

A FRAMEWORK FOR INVESTIGATING URBAN QUALITIES IN EMERGING KNOWLEDGE ECONOMIES: THE CASE OF DOHA.

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Abstract

Over the last decade Qatar's capital city Doha has been undergoing a new period of urbanisation that has created a new perception of the city as an emerging urban centre in the Gulf region. It has witnessed rapid urban growth driven by economic diversification strategies that have liberalised its markets. At the same time however the general urban consolidation has not kept pace and the liveability of many areas has decreased in quality despite the transformation of the city into a global hub because of large-scale projects. This paper aims to introduce a framework that can be utilized to analyse the complex interdependencies between Doha's recent economic transformation and the changing structure of its urban environment. It is designed to deliver insights into the various factors that produce urban space and their individual effects on urban qualities, taking as its basis Henri Lefebvre's triad of space production. The analyses resulting from the application of this framework have the potential to contribute to a comprehensive understanding of the needs of a thriving knowledge economy and the emerging urban environment that accommodates it.

Keywords

Knowledge economies; spatial development; built environment; urban qualities; Doha; emerging city.

Introduction

In recent years, , the on-going expansion of global networks has led to the emergence of new cities as contenders in the competition to establish international service hubs. Their main characteristic is the immense speed of their urban growth borne up by deregulation policies designed to attract investors (Stren, 2008, p. 57) While such rapid growth is necessary for becoming a viable market within global networks, many aspects of urban consolidation have been neglected because of extensive deregulations regarding urban developments. The resulting lack of public services and amenities has led to a gradual deterioration in urban qualities, which is reflected in traffic problems and fragmented urban structures. This in turn hinders qualified workforce from investing their lives for the long-term in such cities, causing a high employee turnover. Their investment however is essential to successfully establishing a knowledge economy, which depends to a large extent on an environment that allows companies to build on continuous human resources. Today, more serious consideration of urban development is urgently needed in the case of

such emerging cities in order to understand the complex interdependencies between economic diversification and urban qualities.

Such consideration is particularly necessary for Gulf cities such as Doha, which in recent years has adopted global strategies to diversify its economy. As a consequence, the real-estate market was liberalised and many companies together with their employees relocated to Doha, creating a huge impact on the city's population and urban structure (Adham, 2008, p. 236). Within only 10 years Doha's population has tripled from about 500,000 to over 1.5 million inhabitants to date, and while in the past Doha constituted of two main elements, namely, a mixed-use centre and residential suburbs, the complexity of its new phase of urbanism driven by many different interdependent factors is generating a more diverse urban structure. Since investors

generally prefer coastal areas, most of the recent developments have been concentrated along Doha's shoreline. The iconic 'Pearl' development has expanded the city to the north along the coast and a new CBD and city skyline has emerged in West Bay (Figure 1), connected by the Corniche – the highlight of Doha's urban structure – to the old city centre. However, beyond the architectural theatricality of the coast, urban qualities decrease further inland, creating a perception of Doha as a segregated and fragmented city.

The important factor that generates comprehensive urban qualities is the active participation of a society that demands these high standards in their surroundings (Pieterse, 2000). In the case of emerging cities such as Doha the society is still evolving, which leads to increasing responsibility on the part of planners and decision makers to understand the needs



Figure 1: Doha's evolving skyline (Source: Authors).

of the developing society regarding its space. Doha's economic diversification is dependent on a large group of qualified workforce to sustain newly established knowledge economies. Thus, it relies heavily on its urban qualities, which are an important factor in preventing its international workforce from relocating to other competing cities within the global networks and within the Gulf region itself. Doha has initially attracted these human resources due to high salaries and a generally tax-free environment but in the long term a generation of a knowledge population has to consider the city as its home for various other reasons in order to sustain the economic balance. In addition, continuity in the society will be necessary in order to develop innovation and the competence needed to become a service centre competing on a global level. While in the past and present wealth from fossil fuels has been key to sustaining immigration, future developments will depend on an emerging society who identifies Doha with a high standard of liveability.

In order to produce strategies and plans that can serve as the basis for the development of liveable cities, the current urbanisation process needs to be analysed in a way that goes beyond the usual examination of the physical environment. Thus, a framework is needed which takes into account all of the multi-layered factors that impact urban space in order to determine more accurately the urban potentials and deficits that affect the emergence of knowledge economies. For these purposes, the framework analyses urban governance, examines the direction of investments in development projects and identifies interlocking network models in order to investigate the spatial use of company networks. It explores how urban space is perceived by

the individuals who work in the new economic sectors in order to provide insight into the extent of their attachment to the city. In this regard, Henri Lefebvre's triad of space production, consisting of conceived, perceived and lived space, can be used as a basis by translating it into a model that describes the urban environment as a product of decision-making, spatial practice and identity.

Knowledge Economies as Key Drivers of Spatial Development in Emerging Cities

Since the 1970s cities all over the world have been competing to become international service centres within growing global networks. These 'global cities' (Sassen, 1997) have become the main drivers of the world economy and junctions through which flow transactions of people, goods and information (Castells, 1996, p. 376). This phenomenon was made possible by the introduction of new infrastructural technologies such as aviation, fibre optic wires and satellites (Witlox, Derudder, 2007, p. 36). Thus, for any new player to be successful in entering the global network it must invest in the establishment of infrastructure that will enable it to access foreign markets and producers. To be a truly key hub within this global network however the emerging city must attract the business of international and trans-national firms as well as ideally their headquarters in order to diversify its economy toward independence from heavy industries and the export of natural resources (Alderson, Beckfield, 2007, p. 26).

This kind of innovative evolution in a city's economy is highly dependent on and driven by the presence within it of a population equipped with the knowledge and ambition to create and sustain new and diverse sectors and services. In

turn, knowledge-based innovation and creativity is highly attractive to the kind of international firms needed to make an emerging city a contender on the global playing field, for companies to require and recognise knowledge and innovation as a valuable and important resource. However, studies have shown that such innovation is highly active in only a small number of urban areas (Simmie, 2001). These particular urban areas benefit from what Malecki (2000) describes as the 'local nature of knowledge', whereby members of a knowledgeable population in close geographical proximity to one another share their knowledge and support in direct and close interaction. Malecki thus highlights the necessity of accepting the importance of the factor of space in relation to the role knowledge plays in the competition between cities (Malecki, 2000).

One of the challenges that emerging cities face in this competition is that many sectors of the knowledge economy, particularly the advanced producer service sector (Beaverstock, 2007, p. 65), are centralised in and monopolised by the existing global cities that already possess the advantages described above. Consequently, emerging cities are engaged in fierce competition for international investors to accelerate and generate the urban growth required to become the kind of agglomerations that would attract the relocation or establishment of international companies (Gaebe, 2004, p. 33). In this regard, tourism is a commonly used strategy to initiate urban growth and is regarded as a marketing tool to attract investment. This is often referred to as 'city branding' (Dinnie, 2010). This strategy includes investment in multi-mode transport systems, cultural facilities and the development of services and amenities. In addition, the expansion of transportation capacities is needed to transform

cities into global and regional trade hubs. Due to the high demand that public investments must cope with, governments are in many cases forced to privatise and decentralise urban development (Savitich, 2002) by selling state-owned land to investors and their developers. This is usually accompanied by a relaxation of financial regulations and of restrictions regarding building permits in order to accelerate construction growth.

This type of strategy to generate urban growth is a common practice in many parts of the world although it is always in danger of missing the balance between the short-term interests of speculators and long-term plans to achieve urban consolidation. While certain kinds of companies and businesses are attracted to have a degree of presence in emerging cities because of construction booms and the expansion of financial markets, they are unlikely to relocate their headquarters without a high degree of urban consolidation already present. Thus, the major challenge faced by cities is to develop a built environment that integrates all the aspects of the liveability and sustainability that would draw long-term investment (Boddy, Parkinson, 2004).

This high-quality built environment is crucial to a city's development toward becoming an international service centre. Without a large body of qualified workforce successful economic diversification is not possible for in contrast to other economic sectors, companies in knowledge economies are highly dependent on the long-term employment of qualified staff (Sassen, 1997, p. 140). However, in contradiction to this need, the decentralisation being carried out in many emerging cities to attract investment and related speculative interests are causing a decrease in

urban quality. In many cases a segregated and privatised urban landscape has been created lacking integrated public services and amenities. Thus, governance in emerging cities is facing the major challenge of keeping the urbanisation process under control despite the pressure to privatise and deregulate in order to become more competitive globally (Hackworth, 2006, p. 40).

Overview of Contemporary Urbanism in the Gulf – the Case of Doha

The initial success of Dubai's development model for establishing a regional hub by liberalising local markets during the 1990s had a huge impact

on the entire region. It seemed to introduce a fast track on how to diversify Gulf economies and enter global networks. One of Dubai's early competitors was Qatar and its capital Doha, the rulers of which were keen to diversify economy and services by building on a limited but key number of elements in contrast to Dubai's less discriminating approach. While Dubai has pursued development in almost all its economic sectors in parallel, Doha focuses on specialising in its main sectors only and developing its future economic role in the global network gradually. In this respect, exclusivity defines its economic development strategy rather than undefined expansion (Adham, 2008, p.248). While international sport events and investment in cultural projects have been attracting regional



Figure 2: Souq Waqif; Doha's traditional market manifesting its emerging cultural role (Source: Authors).

and worldwide attention, the development of Al Jazeera as one of the largest news providers in the Middle East is part of a long-term plan to occupy a role as a global information hub.

Doha is currently reinventing its cultural role through its investment in museums, for example, the Museum of Islamic Art, and projects such as

the Katara Cultural Village (QSDP, 2011, p. 204). The redevelopment of Doha's traditional Souq is another significant project within its strategy to integrate the past and the regional culture into its development as an international service centre (Figure 2). Parallel to the attempt to specialise as a centre of Arab arts, sport events have become a major aspect of Qatar's expanding tourist



Figure 3: Residential high-rise exclusive development--The Pearl. (Source: Authors).

industry. Since hosting the Asian Games in 2006 and the development of Sports City, many new projects have been initiated including bids for the 2020 Summer Olympics as well as the 2022 FIFA World Cup, which was awarded to Qatar in 2010, adding a new dimension to Qatar's effort to become a global centre for sport events.

Qatar's efforts to market itself as a new tourist hub in the Arab region has been accompanied by large investments in infrastructural projects such as the new international airport as well as the expansion of Qatar Airways. The international airport is expected to be completed in various phases by 2020, after which it will have an expected annual capacity of about 50 million passengers (The Edge, 07/2011, p. 45). This expansion of its aviation industry coupled with its long-term tourism strategy has put its capital on the map of regional and global investment.

In contrast to Dubai, Doha's real-estate market has never been as liberalised and freehold developments have remained restricted to certain areas. The most prominent example is the 400-hectare reclaimed island known as 'The Pearl' (Figure 3), which offers freehold properties on leasing contracts of 99 years (Colliers International, 2008, p. 1). While residential developments have been located mainly in the north of the city, the new Financial District at the Corniche, also known as West Bay, has become the centre of commercial developments with its high-rise towers. The evolving skyline expresses an attempt to become an international service hub, particularly designed for advanced producer services such as the financial industry. Over the past few years, more and more residential high-rise developments have been built in the West Bay, adding a new residential typology to the

city. Rapidly increasing land prices have caused an increase in building heights. Notably, a large number of tenants are companies that rent apartments for their international employees.

One of Doha's pioneering efforts was the early integration and development of the education industry in order to generate knowledge for future economic sectors. In 1995 the Qatar Foundation was established with the mandate to develop what is currently the largest education project in the Gulf known as Education City. Although Dubai and other cities in the region have reacted to this strategic move with similar projects, the Education City project has succeeded in attracting five well-known US universities which saw Doha as an optimum location for their expansion strategies within the Arab and Asian markets. The approximately 2,500-acre compound in the north-east of Doha will after its completion integrate housing, shopping and recreational facilities in addition to a wide range of educational institutions. It works closely with the companies and organisations in Qatar Science and Technology Park, which was set up on the basis of free zone incentives and intended to create an attractive recruitment opportunity for high-tech firms that rely on specialised staff (Adham, 2008, p. 243). This initiative illustrates the groundwork undertaken over the last several years aiming to develop an environment that supports the future prosperity of knowledge economies. Investment in education with the goal of developing a home-grown elite of qualified workforce is key to transforming a place into a knowledge hub.

One unique aspect of contemporary urbanism in the Gulf is the generation of cities in the desert supplied with state-of-the-art infrastructure intended to attract global immigration and



Figure 4: Doha's explosive urban growth between 1988 (left) and 2010 (right) (Source: Google Earth and MMUP).

transform these newly built shells into vibrant business centres (Figure 4). The possibility of applying this approach to the development of cities from scratch is enabled not only by the remaining wealth of fossil resources but also by the potential of the Gulf's geopolitical location close to rising markets in Asia. While in global cities urban governance has reacted to expanding knowledge economies by accommodating their specific needs, leading to a morphological transformation of cities, urban governance in Gulf cities has been the initiator of space for evolving economic interaction. This can be seen in the recent public investment in the development of infrastructure and the introduction of marketing strategies to attract international attention. Subsequently, cities themselves have become brands for investment and rulers have found

themselves in the role of CEOs managing urban development as a 'business idea' (Davis, 2007, p. 61). The majority of the knowledge-economy companies that initially relocated to the Gulf in connection with the execution of these 'business ideas' were mostly investment banks and construction-related companies. The employees of these companies were largely given limited working contracts and project-based perspectives.

A Framework for Analyzing Urban Qualities in Doha

Henri Lefebvre's theory of space production can be utilized as basis for a framework that combines analyses of all the various factors that impact urban development. Lefebvre expressed his idea

of the production of space using a triad consisting of conceived, perceived and lived space. Firstly, Lefebvre defined 'conceived space' as the space conceptualised by scientists, planners, social engineers, etc., also known as 'representations of space'. These representations are abstract as they are rooted in the principles, beliefs and visions held by such practitioners, decision makers and others who are in a position to impose their personal notion of 'order' on the concrete world and so create a practical impact on space within social and political practice (Lefebvre, 1991, p. 41). 'Perceived space' is the space of 'spatial practice', which Lefebvre defined as the space where movement and interaction take place, where networks develop and materialise. Thus, it includes both daily routines on an individual level and urban realities such as the networks that link places designated for work, leisure and 'private' life (Lefebvre, 1991, p. 38). Lastly, 'lived space' is understood by Lefebvre as the unconscious, non-verbal direct relation between humans and space. Also known as 'representational space', it is directly lived through associated images and symbols (Lefebvre, 1991, p. 39). Products of representational space are often symbolic works such as art, design and aesthetic trends (Lefebvre, 1991, p. 42).

Based on Lefebvre's ideas, the production of urban space can be analysed by investigating each factor in this process using the perceived-conceived-lived triad. Thus, all the factors that affect the nature and structure of the urban fabric in the production of space in emerging cities such as Doha can be sought for and examined with a special focus on understanding the role of knowledge economies and their impact. Thus, a framework has been developed in which all aspects are analysed utilising various

methodologies in order to investigate the development of urban qualities in direct relation to factors that weaken or strengthen them (Figure 5).

Due to its predominant role within the production of urban space in emerging cities, conceived space is analysed as a first methodological procedure. Conceived space is understood to be the effects on space resulting from the decisions that pertain to urban governance. It is mainly based on the plans generated by planners and other groups involved in the process of urbanism derived from their knowledge, ideas and visions. Thus, the role of urban planning should be comprehensively analysed and evaluated. This includes plans used by governance as the basis of urban development, as well as the process of decision making based on the assumption that the structure of urban governance itself is consciously designed. In this regard, it is important to understand how physical planning relates to the context of theoretical ideas about urbanism, for each plan is the outcome of a planning culture and is therefore imbued with more meaning than its role as a technical document might suggest. The analysis of conceived space therefore seeks to answer the question of which ideas and plans constitute the basis for the building of a city and with regard to the particular issue of knowledge economies, how these ideas and plans address the need for economic diversification.

Urban Governance Model: Decision-making models illustrate the cooperation within public institutions as well as the specific degree of privatisation within urban development. The models provide insights into the complexity of governance and its public, private and semi-privatised entities as well as their internal structures.

Interviews with various professionals working in urban governance are necessary to translate the decision-making structure, which is an essential element of conceived space, into an abstract governance model.

Planning Analyses: Strategies that are being implemented as part of economic policies have to be analysed by reflecting their impact on the physical environment. Investigations of these urban development strategies are needed in order to understand how the city will be transformed and thus how the existing built environment is conceived by decision-makers. In this regard, interviews are combined with analyses of strategic visions and physical planning in order to explore the contemporary planning philosophy.

While conceived space is the result of governance, perceived space is the result of the spatial practice of all the 'users' of a space. Spatial practice can be empirically analysed by investigating movements and networks. In emerging cities three types of users have the most impact on the production of space, namely, companies, employees and investors. Thus, it is important to analyse company networks, the movement of employees and the direction of investments. The choice of location is itself already part of the spatial practice of any company and is made based on the facilities that are available, accessibility, economic aspects such as rent and marketing considerations as well as proximity to other companies due to the common practice of outsourcing within knowledge economies (Lüthi, Thierstein and Goebel, 2010, p. 117). Because of the differing degrees of significance of companies it is important to analyse and categorise their functional role and hierarchical

status within regional and global networks. With regard to the movement of company employees, this is determined by their choice of residence and its location, their choice of amenities and services and their choice of transport. As well, private investment in urban development needs to be analysed since it is an important factor in the production of space in emerging cities. Thus, the question of how a city works and how a city is used can be answered by analysing the spatial practice of the key actors that together produce the space.

Company Network Analyses: Network models are needed to understand the impact of global network economies on the urban system of emerging cities. These models will be generated by investigating the spatial practice of companies regarding their location choices and network development. In this regard, location behaviour has to be brought together with a value-chain approach. First, how multi-branch and multi-location companies develop their intra-company networks on various spatial scales will be examined using Peter Taylor's interlocking firm network model (Taylor, 2004). Secondly, it is important to identify the partners with whom these companies have working relationships along individual chains of value and where these extra-company linkages are located by using a web survey. Lastly, a series of face-to-face interviews with managing directors needs to be conducted in order to reveal case-study evidence regarding the strategic networking of knowledge-intensive enterprises (Thierstein and Schein, 2008, p. 184).

Employee Movement Analysis: Investigating the spatial practice of individuals working in knowledge economies helps to understand the quantity of choices regarding amenities,

residencies and working places as well as their locations within the city. The resulting movement patterns can be translated into models illustrating which spaces are used and which spaces are avoided by qualified workforce. The basis for these models are questionnaires to be distributed to a representative number of participants with various cultural backgrounds.

Investment Pattern Assessment: Analyses of how investors use space (in legal and physical terms) to generate wealth are needed to understand investment patterns within urban developments. Therefore recent development tendencies within the real-estate market as well as private shares within infrastructure projects are assessed by reflecting their impact on the built environment.

In most urban studies the influence of lived space on the production of urban space has been neglected due to the difficulty of measuring its role scientifically. Lived space is understood to be the subjective personal relationship of inhabitants to their cities that affects their active involvement and investment in the place. It is expressed in symbols and associations and has a major impact on the coherence and continuity of a society and thus on urban development. While in cities with long urban histories lived space is often neglected as a major factor in spatial development due to the implicitness of its existence, in the case of emerging cities a lack of lived space is expressed in the form of an intense struggle for identity and a relatively low degree of participation by inhabitants in development decisions. One consequence of this vacuum in cities that are built from scratch is branding with certain images in order to attract investment. Thus, an analysis should be made

of the images that the inhabitants of emerging cities associate with urban areas and whether this is coherent with the city's marketing strategy. The image of a city can be influenced by conscious planning but it is also affected by spatial practice for vice versa the image of a city held by its inhabitants has an impact on planning. Analysing lived space thus uncovers what identity a city has and what images the city is associated with.

Photographic Survey Interviews: In order to obtain insight into how the city is perceived photographic surveys are used as the basis for questionnaires in which inhabitants are asked to interpret certain images of typical scenes in the city. In this regard, a significant number of employees working in knowledge economies have to be selected as participants.

Behavioural Mapping: By investigating the behaviour of inhabitants the attractiveness of certain urban spaces can be empirically understood as indices for their subjective attachments. Thus, behavioural mapping will be used to investigate how inhabitants make use of a selection of representative spaces within the city by observing these spaces at various times of the day and days of the week.

In sum, a comprehensive analysis of the conceived, perceived and lived space should determine the main spatial factors involved in the urban development of an emerging city and contribute to an understanding of the impact of each factor on the built environment. Therefore, the built environment itself needs to be analysed in order to investigate the development of urban qualities by examining the transformation process over a significant period of time.

Urban Structure Analyses: These analyses are needed to define the urban structure that existed before the start of the process of economic diversification, the current urban structure and the projected urban structure of the future based on plans. In addition to analyses on a city scale it is postulated that case-study areas be chosen for analyses on a smaller scale in order to investigate the impact on a local level. These analyses should ideally cover land use, infrastructure and typologies as well as urban densities.

Space Syntax: Another important aspect to be analysed is the accessibility of areas within the urban fabric using Bill Hillier's methodology of 'space syntax' (Hillier, 1998). Changes in the structure of the urban fabric, for example, the integration or isolation of certain areas, should be referred back to the previously defined spatial factors.

Consequently, negative and positive development trends can be identified and investigated in direct

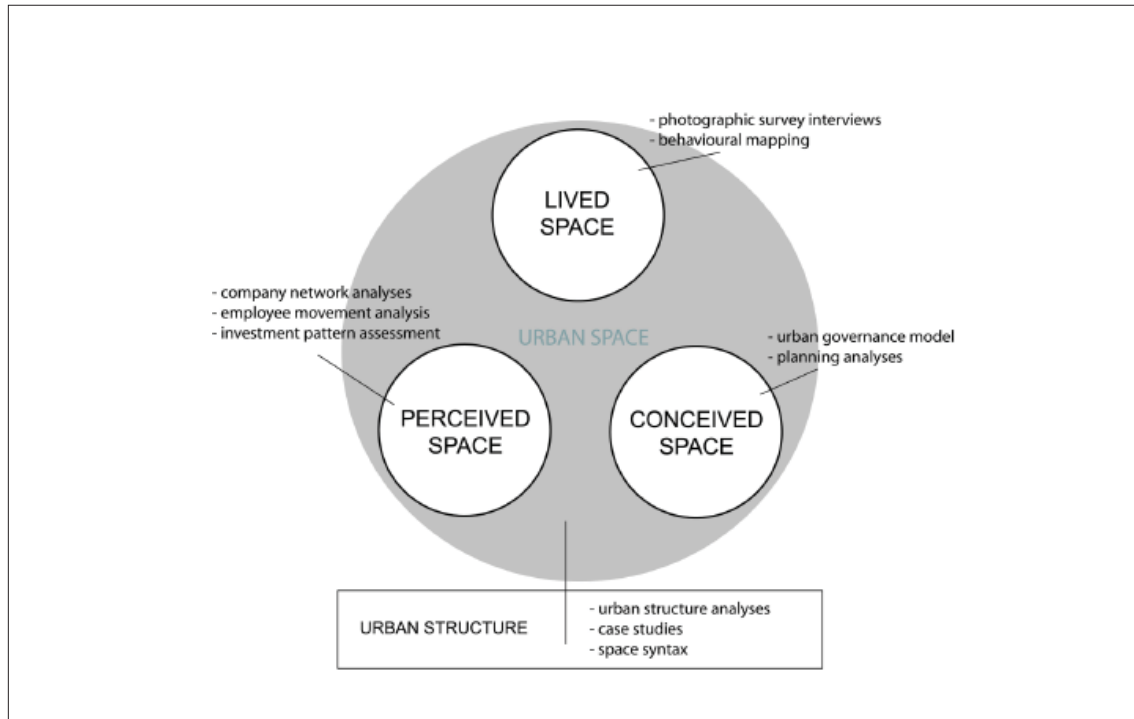


Figure 5: Framework for analyzing urban qualities in Doha. (Source: Authors).

relation to their causes. An evaluation of these analyses will lead to a grasp of the urban qualities and deficits and can therefore be used as a basis for SWOT analyses. Hence, this framework is designed to foster an understanding of the complex relationships within the urban space of emerging cities as well as to detect the urban qualities that support the emergence of knowledge economies.

Conclusion

The strategy of diversifying the economy by deregulating policies in combination with public investment in infrastructure and cultural facilities is a challenging development path for Gulf cities such as Doha. While on the one hand this strategy has proven to be effective for accelerating urban growth and branding a city with a global image, it remains unclear how the qualities of cohesiveness, diversity and effectiveness can be integrated into the city's urban structure. Without such consolidation, Gulf cities risk becoming inefficient and fragmented entities that are increasingly less able to remain attractive for knowledge economies. In this respect, the proposed framework seeks to deliver a theoretical basis for comprehending the complex interdependencies between current diversification strategies and their impact on urban qualities. It is based on Lefebvre's triad of space production, a frequently used reference in contemporary urban research. His idea of urban space as a product of proactive space planning, movements in space and the identification of inhabitants with their space underlines the importance of understanding cities as evolutionary and non-static. Thus, using a wide range of interdisciplinary research methods, the framework is designed to comprehend all the various factors that impact the transformation of urban space.

While in the past modern urbanisation was mainly guided by centralised planning and thus the conceived understanding of urban space by decision makers, urbanism in the Gulf has entered a new phase where inhabitants need to become a more important factor in spatial transformation. This need has been generated by the strategy of establishing knowledge economies as the basis for future prosperity, which involves a qualified workforce becoming the new economic resource. This emerging social group demands the freedom to participate in urban development by exercising individual choices with regard to residence, amenities and means of transport. As a result, there have been recent attempts to diversify residential typologies, to establish various kinds of entertainment and to develop the first public transport systems. However, due to increasing land prices developments have largely been limited to luxurious standards for high-income groups, leading to segregated and privatised urban spaces and a general lack of cohesion and integration. Today, most medium-income groups find themselves in apartments or villas in compounds rented by their employers in the outskirts of Doha at far distances from public spaces and services. These distances in combination with a dependency on the car as the main means of transport have led to increasing traffic congestion and thus decreasing liveability in many areas.

Thus, contemporary urban research in the Gulf needs to focus on the various interdependencies between liveability and economic diversification by analysing and evaluating all the factors that impact the transformation of urban space. The current development strategies and their focus on rapid urban growth have caused both decreasing urban qualities due to a lack

of consolidation and increasing qualities in certain areas such as waterfronts. In order to understand the complexity of all the factors at play within the current development process, in-depth investigations need to be carried out using comprehensive frameworks such as the one proposed.

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