	
Different physical elements in Bazaar		Masjid (mosques), Hammam (bathhouse), Timcheh , Sārāy , Qaysariye , Ghahveh Khaneh(coffee houses)	
Market segmentation according to climatic characteristics		Different experiences in construction and architecture, functional and spiritual similarities	
Segmentation of Bazaar space elements	Economic Elements	Sārāy, Dokkan (shop), Tim, Timcheh, Qaysariye, chārsugis ,	
	Religious, social and cultural elements	Madrasah (schools), Masjid (mosques), Hammam (bathhouse), Imamzadeh (Shrine ⁵), Saghakhaneh, Zoorkhaneh ⁶ (traditional gyms), hosseinieh (Takieh)	
	Communication and Security Elements	Square, Passage, main or subsidiary (Dalan), Port	
Bazaar segmentation into three main approaches	The economic approach	- Bazaar , the central place in urban economy - Bazaar , trade and distribution center of goods and	
	The socio-political approach	The importance of Bazaar in political developments (revolutions) and the center of rallies	
	The architectural approach	- various functions in the form of Bazaar with more variety - Decorations as Architectural Art Items - Classification of arches, dimensions and proportions in Bazaar and material factor including light, color and texture, etc.	
Bazaar segmentation into three major components	The physical component	- Proportionality in spatial divisions - Large and micro scale in access to Bazaar - Geometry, various dimensions of spaces and materials - Color, light and physical conditions in the market	
	The functional component	- Multifunctional space with diverse spatial and form structure - Proportionality between performance and spatial segmentation - Adaptation of functional-spatial characteristics to human needs and characteristics - Space-appropriate hierarchy -Creating the right context for participation -Using the trade union system and creating a dynamic and active environment	
	The semantic component	- Creating a space for thought and meditation - Attention to cultural and identity characteristics - Using native criteria and factors in preserving native values - Aligning religious and social spaces and creating a space for people to participate, trust -Performing various religious and social events inside Bazaar	

- **Pause and move spaces:** The highest amount of Integration occurs in chārsugis, Sārāy, and Rastehes indicating the importance of pausing and moving spaces. Spatial connectivity is also higher in these spaces (Dallan, semi-open space, with strong interconnections, Sārā, open space, with strong connectivity and Timcheh, closed space, with social-business space with high choice).

• **Functional factors**

- **Permeability:** The ability to access a place increases the choice of people to attend there. In fact, the permeability level makes the environment

to be a response to the users’ needs. Since space has two private and public properties, these two capabilities need to be strengthened to make suitable space because they do not work alone and complement each other. Due to the permeable spaces, by increasing the permeability of the exterior walls, different parts can be interconnected. Hence, in Bazaar, each element like Sārāy or Timcheh increase the integration of the spaces, in combination with other components of Bazaar, in addition to having a functional role. However, in Tabriz Bazaar, after urban development, many of

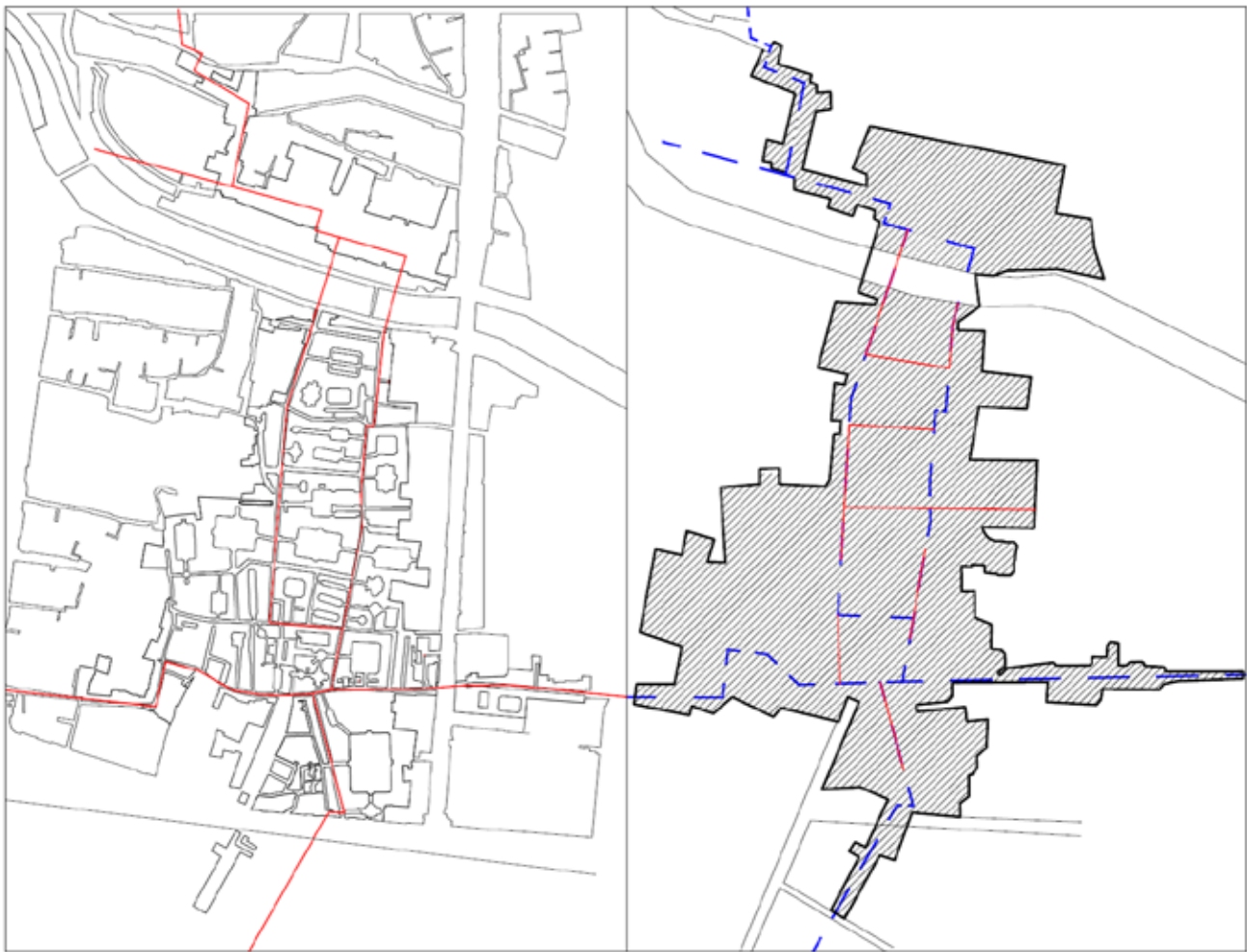


Fig. 3. Divisions of the Bazaar of Tabriz into three parts of the south, north and central according to functional and physical changes. Source: Authors.

these paths have been lost. These openings were used as Bazaar routes for nearby and intermediate crossings to transport people from the streets and passages into Bazaar. With the reduction of these routes, Bazaar's breathing decreased and this reduced the number of people entering the Bazaar.

- **Variety of activities:** In the past, Rastehes and Timchehes were assigned a specific activity, depending on the needs of the people these days, the last activity declines its importance due to the new needs and old structure should carry new activity. This has consequently caused Bazaar activity to decline, and to reduce socialization, due to changing uses and not replacing compatible ones in some parts of Bazaar.

- **Integrating cultural-social-commercial functioning:** Bazaar is a living organism with an organic form and consists of spaces filled with a good mix of

pauses and movement in two transverse and height dimensions that provides functional and physical flexibility. In social spaces such as Timcheh, chārsugis, spatial openness without limitation in height makes it attractive and ultimately flexible for cultural and social integration functions. The elongated shape of Bazaar extends the access path to different spaces. Given the high potential of Bazaar, it can be accommodated in low socializable spaces by creating a function-based moving system and transferring diverse functions along major routes, responding to new people's needs and responding to the loneliness of northern Bazaar. In this case, integration, connectivity and spatial choice increase.

- **Facilities:** The availability of facilities in Bazaar has a direct impact on its socialization. Lack of Bazaar opportunities is one of the reasons for

limiting interactions between people. Facilities such as service, supermarket and furniture for sitting and etc are the main causes of comfort in many areas of Bazaar. Although there are social spaces in Tabriz Bazaar, such as mosques, schools, Zurkhanehs, baths and cafés, but due to the large size of Bazaar and sometimes the changing function of many of these spaces, their shortage in general and sometimes in some Bazaar segments are felt.

- **Readability:** Spaces such as chārsugis and Sārā in Tabriz Bazaar have maximum choice and relevance due to their readability and transparency. The main Bazaar Rastehes (Bazaar Rasteh) also have a better readability for routing, moving and accessing because of their greater width than the other segments, this quality being enhanced by better understanding of these spaces. Finally, to conclude about the factors above,

Table 5. Functional and Physical Potential and Problems Factors in Bazaar. Source: Authors.

Concepts Factors	The Functional physical Potential in the Bazaar	Functional Physical Problems in the Bazaar	
Variety of uses	<ul style="list-style-type: none"> -Having different and varied uses together -Locating relevant user accounts in Rasteh - Establishment of service spaces, including warehouse and shop, and resting place together 	<ul style="list-style-type: none"> - Loss of coordination of placing related applications together - The marginalization of service and storage spaces and so on their placement in the northern part of the bazaar - Separation of users with a large audience and their placement on the margins and edges of the south and the differentiation of various uses of each other. 	
Integration of Cultural-Social-Commercial	<ul style="list-style-type: none"> - Placing the activities of the Sārā, Rasteh, and Timcheh together with several cultural and social activities - placing mosques, schools, baths, sports club, watering place with commercial, service, social and cultural features in the vicinity - Overcoming the needs of the audience in the bazaar for buying, worship, recreation and so on.) 	<p>The loss of functional correlation of spaces due to the separation of functions in each of the spaces and the loss of social cohesion in them</p> <ul style="list-style-type: none"> - Destruction and weakening of spaces such as sport clubs, bath home, water places and the low boom of spaces such as school , coffee house due to the lack of facilities in accordance with the needs of the people (It is worth mentioning that a sport club and bath home in the northern part of bazaar and mosque-school located in the middle of the bazaar.) - Failure to meet the social needs of the people in the bazaar and the functionalization of the functional bazaar into space with a performance. 	
Functional Factors	Readability	<ul style="list-style-type: none"> -The proper circulation of the space at the same time to attract people - Long and parallel orders and spatial relationships through intermediate Rastehes - The existence of spaces with a variety of spatial quality and creating space attraction to move in space 	<ul style="list-style-type: none"> -The change in the market entrance of the bazaar ultimately changes and weakens the appropriate circulation for people - Conversion of many paths and lack of coordination with the former drive axis - Reducing Spatial quality for walking in the interior of the bazaar.
	Adaptability	<ul style="list-style-type: none"> coordinating and adopting different functions with various physical characteristics - Adapting space of the bazaar to the needs of the people and responding to the various aspects of their needs. 	<ul style="list-style-type: none"> - the loss of many functions and the lack of response to the body of the market compared to many new functions. - Lack of bazaar response to the social needs of the people and reducing the presence of people in the bazaar.
	Facilities and Services	<ul style="list-style-type: none"> -The abundance of goods and its variety to provide a variety of people - The existence and coordination of services due to the availability of suitable spaces. 	<ul style="list-style-type: none"> - Losing many manufacturing jobs in the market and disturbing the distribution of the margin bazaar and pushing luxury goods to the south - The lack of suitable transportation facilities for the commodity in the market and the rushing of the southern and eastern margins adjacent to the bazaar and the thrift of the edges and northern and middle parts of the bazaar
	Flexibility	Spatial circulation and flexible body to accommodate various functions in the bazaar	Due to the loss of traditional functions and the lack of flexibility of new functions with bazaar
Social Function	<ul style="list-style-type: none"> -Bazaar, places with Dominant Social function, with being such as Sārā and Timcheh, mosques and coffee houses - The transmission and dissemination of political and cultural news and the creation of social interactions in the bazaar due to the relationship between shoppers and people. 	<ul style="list-style-type: none"> -Improving the social function of the northern sections due to the low economic factor in these parts - Performing religious ceremonies in southern Timcheh and not using the northern space potential of the bazaar 	

Rest of table 5.

Concepts Factors	The Functional physical Potential in the Bazaar	Functional Physical Problems in the Bazaar	
Access and Move	<ul style="list-style-type: none"> -The process of fluid flow in the longitudinal and transverse range of the bazaar due to the existence of parallel Rastehes and related rules - Separation of bazaar space into open, closed and semi-open spaces to gain access to different parts 	<ul style="list-style-type: none"> -Stopping the process of fluid moving and separating the bazaar into two overwhelming areas along the South-North bazaar - Inappropriate use of communal and movable spaces in northern parts of the bazaar, such as the north Chaharsuge and Rasteh 	
Openness and Visual Appeal	<ul style="list-style-type: none"> -Open door edges of the market with defined inputs to attract people - Creating spaces with different dimensions and sizes and creating spatial transparency in the pathways to attract people 	<ul style="list-style-type: none"> -making streets and the disappearance of specific entrances on the edge of the bazaar - Creation of empty malls in the southern part of the business due to lack of attractiveness for people 	
Physical Factors	Extension in Width and Height	Proportional proportions of Rastehes as main dynamic ways	Physical proportions in contradiction with the commercial platform of bazaar due to the interference in the division of existing chambers in the Rastehes
	Complexity and Breadth	<ul style="list-style-type: none"> - Live and dynamic urban bazaar with different spaces and continuous and structured set - Spatial diversity and extent to create a space for the presence of people. - The two-way relationship between the city and bazaar due to the centrality of the market and its relationship with paths urban. 	<ul style="list-style-type: none"> bazaar fragmentation due to urban development and the interruption of live communication arteries within the bazaar - Lack of balance between the breadth and spatial diversity of bazaar and the presence of people in the market - The development of the city outside of the market and city communication market and the division of the bazaar into three parts booming, middle and low boom.
	Space hierarchy	<ul style="list-style-type: none"> - The beginning and end of the bazaar movement path through the commercial-cultural- social process along with the required space. - Indicator inputs along with various open, semi-opening and closed spaces (Sārā, harsuge, Rasteh) and guiding the movement paths for people to enter the bazaar 	<ul style="list-style-type: none"> - Redirection of movement and interruption of this path due to the loss of some entrance and disturbing output balances on the northern and southern edges - changing the Sārā to the mall and the disappearance of respiratory ways in these areas.

the amount of each factor can be measured and evaluated according to marketers and people in Bazaar, considering the importance of each element and the research done, Table 5 presents the physical-functional factors of Tabriz Bazaar in the form of potentials, problems, and suggestions which can be a good guide in presenting appropriate strategies and principles to increase socialization in Bazaar space.

Conclusion

According to the investigations on socialization factors by syntax software and field study, it can be objectively concluded that the impact of the presence of people on land uses is clear to see because the observations and their adaptation to the syntax theory indicate that the routes, Sārās and spaces with high integration have better spatial performance and

more tangible services by the needs of customers. As one moves away from these spaces, the quality of goods and services is reduced, so that the parts with lower integration are dedicated to repairing services and scattered land uses. This shows the effects of modernization on the integrated body of the bazaar, which has separated the functions and land uses and split the coherent set of bazaar into spaces of high, moderate and low density with different land uses. The functional classification of Bazaar in the past suggest that it was a combination of productive land uses and functions, services, supply of goods and repair facilities, while the productive functions of bazaar have entirely disappeared due to changes and modernization of the traditional society and it continues working by providing the goods manufactured in other locations. Repair services are moved to the less crowded, northern parts of the

bazaar, being decayed gradually. But in the areas where there are more integrated, there are more prosperous activities and services with top selling products. The imbalance in the functional distribution of the bazaar demonstrates that the bazaar, which was characterized by multiple socio-economic functions with a variety of guilds over history, has turned to a market merely for supply of goods; so that just some parts of bazaar have a thriving economy, and such economic gaps have split the bazaar into different parts, diminished its architecture, circulation, dynamics and spatial attractiveness, depreciated the powerful socio-economic element of the city, decreased its customers gradually and turned it to an economically depressed museum. Increasing public participation in the Bazaar through various activities, including cultural festivals and religious ceremonies, using open spaces (Sārāies) by creating a variety of elements, facilities and facilities for people to attend; providing opportunities for 24/7 bazaar use by creating leisure and service spaces; decentralization of activity in a given Rasteh; using bazaar's historical-physical potential to attract users; using government institutions, and universities for education and culture, creating workshops and offering different products in different spaces, all can provide suggested principles and strategies for future studies in the field of bazaar socialization

Endnotes

1. The Rasteh that is the fundamental element of a bazaar: it consists of a double row of shops aligned along an often roofed linear path.
2. The Sārās (or khāns) that are large complexes with a spacious central courtyard surrounded by one or two rows of rooms where goods could be stored and people lodged.
3. Timcheh means small team or small caravansary, but in the contemporary period, is called small covered home or caravansary.
4. The chārsugis that are the vaulted intersection of two perpendicular rastas.
5. Shrines: Religious places for Islamic rituals
6. Zoorkhaneh: A place for performing traditional sports. The place for Iran's Herculean sports known as Bāstāni or ancient sports

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