



# Interrogating Iran's restricted public cloud: An Actor Network Theory perspective



Farid Shirazi\*

Ted Rogers School of Information Technology Management, Ryerson University, Toronto, Canada

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## ABSTRACT

The recent development of cloud computing is touted to offer promising opportunities for service delivery to organizations and communities by sharing computing power, storage and network infrastructure in a more effective and efficient manner. Cloud computing also bears many other issues, particularly in the context of non-democratic countries. These issues may include security concerns associated with the use of shared resources, embedded control and monitoring systems, physical storage locations and their management as well as the tools and services that otherwise may give oppressive regimes the ability to impose yet more restrictive Internet access on their citizens.

By applying Actor Network Theory, this study critically investigates the controversial national "Halal Internet" recently introduced in Iran. It argues that the national Internet, in essence, is a publicly controlled cloud which restricts citizens' freedom on the Net and therefore should be viewed as an intensified Internet content and filtering method, exercised by the elites in power.

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## 1. Introduction

Information and Communication Technology (ICT) has changed the landscape of communication among citizens across the globe. It has also assisted the public sector in providing more effective and efficient ways to deliver services to citizens. In short, ICTs have dramatically changed many aspects of contemporary life and lifestyles. Since the introduction of Internet in Iran in 1995 and particularly the emergent blogging culture in early 2001, the medium has been used as the main source for communication discourse and the main driver for mass mobilization for challenging the dominant power for social change. In this context, the Internet and its apparatuses have, like other means of communication, "been fundamental sources of power and counter-power of domination and social change" (Castells, 2007:239). This process has been intensified proportionally with the increased number of Internet users in Iran.

Other scholars argue that the digital and economic divide between haves and have-nots will amplify should small elite groups be permitted to control power, resources, and knowledge (Alzouma, 2005). Skeptical to the cyber-utopian thoughts of the early 1990s, Morozov (2011) argues that "the early theorists of the Internet's influence on politics failed to make any space for the state, let alone a brutal authoritarian state with no tolerance for the rule of law or dissenting opinions (p. xiv).

Currently Iran constitutes the largest cluster of digital communities in the Middle East due to its large population and growing number of educated people. As a consequence, in recent years, Iran was witness to a major increase in the number of Farsi blogs and citizens' participation in various social networking and content sharing sites such as Facebook, Twitter and YouTube. Hundreds of thousands of mainly young bloggers and Internet users have created dynamic, interconnected webs of

\* Tel.: +1 4169795000.

E-mail address: [f2shiraz@ryerson.ca](mailto:f2shiraz@ryerson.ca)

digital communities for various forums and group discussions where citizens can freely participate in communication discourse “for wider social and cultural formation, even for democracy itself” (Couldry, 2008a: 383). Currently there are more than 65,000 active bloggers in Iran (Kelly and Etling, 2008), making the Farsi blogosphere the largest in the Middle East. In addition, the number of Iranians active in social networking sites such as Facebook exceeds 17 million users (The Guardian, 2012). In other words, the Iranian digital community has become an integral part of the so-called “networked society” in “the information age” (Castells, 2000a,b). The digital community of Iran was very effective in using the new medium for building and developing knowledge by disseminating opinions, suggestions, comments, ideas, and thoughts about matters of concern, otherwise unavailable through traditional media. Or, as argued by Couldry (2008), the Internet has provided a platform “for distribution of digital stories and social knowledge development” that links the digital storytelling processes to other fields of practice including education, politics and civic activism (p. 385). From the social sciences perspectives, the digital community of Iran is a successful example of promoting communication discourse and providing a voice to the voiceless in the Middle East by distinguishing itself from the hegemonic and ideological perspectives of those in power. Through the Internet, some of the nation’s grassroots journalists have become leading opinion makers, organizers and mobilizers of major events initiated online, with the ultimate goal of changing the hostile and oppressive physical structures of Iran which will be discussed in greater detail in the upcoming sections. This is aligned with what van Dijk (1997) has named “virtuality,” or an interaction “between communication and power relationships in the technological context that characterizes the network society” (Castells, 2007:239), a phenomenon that will support social life in fruitful and optimistic ways.

However, the intensity of Internet content filtering has also increased proportionally with the increased number of Internet users and online activities according to the reports published by Freedom House (2010), Reporters Without Borders (RWB, 2010) and the OpenNet Initiative (ONI, 2009). This duality or the so-called “soft war” (Freedom House, 2012) constitutes the current situation of the Iranian digital community. On one hand, the elites in power have deployed extensive internet content filtering and on the other hand, the number of internet users has increased. Internet access has been made possible in Iran despite heavy governmental control by use of proxies (Black, 2009), Virtual Private Networks (VPNs) (Esfandiari, 2013) and other circumvention tools (Freedom House, 2012), mainly anti-filtering open source software downloaded off the Net. The popularity of VPNs is so widespread in Iran that the government is not able to control and monitor them, according to Iranian officials (Esfandiari, 2013).

Many governments across the globe, particularly repressive regimes, share the same views and beliefs as the Iranian government with respect to restricting citizens’ access to free flow of information on Internet. Some governments in Asia and in the Middle East introduced nationally supported Internet initiatives in the form of controlled public cloud networks. Following Iran’s initiatives for introducing *Halal Internet*, Pakistan recently launched its own “Halal Google” search engine called *Halalgoogling* (BBC News, 2013).

By using Actor-Network Theory (ANT) in conjunction with the theory of new media, the aim of this study is to better understand the underlying state’s political agendas in imposing Internet restrictions by introducing a restricted nation-wide public network called “Halal Internet”. While ANT provides valuable insights into the mechanics of power between different social actors including various government agents, the theory of new media explains this from the perspectives of mass communication technology.

## 2. Iran’s media and political structures

Iran is the most densely populated country in the Persian Gulf region. Table 1 presents demographic data regarding Iran’s population, life expectancy (LE), adult literacy rate (ALE), GDP per capita in US dollars, the level of human development (HDI) and an index of gender inequality (GI). It also shows the country’s global ranking scores with regard to its media freedom (MF) among 175 nations as well as its level of political and economic corruption (CPI) in comparison with 166 other nations. Among developing countries, Iran has a promising number of Internet and mobile users but its Internet connectivity is the least developed in terms of upload and download speed. For example, Iran’s global ranking in Internet speed is placed at 163rd among 174 economies according to Netindex (2011).

Independent media (print, broadcast and online) do not exist in Iran. Media are under heavy surveillance through a complex set of political, legal and economic structures to ensure that all publications are aligned with the guidelines dictated by the office of the Supreme Leader and/or they are functioning in accordance to the Shari’a laws and the state’s political agendas. Iran’s media are controlled and monitored by a complex set of agencies which include but are not limited to government, the judiciary system, the powerful Guardian Council, the military, parliament, and the clerical institutes.

**Table 1**  
Demographic data.

Country	Land (mil. Sq. km)	Population (mil.)	LE	ALR	GDPP (US\$)	GI	HDI rank	MF rank	CPI rank	Internet speed rank	Internet	Mobile
Iran	1.648	74.2	71.9	82.3	4682	High	70	175	146	163	34.6	58.7

Source: ITU (2009), RWB (2010), UNDP (2010), Transparency International (2010).

Note: The Internet and mobile cell phone values are per 100 inhabitants.

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