HUBS OF KNOWLEDGE AND INFORMATION FLOWS IN ISLAMIC COUNTRIES: CHALLENGES AND POTENTIALS

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Abstract:

This paper discusses the importance of global knowledge and information flows in shaping development and advancement in Islamic countries during the era of globalization. It focuses on the hubs or places that trigger these flows from the global domain to the local context. I classify these hubs into three main types: 1) Micro hubs of knowledge and information flows which include small places as homes and offices that have access to knowledge and information through new modes of communication such as the internet, satellite dishes, and mobile phones. 2) Intermediate scale hubs of knowledge and information flows such as schools, universities, and business headquarters which feature more concentrated agglomerations of knowledge and information flows. 3) Mega hubs of knowledge and information flows or places that host very intense and massive flows. These three types of hubs contribute significantly to the development of contemporary societies. The paper focuses on analyzing the nature of these hubs with reference to case studies from Islamic countries during the period 2000-2010. This era witnessed dramatic transformation in response to the revolution in communication technology.

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Introduction:

Knowledge is the main foundation for development. The advancement of societies is triggered not only by their capability of generating knowledge, but also by their capacity to attract and manage global flows of information and knowledge. The concept of the knowledge economy or the production and management of knowledge is becoming crucial in discussions on development in the era of globalization. Knowledge management is defined as "the systematic process of identifying, capturing, and transferring information and knowledge people can use to create, compete, and improve."[1] It is the "production and services based on knowledge-intensive activities that contribute to an accelerated pace of technical and scientific advance, as well as rapid obsolescence" (Powell and Snellman 2004). It could be argued that knowledge is the main pillar of sustainable development in the era of globalization.

What distinguishes the notion of knowledge in the era of globalization is its hybrid and dynamic nature. Knowledge is no longer bounded to a particular context. It might be generated in one place. However, information technolgy facilitates its diffusion across the globe. New modes of communication have made knowledge global. It is more accessible than ever. However, bringing this knowledge to a local context requires hubs that can host it and then transmit it to the local context.

Hubs of Knowledge Flows

Certain place typologies can trigger global knowledge flows to the local context. Many of these places can regulate flows and assimilate it to serve particular interests and intentions. Countries around the world and developing ones in particular, need these knowledge hubs in order to trigger scientific advancement and development. These hubs differ in size, scale and the intensity of flows they host. They also vary in the degree of control, regulation and specialization. Besides, their significance and contribution to development takes various forms. They basically complement each other. The producers of knowledge hubs are numerous. Governmental institutions, private enterprises, NGOs, international corporations and even individuals contribute to the production of these hubs.

In this paper I classify these hubs of knowledge flows into three main types:

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[1] The American Productivity and Quality Center (APQC)

1) Micro Hubs of Knowledge Flows:

Some small places such as homes, shops and offices have the capacity of attracting flows of knowledge if connected to the global domain via basic means of information and communication technology. I refer to these places as Micro hubs. These hubs perform individually and spontaneously with minimum regulations. They don't feature any forms of coordination. They represent the micro units of the network of hubs that host agglomerations of knowledge flows and transmit them to the local context (Salama 2014).

In the era of globalization, micro hubs play a significant role in spreading knowledge. They allow global flows of information and ideas to penetrate most of the political, social, and cultural boundaries. These hubs form the basic infrastructure that exposes societies to free open sources of knowledge. Micro hubs are the first indicator that reflects the degree of connectivity of a society to the global network. Penetration rates of computers, internet service, and mobile phones within the population are among the important measures used by the United Nations to evaluate development in countries.

Since the late 1990s, most of the Islamic countries have been trying to cope with the global revolution in information technology and communication. Governments and the private sector have been investing in the basic infrastructure in order to connect the local context to the global domain. Internet services, satelitte channels, and mobile phone networks were introduced. During the first decade of the 21st century, these technologies expanded significantly. For example, between 2000 and 2008 the number of internet users in Syria has increased by 117 folds (11700%). Saudi Arabia increased 3500%. In Egypt it has increased 1200% and in Indonesia nearly 1150%. All Islamic countries have experienced significant growth in the rates of internet penetration.[2] Malaysia topped the list in 2008 with a penetration rate of 65.7% at 2008 (65.7 users per hundred of the population).[3] It was followed by the United Arab Emirates and Qatar at rates of 59.6% and 52.3% respectively.

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[2] Internet penetration is measured by the number of users per 100 inhabitants.
[3] Source: Malaysia communication and multimedia commission

Chart 1: % of Internet Penetration in Some Islamic and Other Developed Countries in 2008
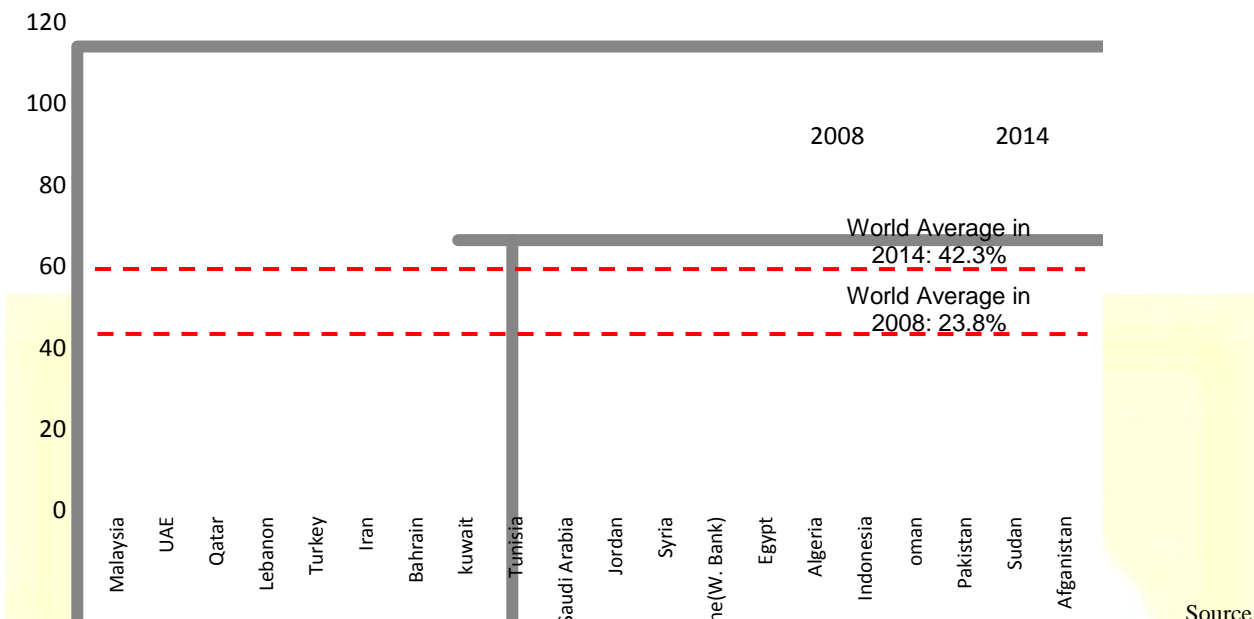
Source: Internet World Statistics. Link: http://www.internetworldstats.com/

Although these figures might seem impressive, they were still way behind compared to developed countries. The rate in most of the Islamic countries during the first decade of the 20th century was below the world average of 23.8%. This is attributed to the poor economic condition that hindered the capacity of individuals to own a computer and pay for internet subscription. Computers penetration rates in all Islamic countries was way below the average of developed ones. Based on 2007 data, the United Arab Emirates, Qatar and Malaysia top the list of Islamic countries with rates 26.4%, 26.3% and 22% respectively. Most of the Islamic countries fall below 10% penetration rate which means that there is one computer for every 10 people. By 2014, many Islamic countries such as Egypt, Saudi Arabia and Oman managed to expand its internet penetration rates and exceed the world average of 42.3%. Other countries such as Algeria, Afghanistan, Iraq and Bangladesh are still far below the average.

Mobile phones are other example of devices that trigger flows of knowledge and information from one place to another. They contribute to the expansion of micro hubs of knowledge and information flows. Whether through their internet surfing capabilities or the SMS services, these phones are spreading information and knowledge in huge scales. The majority of Islamic

countries have a satisfactory mobile phones penetration rate. The United Arab Emirates, Saudi Arabia and Bahrain have penetration rates that exceed 100% which means that some people even have more than one phone (See chart 3). Even in less wealthy countries as Jordan, Oman, Algeria and Egypt, the number of mobile phones is growing significantly. Global telecommunication enterprises are playing the major role in the expansion of this service across the Muslim world. For example, Orascom Telecom invests in mobile phone networks in Egypt, Algeria, Tunisia, Iraq, Afghanistan, Pakistan and Bangladesh.[4] Vodafone invests in Egypt, Qatar, Bahrain, United Arab Emirates, Afghanistan, Indonesia and Malaysia.[5]

2) Intermediate Scale Hubs of Knowledge Flows:

The second category of places of knowledge and information flows is medium size places that have the capacity of connecting the local context with the global domain. Places such as business headquarters hosting financial corporations, transnational corporations, local and international organizations supported by high tech communication infrastructure are becoming crucial for cities aiming to become part of the global economy. These headquarters mainly rely on knowledge and information flows. They host more intense flows of knowledge and information than micro hubs and feature a very high rate of internet, computers and cell phones penetration. Besides, they trigger the emergence of training and development centers to support their need for skilled workers who can communicate effectively with the global market. These advanced headquarters are hubs of knowledge and information flows that contribute to the development of the local context.

[4] Orascom Telecom official website: http://www.orascomtelecom.com/regional_Presence/default.aspx
[5] Vodafone official website: http://enterprise.vodafone.com/discover_global_enterprise/global_reach.jsp

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Chart 2: % of Mobile Phones Penetration in Some Islamic and Other Developed Countries in 2007 and 2013
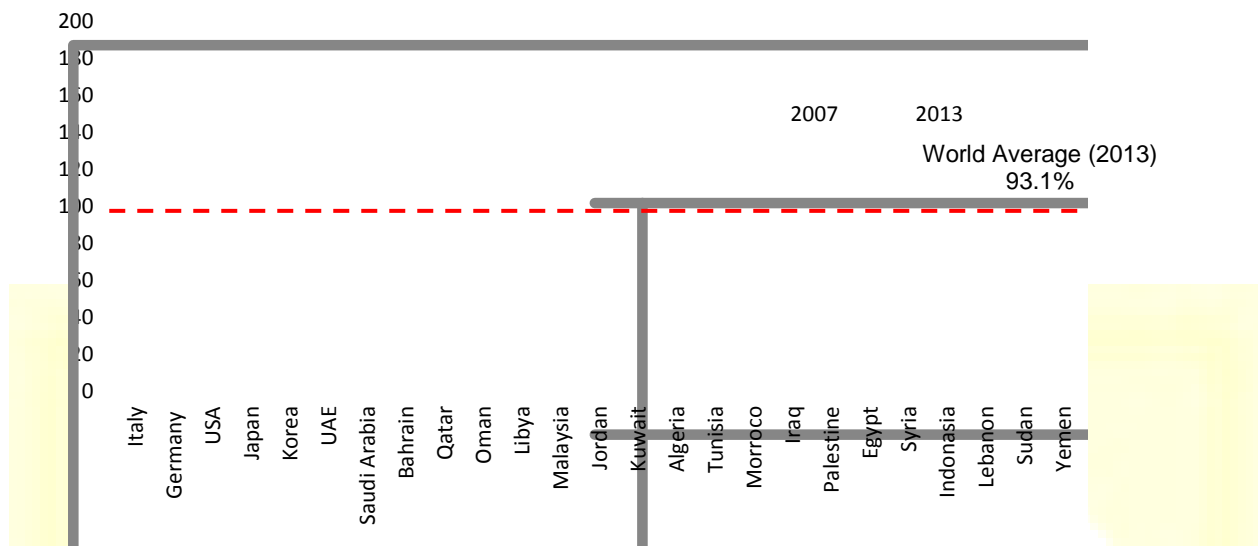
Sources:
Madar Research in conjunction with marketing communications consultancy Orient Planet
Malaysia: The Malaysian Communications and Multimedia Commission
Indonesia: 2007 Asia - Telecoms, Mobile and Broadband in Indonesia and Timor Leste, Paul Budde Communication Pty Ltd, September 3, 2007
Korea: 2008 Asia - Telecoms, Mobile and Broadband in North and South Korea, Paul Budde Communication Pty Ltd
Communities Dominate Brands, Business and marketing challenges for the 21st century, By Tomi T Ahonen and Alan Moore

Some Islamic cities are experiencing the emergence of these advanced business headquarters. The Petronas Twin Towers in Kula Lumpur, Malaysia, The World Trade Center in Cairo Egypt, and Burj Al Mamlakah in Riyadh, Saudi Arabia are all examples of these intermediate scale hubs of information and knowledge flows. These places are strongly connected to the global network. They are significantly exposed to outside knowledge, ideas, and information that serve their business interests. The cost of intermediate scale knowledge hubs is relatively high. The economic conditions in many of the Islamic countries limit their chances of having this type of hubs.

Educational facilities are another form of intermediate scale hubs. Due to their direct contact with a huge segment of the population, these places play a significant role in transmitting knowledge, ideas, and information between the global domain and the local context. Education facilities equipped with tools of communication as internet, video conferencing and access to online digital libraries are definitely more capable of triggering flows of knowledge and information than others.

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In Egypt for example, there are many of these international educational institutions that focus on the idea of partnership with foreign universities. The American, British, Canadian, German, Russian, Japanese and French universities are all examples of these hubs. These places are run by both local and foreign faculty members from the university home country. They are usually funded and managed by the foreign embassies in Egypt to promote their educational ideals and ethos. Students in these universities have access to foreign education depending on the affiliated country. Many international schools have also emerged in Egypt. They offer foreign degrees as the American Diploma or the British International General Certificate of Secondary Education IGCSE. In these programs, students study same syllabi and course contents as their equivalents in the U.S. or Britain. Similar places exist in the United Arab Emirates, Qatar, Jordan and Lebanon.

3) Mega Hubs of Knowledge Flows:

Mega hubs are developments that have the capacity of hosting very intense and massive scales of knowledge and information flows. They feature a concentration of research and education activities. Because of their huge cost, these places are usually developed by governments and non-profit organizations. They require huge funding which make them a feature of top world cities. Many developing countries are currently developing mega hubs of knowledge flows in an attempt to push development and economic progress.

King Abdullah University for Science and Technology (KAUST) is an example of these mega hubs. This new project is funded by a $10 billion endowment from the Saudi government. The university has a partnership with three prominent American universities: Stanford, Texas Austin, and University of California Berkeley. These three universities are responsible for developing syllabi, selecting faculty and guiding research projects in king Abdullah University.[6]

Qatar Education City is another example of these mega hubs. Developed by The Qatar Foundation for Education, Science and Community Development, this project hosts branches of six American Universities: Virginia Commonwealth University School of the Arts, Carnegie Mellon University, Georgetown University School of Foreign Service, Northwestern University, Texas A&M University, and Cornel University Medical College. Students and researchers in Qatar Education City will enjoy the same quality of education, scholarship and access to

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[6] Tamar Lewin, U.S. Universities Join Saudis in Partnerships, *The New York Times*, March 6, 2008.

knowledge as that offered by these distinguished universities in their home campuses in the United States.

The Smart Village in Egypt is another example of mega hubs that trigger flows of knowledge to the local context. The project was jointly funded by the Egyptian state and the private sector. It was founded in 2003 by the Smart Village Company on 741 acres. The Village hosts many international IT corporations as IBM, Oracle, Microsoft and Vodafone.

Convention centers, expos and grand museums are another form of mega hubs of knowledge flows. For example, Egypt in building Cairo Expo City, a huge convention center designed by the world renouned Architect Zaha Hadid. The $450,000 \text{ m}^2$ development aims to attract international expos, events, and confrences to Cairo. The Grand Egyptian museum is another example of mega hubs. The $550 million project will be the largest knowledge hub in the world for those interested in Ancient Egyptian history and archeology. The museum will attract millions of tourists and researchers who will be able to interact with local scholars and archeoligists.

The Museum of Islamic Art in Qatar is another example of mega hubs of knwledge flows. By it diverse collection, the museums aims to provide information on Islamic art around the world. As noted in the mission statement, this project is "a museum for the world. It will bring the world to Doha, but it will also connect Doha to the world."[7] Its main objective is to create a national and international resource for research, learning, and creativity and to build partnership with museums and culture institutes around the world.

The Saadiyat Island's Cultural District in Abu Dhabi is one of the largest mega hubs in the world. This $27 billion development is planned to host four spectacular museums designed by four of the most renowned architects in the world. A Louvre Museum by jean Nouvel, a Guggenheim Museum by Frank Gehry, a performing arts center and a concert hall by Zaha Hadid, and a Maritime Museum by Tadao Ando. The government of Abu Dhabi signed a $1.3 billion contract with the French Louvre to use its name and also borrow some of its art work. This place will be one of the largest cultural hubs in the region.

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[7] The Museum of Islamic Art in Qatar official website: http://www.mia.org.qa/english/index.html#about/vision

Conclusion:

In the era of globalization, access to information and knowledge is crucial for sustainable development. The revolution in information technology has facilitated the exchange and flow of information and ideas across the globe. Countries that have the capacity to host and agglomerate these flows are more capable of achieving progress and technological advancement. This requires the presence of hubs that can receive these flows and transmit them to the local context. The three types of knowledge hubs discussed in this paper are essential for any country seeking development. They determine the country's capacity to host and assimilate knowledge and information. Each type has different scope, specialization and range of influence.

Few Islamic countries are investing heavily in the three types of knowledge and information hubs. However, the majority of the Islamic world is still struggling in achieving this quest. Compared to developed countries, the Islamic world fall behind when it comes to the capacity of dealing with global flows. The poor economic conditions are limiting the chances of these developing countries to construct a satisfactory infrastructure of hubs that can connect them to the global network. The data presented in this paper shows that very few Islamic countries have managed to balance investment in the three types of knowledge flows hubs. Governments and private enterprises whether domestic or transnational should give more emphasis to the construction of these places in order to trigger development and progress.

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