

A Political Communication Scheme of Citizen Network System on Disembedding and Embedding Principle

Jang-Mook Kang¹ and Bong-Hwa Hong^{2,*}

¹ Electronic Commerce Research Institute, Dongguk University, 707 Seokjang-dong, Gyeongju, Gyeongsangbuk-do, 780-714, Korea
mooknc@gmail.com

² Dept. of Information and Communication, Kyunghee Cyber University, Hoegi-dong, Seoul, 130-701, Korea
bhonh@khcu.ac.kr

Abstract. This study looks into disembedding and embedding, which could occur when there is a restructuring from the conventional hierarchical order into network principle brought about by mobile network age. By nature, the advent of smart device transforms mechanism that is dichotomous, hierarchical, vertical and central into one that is dispersive, horizontal, relational and so on. It can also encourage collective collaboration and self-purification of creating a virtuous circle of ‘participation-sharing-openness’ during circulation of political information. This study will propose citizen network system that delivers communication of desirable political information through disembedding and embedding principle, of which the system will hopefully evolve into a scheme supporting political communication.

Keywords: Political Network, Smartphone, SNS (social network service), Mobile-Web, participation, shares, openness

1 Introduction

The emergence of ubiquitous computing was made possible by sensor performance and network expansion. Sensor precision, network bandwidth expansion and computers’ upgraded processing capacity benefit humans as they are applied to diverse services for citizens.

Specifically, web 1.0 put computers at the center of information processing and put humans at the periphery by clustering them. Web 2.0, on the other hand, is a more individual oriented trend, which put interaction between computer processing and network on the periphery and hence delivers individualized services in a distributed environment. Such introduction of services optimized for individuals, not groups brought about faster Internet, faster reaction rate of computers and development of mobile devices.

* Corresponding author.

In particular, Internet environment has changed and developed drastically, so few users now access it via modems, which were widely used a few years ago [1]. As a result, the traditional Virtual Terminal (VT) environment has been replaced by the Graphic User Interface (GUI), and text-based simple HTML (Hypertext Markup Language) service has become a multimedia based service [1].

Graphic processing optimized to users and seamless Internet that allows access to the network anytime, anywhere propelled huge political, social and cultural changes.

This study will observe the impact mobile network and the subsequent changes in political network have on citizen participation and propose ideal communication model.

2 Related Works

2.1 IT-Driven Mass Participation

New terms and technologies such as cloud computing, smartphone, mesh network and social network service are given different approaches. For example, they are dubbed as new media in journalism and mass communication and Internet politics or network politics in political science. ICT (information and communication technology) is used as means to explore new government in public administration. Early on, Manuel Castells said the application of new technologies in social science will have tremendous ripple effects.

If information technology is better theorized and incorporated into the central social science theories that guide thinking about how government works, researchers will possess more powerful tools for explanation and prediction [2].

Fig. 1 shows Technology Enactment Framework. Technologies will not grow in the market and community unless technologies become part of the framework and system. The community will not advance either if it fails to properly absorb new technologies as part of its system and culture.

As indicated in Fig. 1, citizens leverage instituted technologies to engage themselves. Prerequisites for enacted technology are trust, social capital and interoperability. The government also needs to commit itself to hierarchy, jurisdiction, standardization, rules, files and stability to protect transparency and efficiency. By learning how the government, market, individuals and technologies structure themselves and interact with one another, we can figure out how technologies get through for proper use by citizens. This study gives an observation on citizen-engaging platform suggested as a concrete service in a network structure, which boosts efficiency of political information and accordingly looks into the environment on which the system operates. Fig. 1 provides a general glimpse on operating principles and background for 'participation, sharing, openness' required to engage citizens to politics.

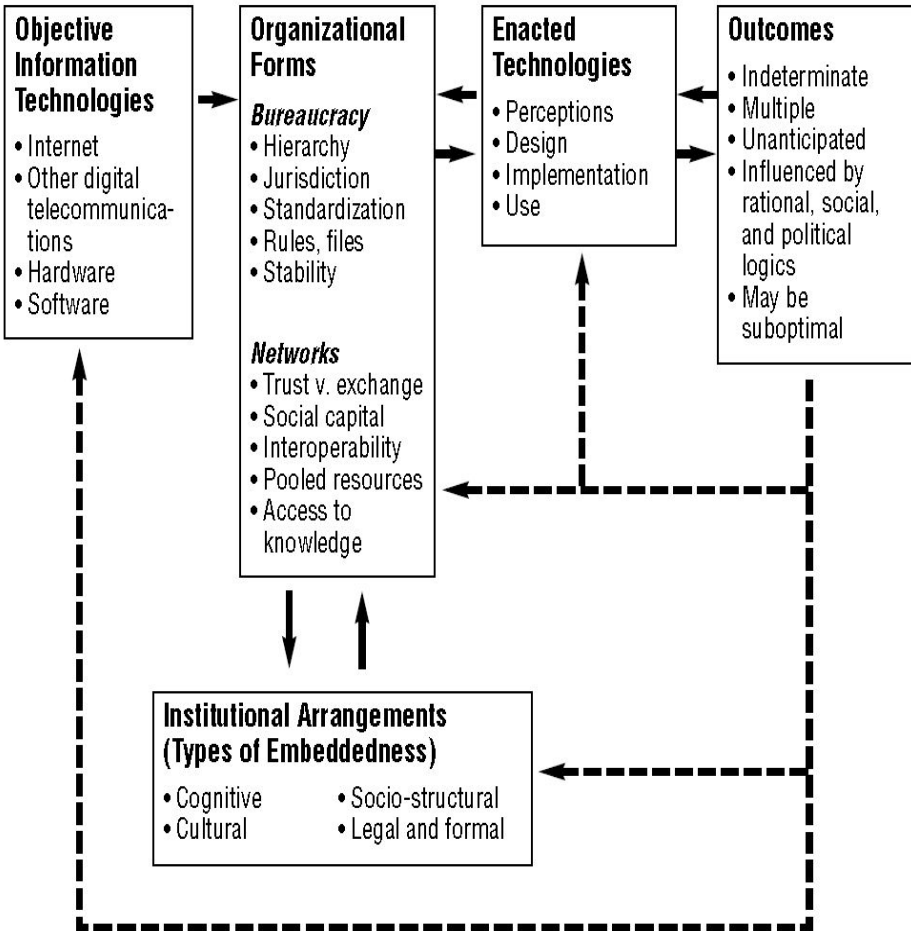


Fig. 1. The Technology Enactment Framework [3]

2.2 Social Network Service (SNS)

Me2day (<http://www.me2day.net>) by Naver and yozm (<http://yozm.daum.net>) by Daum are hot social network services in Korea these days. Google's Google Plus (<https://plus.google.com>), Twitter (<http://twitter.com>) and Facebook (<http://www.facebook.com>) are also popular social network services. Although there is a slight difference from one service to the other, all of them share 'openness' in their network and put no restrictions on moving or connecting contents.

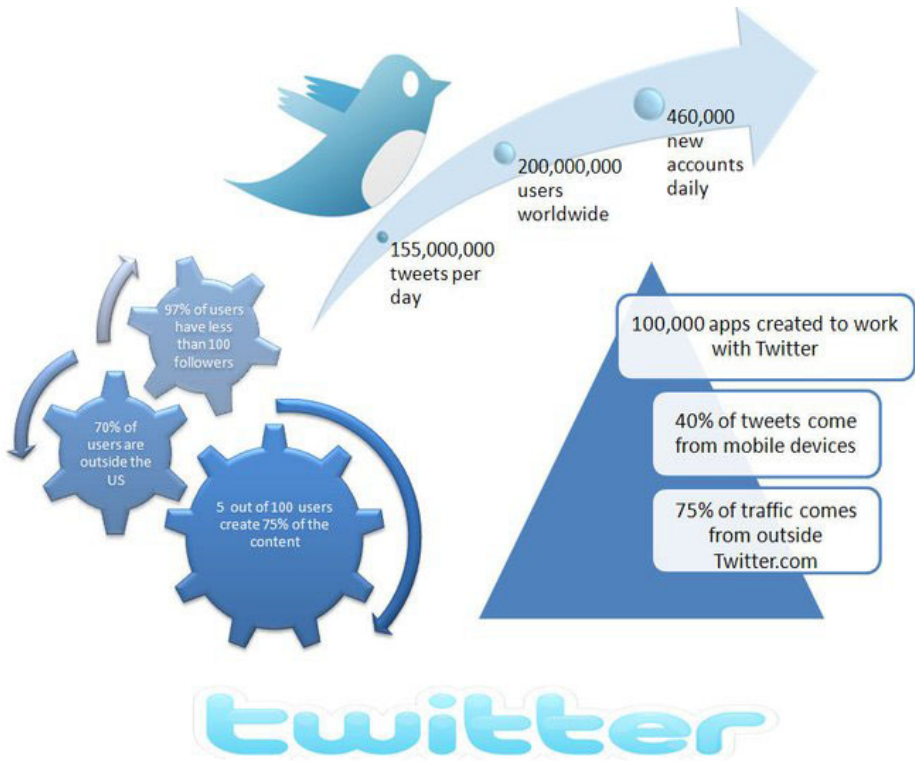


Fig. 2. The Technology Enactment Framework [4]

Being such, users have the freedom to edit or give away contents no matter their subject, theme, preference, published date or producer. For instance, there are already 200 million Twitter accounts and 460,000 new accounts are added every day. 97% of users have less than 100 followers and 81% of users follow less than 100. 70% of Twitter accounts were opened outside of the U.S. and 75% of Twitter traffic comes from outside Twitter. 40% of Twitt is sent from mobile device and there are one million applications related to Twitter.

Twitter, me2day, Facebook and yozm broaden open network sphere by competing and cooperating at the same time and the evolution of such social network service is introducing a new form of communication.

2.3 Long Tail and Political Information

Chris Anderson of Wired Magazine described a new business model called “The Long Tail”, which is defined as ‘on-line retailers are finding that even the most obscure content sells at an acceptable level on line’. The following Fig. 3 is the long tail for digital sound.

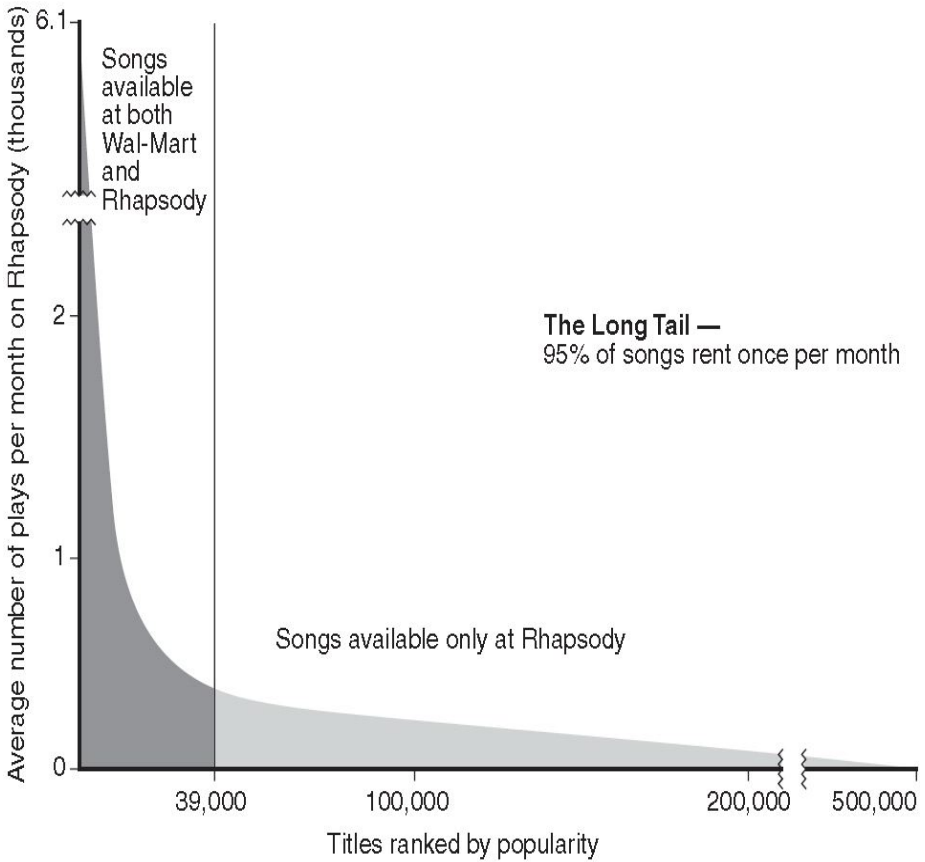


Fig. 3. Monthly Download Performance of Rhapsody-Source-Wired Magazine [5]

If long tail as described in Fig. 3 can be likened to politics, it is high-profile politicians, influential officials and headliners who consumed political information in the age of web 1.0 but it is 'the small stories of ordinary citizens are newly emerging as political information' in the age of web 2.0.

For example, President Barack Obama raised \$319.9 million from 3.1 million supporters during his presidential campaign in 2009 and 50% of them donated less than \$200. Their average donation was \$86 and most of them went online for donation. As in Obama's case, long tail revolutionized big-sized fundraising by just a few into donation of small amounts by many citizens.

YouTube (<http://www.youtube.com>), Obama'08 iPhone application (<http://www.barackobama.com/iphone-demo>), MyBo (<http://MyBarackObama.com>), Obama blog, Obama homepage (www.barackobama.com) and Facebook (www.facebook.com/barackobama) joined forces to engage citizens and help them voluntarily raise funds for which they support.

Long tail is a new theoretical framework applicable to CD, digital sound all the way to politics and the community. In-depth discussions on its technological potential and its institution into a system make it more concrete.

2.4 Other Research

Aside from research on technology and social science point of view, latest research on mobile phone focused on smart phone. The following technologies are also available for mobile devices:

First, there is the micro-grid technology and clouding platform. With this diversification of distribution systems, distributed generators used in existing systems can be subdivided into smaller units, called micro-grids [6]. The application of smart grid technology has turned the Micro-Grid into a system that can digitize in real-time all the processes of power generation, distribution and demand chain [7].

Second, recent advances in wireless communications and electronics have enabled the development of low-cost, low-power, multi-functional sensor nodes [8]. These sensor nodes leverage the idea of sensor networks [9]. A Ubiquitous Sensor Network [10] is a wireless network which consists of a large number of lightweight, low-powered sensor nodes. Such sensor nodes consist of sensing, data processing and communicating components. Sensor networks are drawing a lot of attention as a way of realizing a ubiquitous society [8].

These researches can be interpreted as the attempts to apply various sensors to many fields of the society (education, medical service, government sector, commerce, etc.) [11].

3 A Political Communication Scheme of Citizen Network System

3.1 Overview and Problems of the Proposed System

This study is to propose the architecture design and method of A Political Communication Scheme of Citizen Network System. This system addresses the limitations and problems of the real world as described below, and is proposed as a new model for political communication.

Hardly anyone rushing to his/her own business on the streets gives their ears to the suffering who has been treated unfairly. Just a little engagement and interest is enough but taking time to listen to one's frustrations or consume political information entails cost. For sure, communication of political information will become much more active if such transaction cost can be minimized.

The divergent stories made by citizens and individuals, in particular, are cases in point of disembedding that had been adjusted and negotiated through social

institutions and laws. If such settlement failed to be effective, citizens hold illegal rallies or violent demonstrations to draw people’s attention. This study proposes a model that addresses such disembedding with communication technology to search for embedding in political information.

3.2 System Configuration

The following Fig. 4 is a system aspired by this study to solve political information containing citizens’ voices and conflicts through a social method characterized by ‘sharing-participation-openness.’ Social network system and basic technologies for service are required to deliver this technology.

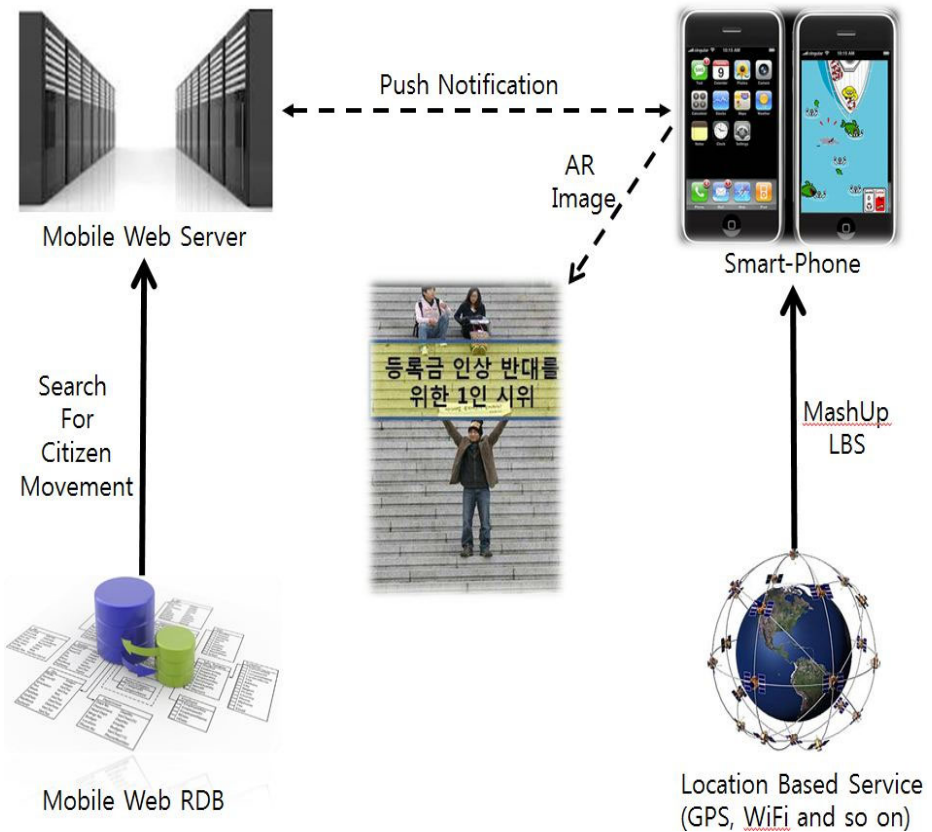


Fig. 4. Social embedding system to address citizens’ disembedding

Fig. 4 is a diagram on an effective sharing system module that leverages augmented reality technology to share, expand, reproduce or transmit civil movements or citizens' voices with others.

Its development can be described by each stage of system realization as follows:

First, store location information in a smart mobile device via the built-in location information receiving function..

Second, send received location information to management server together with current (at the time of transmission) time information.

Third, search civil movements matching with the foregoing information location and time information in DB.

Fourth, send AR images on civil movements or individual voices to smart mobile device.

Fifth, display the foregoing smart mobile device, which will display an image combining the real world reflected in the displays via built-in camera and the foregoing AR image.

4 Discussion and Conclusion

This study observes disembedding and embedding, which could occur when the advent of mobile network age realigns the existing hierarchical order into network principles. It starts with a different viewpoint as the proposed system does not view voices of citizens or NGOs as conflicts or disembedding. In other words, political information can enter into a virtuous circle only when self-defensive arguments raised by civil movements and individuals are perceived as contents for communication. And this system can maximize its impact in an environment upholding virtuous circulation of political information.

The emergence of smart devices inevitably restructures dichotomous, hierarchical, vertical and central mechanism into distributed, horizontal and relational principles. It also has the power to encourage collective collaboration and self-purification capable of creating a virtuous circle of 'participation-sharing-openness' in circulating political information. This study proposes a political communication scheme of citizen network system on disembedding and embedding principle. It is particularly designed in a network structure to support connection with social network service. An open network structure is also a condition to turn information of disembedding into one of embedding through the system.

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This study is a restructure of presentation on [Network Political Theory and Smart Technology; social citizen network service and augmented reality system connecting

disembedding and embedding] on Apr. 30th, 2011 at Kyunghye University, Hoegi-dong, Seoul, Republic of Korea into a thesis. I would like to express my fullest appreciation to presenters Dr. Lee, H.-C. and Dr. Han, J.-H. for making good points during seminar hosted by Social Sciences Korea in April.

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