



## Consideration of Regional Informatization Practices in Japan\*

— A Case Study on a Civic Organization Operating Community Media —

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**Abstract** The aim of this article is to investigate Japanese regional informatization from the viewpoint of practices with use of a progressive case study. This article focuses attention on a civic organization that has been taking the lead in promoting regional informatization in city A, and elucidates how the civic organization of a community media operator reconsidered its own practices, and then transformed both its own organizational structure and practices. This article starts with a review of the theoretical background on informatization. Through this review, we reveal both our research stance and research method in analyzing regional informatization (chapter 2). The next chapter explains the background of Japanese regional informatization (chapter 3). In chapter 4, the case analysis illustrates how the civic organization accepted 'unintended consequences' brought about by its own informatization practices, and transformed its own organizational structure in promoting the regional informatization in city A. Finally, this article highlights that regional informatization implies not a mere introduction of Information Technology (IT) ('computerization'), but reconstruction of a regional society through a recursive relationship between IT and practitioners (chapter 5).

**Key words** Regional Informatization, Unintended Consequences, Action Research, Information Technology

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**概要** 本稿の目的は、先進事例を用いて、わが国の地域情報化を実践の視点から考察することにある。本稿では、A市の地域情報化推進において先導的役割を担う市民団体に着目し、コミュニティメディアを運営する市民団体が、自らの実践を再考し自身の組織構造と実践を変革してきた過程を明らかにする。本稿ではまず、これまでの情報化に関する理論的背景の検討から始める。そして、この検討を踏まえて、地域情報化を分析するうえでの研究スタンスとそれに基づく研究方法を提示する(第2章)。次章では、わが国の地域情報化の背景を概説する(第3章)。第4章では、事例分析を通して、コミュニティメディアを運営する市民団体が、情報化実践によってもたらされた「意図せざる結果」をどのように受けとめ、そして、A市の地域情報化を推進する中で、どのように自身の情報化実践と組織構造を変革してきたのかについて明らかにする。本稿では最後に、地域情報化は、単なる情報技術の導入(「コンピュータ化」)を意味するものではなく、情報技術と実践者の再帰的な関係性による地域社会の再構築を意味することを強く主張している(第5章)。

**キーワード** 地域情報化、意図せざる結果、アクションリサーチ、情報技術

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## 1. Introduction

The aim of this article is to investigate Japanese regional informatization from a viewpoint of practices with use of a progressive case study. This article focuses attention on information practitioners in order to grasp an understanding of their own reflexive practices with use of exploratory research method. A significant point of our research is that we place our focus on ‘unintended consequences’ (Giddens, 1984) for a civic operator of community media brought about by their informatization practices. These ‘unintended consequences’ are not questioned in the everyday practices of a media operator. At the same time, the interactive and reflexive interactions between a civic operator of community media and media users (citizens) create opportunities to transform their practices. In addition, these reflexive practices enable researchers (analysts) to reconstruct current assumptions regarding informatization practices. Informatization does not mean merely what existing operations are replaced by IT. Rather, it is the idea that the process itself leads to human and social changes in a given context. This article centers on a case study of the regional informatization led by municipal government A in Japan. This case is regarded as one of the more progressive cases, since more citizens are active in promoting communication among users on cyber space with the frequent use of community media, which resulted in regional activation. Although this research was conducted primarily as a single case study, the case study itself provided an opportunity to reconstruct several of our assumptions on informatization practices.

This article focuses attention on a civic organization that has been taking the lead in promoting regional informatization in city A, and elucidates how the civic organization of a community media operator reconsidered its own practices, and transformed both its own organizational structure and practices. This article starts with a review of the analytical framework for informatization. Through this review, we reveal both our research stance and research method, and our analytical framework to analyze regional informatization (chapter 2). The next chapter explains the background of Japanese regional informatization (chapter 3). In chapter 4, the case study analysis illustrates how

the civic organization accepted ‘unintended consequences’ brought about by its own informatization practices, and transformed its own organizational structure in promoting the regional informatization in city A. Finally, this article highlights that regional informatization implies not a mere introduction of Information Technology (IT) (‘computerization’), but reconstruction of a regional society through a recursive relationship between IT and practitioners (chapter 5).

## 2. Theoretical background and research method

Preliminary studies on ‘informatization’, many of which imply ‘computerization’, treat IT as a technological system based on computers. Yates and Van Maanen (2001) argue for the need to discuss informatization from a radical perspective including a wider range of IT rather than to treat IT as analogous with ‘computer’. Further, they suggest an extension of discussions on the basis of the incremental change of work practices actually promoted by IT users rather than to discuss a structural change in IT on the basis of abstract and generalized symbols of work practices. Campbell-Kelly (2001), who promotes a longitudinal study on the operation system of census taking in the UK, demonstrates that an interactive relationship between information-processing technology and a social context led to the transformation of this operation system through several reorganizations of data-collection and processing technology, division of labor, and the human skills required to promote each task. These findings offer a perspective with which to comprehend informatization. Informatization, therefore, does not simply mean ‘computerization’. Rather it is the idea that the process itself leads to human and social changes in a given context.

Practices of informatization have weaved both sides of light and shadow (Matsushima, 2005). The light side of informatization is the case in which use of information technology brings about the result as expected; on the other hand, the other aspect is that use of information technology does not always bring about results expected or births exactly the opposite result. Shedding light on information paradoxes enables us to question the limits of the design principles of modern rational organization. Brown and Duguid (2000) note that a variety of paradoxes were found within the promotion of

social informatization, and argue that social changes predicted as the result of IT have not been empirically observed. These results have caused the unexpected 'de- or dis-6-Ds' (de-massification, de-centralization, de-nationalization, de-specialization, dis-intermediation, and dis-aggregation). Therefore, in order to grasp the effects of technology, it's important to understand that IT represents powerful and complex forces at work in society. On the evidence of the 6-Ds, Brown et al. (2000) suggest that previous attempts to explain outcomes in terms of information alone miss the way these forces combine and conflict (p.27). They ascertain that 6-D vision, while giving a clear and compelling view of the influence of the internet and its effects on everything from the firm to nation, achieves its clarity by oversimplifying the forces at work (p.31). Therefore, as Matsushima (2002) ascertains, there is a need to change the way of setting up research questions from the viewpoint of the causal relationships between organizations and IT. This is because the existing analytical perspectives, such as technological determination (e.g., Scott-Morton, 1991; Crowston and Malone, 1994) and organizational determination (e.g., Galbraith, 1973; Daft and Lengel, 1986), fail to take into account 'essentialism' (Grint and Woolgar, 1997). Those scholars tend to make some a-priori assumptions about the internal traits of both IT and organization. In a sense, the phenomenon of informatization has been explained by the internal characteristics of IT or organization (Matsushima, 2002).

On the other hand, Orlikowski (1992), who identifies prior views of technology - as either objective forces or as socially constructed products - as 'a false dichotomy' (p.406), offers a concept of the 'duality of technology'. This concept is an adaptation of Giddens's model of structuration theory (Giddens, 1984), and first looks at technology from a 'structuration' viewpoint, considering technology as the structural property of organizations. The 'duality of technology' indicates a recursive relationship between the practices and usages of technology. In a sense, although an operator of community media intended to empower media users, those users with their unexpected usages have a possibility to alter the operating practices to improve community media through reflexive dialogues to deal with 'unintended consequences'.

However, even structuration theory can't overcome the problem of essentialism (Matsushima, 2002; Grint and Woolgar 1997). Grint and Woolgar (1997) argue that this

theory refers simply to the interaction process between technology and organization rather than the process of technological interpretation by informatization practitioners. Matsushima (2002; 2005) also indicates the problem common to conventional analytical approaches; chiefly, to investigate causal relationships without sufficient understanding about both technology and organization. Therefore, preliminary studies overlook the inherent informatization where both technology and organization have been rebuilt through informatization practices. Researchers fall into essentialism by bringing some of their assumptions, consciously or not, into the investigation of informatization. What matters is to ascertain a recursive mechanism in the process of IT informatization practices, which led to organizational learning in a way totally different from analysts' predictions. Therefore, in order to avoid essentialism as far as possible (even though this is arguably impossible to avoid completely), a suitable stance is needed for researchers to analyze changes beyond the existing analytical framework. The following paragraphs discuss a research method suitable for the analysis of informatization practices.

The discussions above indicate a necessity to seek insight into informatization practices from the viewpoint of practitioners. In order to do so, it's crucial to place our focus more on 'unintended consequences' brought about by informatization practices. This research employs exploratory action research (AR) (Parker, 2005). The AR is the exploratory research method proposed by Kurt Lewin. The characteristics of AR is that researchers intervene in research fields in order to examine the processes of a problem-solving and reform practices in the field in cooperation with practitioners. Parker (2005) argues that a radicalization of qualitative methods such as ethnography, interview, narrative approach and discourse analysis necessarily lead to AR. Through reflexive dialogues with practitioners, researchers make it possible to investigate a reflexive process of practitioners driven by 'unintended consequences' in each of their contexts. These 'unintended consequences' make practitioners reflexively re-examine self-evident organizational conventions embedded in the workplace thus far. This reflexive process sustains a recursive mechanism between organization and IT. Subsequently practitioners' reflexive practices lead to re-organize existing human relationships embedded in the workplace. Reflexive practices of practitioners provide an opportunity for both practitioners and analysts to reflexively re-examine their underlying

assumptions or underlying values on self-evidential informatization. This article attempts to investigate the practices of regional informatization with a case study of a Japanese municipality. We place the majority of our attention on a civic organization operating community media. The case study illustrates both how this civic operator reconsidered informatization practices embedded in a given context, and transformed both its organizational structure and its own practices. Prior to the case study, the next chapter explains the background of Japan's regional informatization.

### 3. Background of regional informatization in Japan

This chapter reviews practices of 'informatized regional community' under the influence of 'e-Japan strategy' conducted in order to mobilize community information among regional community citizens, to improve disaster prevention, and to bring about the revitalization of community activities. Since Japan's Prime Minister Yoshiro Mori presented the concept of 'e-Japan strategy' in his policy speech in 2000, the central government has been endeavoring to create a 'knowledge-emergent society', where everyone can actively utilize IT and fully enjoy its benefits. In 2001, the central government formulated the 'e-Japan strategy' project that aimed at establishing an environment where the private sector, based on market forces, can exert its full potential and make Japan the world's most advanced IT nation by 2005. The main goals of the 'e-Japan strategy' project were to 1) build an ultra high-speed Internet network and provide constant Internet access at the earliest date possible; 2) establish rules on electronic commerce; 3) realize an electronic government; and 4) nurture high-quality human resources for the new era by 2005 (IT Strategy Headquarters, Prime Minister of Japan and His Cabinet, webpage). In accordance with the launch of the e-Japan Priority Policy Program by the central government in 2001, many municipal governments have been promoting informatization in order to provide user-oriented administrative services

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(1) This strategy was to transform the country into the world's most advanced IT nation by 2005. After the goal of this strategy was achieved, the Ministry of Internal Affairs and Communications (MIAC) started the 'u-Japan Policy' aimed at realizing the 'Ubiquitous Network Society'. This 'u-Japan Policy' stresses 1) development of ubiquitous networks; 2) enhancement of IT usage; and 3) improvement of the user environment (Ministry of Internal Affairs and Communications, webpage).

as well as to bring about a more simplified public administration with a higher budget efficiency<sup>(1)</sup>.

Due to its inherent property of interactivity, IT attracted a great deal of public attention helping to realize citizens' direct participation in the formulation of public policy. After an influential experiment by the Fujisawa municipal government in 1997-2000, many municipal governments introduced electronic Bulletin Board Systems (BBSs) for public communication. Many municipal governments in Japan have attempted to promote citizens' participation in policy formulation in accordance with the rapid diffusion of the Internet. In 2003 the Yatsushiro municipal government introduced the BBS based portal site, 'Grotto Yacchiro (GY), <sup>(2)</sup>' as a part of the regional informatization conducted in accordance with the 'e-Japan strategy'. In August 2002, it organized an internal working group to renew the official website by enriching its portal. The working group consisted of eighteen members from nine departments, and was led by the Planning and Coordination Department. Each department delegated two members to this group. After examining the web portals of other municipalities, the working group launched the web portal GY based on BBS in April 2003. It should be noted that GY was not one of the 'first movers' among BBS-based city government portals. Rather, it seems to have been enjoying a 'latecomer's advantage'. The goal of GY was to provide 'playing fields in cyber space for citizens' to promote interactive-communication among citizens. By this point in 2002, 732 municipal governments had introduced public BBSs.

Most of them, however, have since faced the following difficulties and have failed to meet expectations thus far; 1) many citizens were reluctant to voice their opinions with their real names on the public BBSs; 2) public BBSs tended to be dominated by strong assertions, which also de-motivated many citizens who wished to voice moderate opinions; 3) public BBSs were abused by massive anonymous postings; 4) public BBSs could not establish proper procedures and rules for operations; and 5) municipal

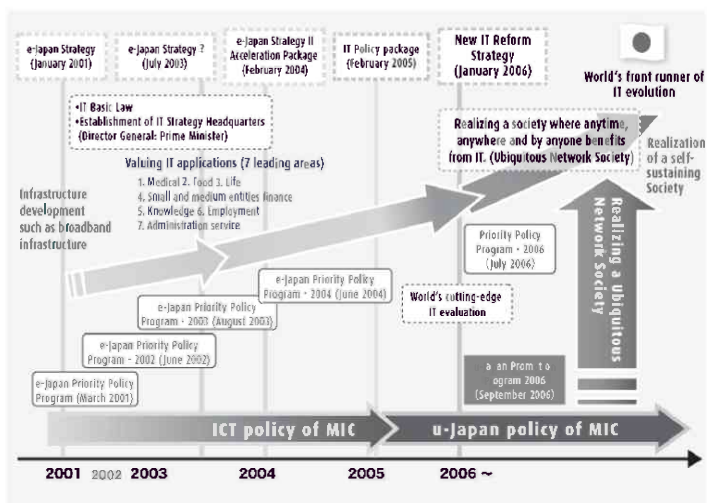
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(2) Grotto Yacchiro means 'all of Yatsushiro' or 'very Yatsushiro' in Yatsushiro dialect of Japanese. In 2006, GY had more than 3,000 registered members, many of which live in Yatsushiro city. Authors interviewed the Yatsushiro municipal government officials who were working with GY: Mr. Takao Kobayashi and Mr. Yoshiyuki Tomoda of Information Development Section on May 21 in 2007, and Mr. Hiroshi Ueda of Community Safety Section and Mr. Hidekazu Shinohara of Business Promotion Section on January 21 in 2008. According to the interviews, the Yatsushiro municipal government launched the first official website in February 1998.



governments could not incorporate opinions on the public BBSs into their policies successfully (Syoji, Miura, Suko, and Wasaki, 2007). GY didn't work well due to stagnation in the numbers of membership and accesses. After the launch of the BBS-based GY web portal, Mr. Kobayashi (webmaster of the Yatsushiro municipal government), who was also a member of the working group, continued a search for a better portal design to develop the 'playing fields in cyber space for citizens'. To begin with, he carefully examined the shortcomings of BBS-based web portals of other municipalities. He also analyzed the data of citizens' access to the BBS-based GY and found a high number of accesses to posters' profiles. As a result, the analysis found that more citizens were interested in information on citizens themselves rather than information on the community itself or on the municipal government.

Figure 1: Steps taken in Japan on IT strategies



Source: Adopted from Ministry of Internal Affairs and Communications (MIAC), web-page

This result was very much an 'unintended consequence' for Kobayashi. Users utilized this portal website to make social relationships with unknown citizens in cyber space. At the same time, Kobayashi came to know about a Japanese major global Social Networking Service (SNS), Mixi, and was inspired by the system to share personal information on the Internet. He came to realize that a regional SNS is a more appropriate instrument for visualizing connections among citizens. In December 2004,



the regional SNS web portal GY came into operation. After the launch, both the number of registered members and accesses per day steadily increased. The number of registered members increased from 600 to 3,000 (as of December 2006), and the number of visits to the web site per month increased from 2,000 to 120,000 (as of December 2006). In relation to this, connections among members came to be visualized.

Regionwide public communication mediated by the regional SNS GY facilitated; 1) orderly, supportive and constructive communication among local citizens and between the municipal government and citizens; 2) the mobilization of people and resources for expanding, diffusing, and diversifying public activities such as environmental protection and the revival of the central commercial district; and 3) knowledge creation such as disaster prevention maps and a placement service for abandoned pets. These outcomes were beyond the expectations of the city government, including those of Kobayashi himself. GY provides a cyber space in which variety of people and organizations are loosely coupled to develop joint public activities. GY also offers a ‘*ba*’<sup>(3)</sup> (Nonaka and Konno, 1998; Nonaka and Toyama, 2003) on the web in which knowledge is shared, created, and utilized through interactions among a variety of people and organizations. The Yatsushiro municipal government now operates GY separately from the official website. While the official website aggregates information from the municipal government and collects public opinions by e-mail, GY offers citizens a web portal to share and exchange ideas and information among them. Kobayashi often attends users’ forums on an off-line basis as a regular user, and discusses GY’s usability.

The success of introducing a SNS by the Yatsushiro municipal government stimulated MIAC to initiate a research project on the regional SNS in 2005. The project examined the possibilities of the regional SNS as a means; 1) to promote citizens’ participation in policy formulation; 2) to facilitate interactive-communications among citizens; and 3) to provide disaster information. MIAC then experimented with regional SNSs in cooperation with the Chiyoda municipal government in the Tokyo Metropolitan District and the Nagaoka municipal government in Niigata Prefecture for the regional renovation

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(3) ‘Ba’ is the shared context in motion, in which knowledge is created, shared, and utilized. It can be physical (e.g., office), virtual (e.g., teleconference), mental (e.g., shared experiences, ideas, or ideals), or any combination of them (Nonaka and Konno, 1998; Nonaka and Toyama, 2003).

and reformation of municipal governments. Chiyoda city, at the center of the Tokyo Metropolitan District, faced a residential community crisis due to an increasing gap between the daytime and night time population. The Nagaoka municipal government faced various problems including isolated and depressed communities. Finally twenty municipal governments took part in the demonstration experiment initiated by the MIAC. According to Syoji et al. (2007), the benefits of region-wide SNS as a regional public communication media can be summarized as follows:

- 1) The membership system of the regional SNS induces responsible usage that prevents 'trolling' messages and abuse of the system.
- 2) Users can customize the contents in accordance with their preferences.
- 3) It makes it easier for users to construct a variety of both online and off-line networks by crossing the boundary of their own community, as the regional SNS empower users' activities as well as their communities.
- 4) Users can create new communities in accordance with their needs on the web.

This research takes a case study of the regional informatization implemented by the municipal government A. This case is regarded one of the progressive cases of regional informatization. In particular, the regional 'SNS-O', introduced as a series of demonstration experiment initiated by the MIAC, has been more active than many of those introduced. In addition, this regional SNS has been operated through self-funding after the end of financial support from the municipal government. Even though this research is based on a single case study, this research still remains valid as it attempts to provide a deep insight into a rare case of regional informatization.

This case study seeks to shed light on the informatization practices embedded in a regional context. The unit of the analysis is a civic organization that operates community media. Through this case study, this research seeks insight into its reflexive practices caused by 'unintended consequences' of use of IT, and then reviews and reconstructs the benefits (assumptions) of the regional SNS listed above.

## 4. Regional informatization in city A<sup>(4)</sup>

### 4-1. Introduction of 'e-town U'

The municipal government A has been promoting regional informatization of city A in accordance with Japan's IT strategy since 2001. The municipal government published the plan for regional informatization in June of 2001. In 2004, 'N' (a public official of the IT Promotion Section of the municipal government) attempted to introduce citizen dynamism from volunteer groups to activate a regional community with an installation of IT. Based on the plan for regional informatization, N planned to introduce a portal-site in order to share information about the community volunteer groups which were based in public halls, to activate interactions among these groups on web-site, and to lead to active citizen participation. N invited leaders of volunteer groups including 'M' (who regularly held study forums for those who participated in volunteer groups) to join in the operation of portal-site. Then M also invited 'Y', with whom M attended a course for would-be leaders of volunteers, to found the civic organization 'U-net' to operate a web-portal. This portal enables volunteer groups to make their own Home Page with ease in order to promote their own activities as well as to share information with other groups. In May of 2004, the municipal government launched the first electronic community media, 'e-town U', as an experimental demonstration project with a subsidy from the MIAC. Y became the first leader of 'U-net', and led this group with M. They often hosted PC workshops for citizens to develop IT literacy, and M encouraged more community volunteer groups to join 'e-town U' for their activities at community events including study forums. As a result, more than 90 groups registered on this portal-site.

However 'U-net' and the municipal government faced 'unintended consequences', because this portal did neither work actively nor inform citizen activities.

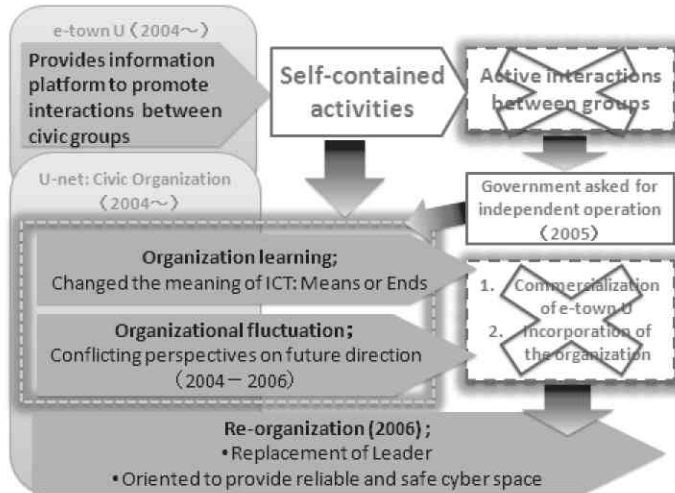
The first issue was embedded in users' contexts. Few of the volunteer groups found it useful to use this IT tool. M, at first, assumed that many members of volunteer groups

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(4) This section is based on the interviews conducted with; 1) M ('U-net') on June 6, June 24, August 26, and September 26 in 2011; 2) I ('U-net') on June 24 and August 26 in 2011; 3) N (Public official) on July 15 in 2011; and 4) Y ('MD-net U') on July 22, and August 24 in 2011.

had a problem with IT literacy. Therefore, ‘U-net’ sometimes held PC workshops in order to offer learning opportunities for those who had a problem with IT literacy. In contrast to his assumption, however, only a few members were motivated to attend the PC workshops. It was found later that many of the volunteer groups did not find any merit of using ‘e-town U’ to provide own information, because their volunteer activities sought to fulfill their own interests. Even if it was difficult for registered groups to keep on updating their information on the web-site because the groups were mainly composed of senior citizens, the main problem was rather that their activities were oriented to be self-contained rather than to expand their own activities through positive interactions with other groups. As a result, the online community on ‘e-town U’ was fragmented. In addition, the group-oriented portal site could not attract latent active younger citizens who were seeking for some citizen activities to join. Therefore, even with many registered members, ‘e-town U’ didn’t work as an IT tool to create citizen activities.

Figure 2: Organizational transformation of ‘U-net’ through introduction of ‘e-town U’



Source: Created by the authors

The results illustrated above produced a fluctuation within ‘U-net’ when the municipal government asked to operate ‘e-town U’ without any assistant after the end of the demonstration experiment. Then ‘U-net’ held a special meeting to discuss the future direction of ‘e-town U’. There was a clash of opinions between members.

Y, leader of 'U-net', regarded this web-portal as a means to expand community activities, and argued for changes in both functions and contents of this portal. His business plan was to have 'U-net' granted legal status as a NPO, and to commercialize this portal site in order to operate on a for-profit basis. The portal site was to provide some connections for a wide variety of actors including business actors and NPOs rather than to be used by volunteer groups to expand or create their own activities.

On the other hand, M yet regarded 'e-town U' as a means to provide an information platform for volunteer groups. He insisted that 'U-net' itself didn't have enough management resource to operate on a for-profit basis. As a result of the dispute between them on the future direction of the organization, Y left 'U-net' and M became the leader of this organization. Y's withdrawal was arguably an 'unintended consequence' for 'U-net'. In a sense, an operation of 'e-town U' brought about 'unintended consequences', and led to changes both in existing social relationships, and informatization practices. Although the operation of 'e-town U' was not as successful as imagined in the first place, this planted a seed for launching a regional SNS in year of 2006. On the public administration side, following unfavorable performance of the 'e-town U', N was seeking other community media for motivating individual citizens rather than groups to promote citizen participation. In this year, the municipal government made the decision to introduce and launched the regional 'SNS-O' as the demonstration experiment initiated by the MIAC in collaboration with 'e-town U'. Fortunately, it became possible for 'U-net' to receive financial support from the municipal government for the operation of both community media, 'e-town U' and 'SNS-O'. Consequently, 'U-net' became able to continue its own policy of providing a safe and reliable cyber space for users.

#### **4-2. Introduction of 'SNS-O'**

As soon as the launch of the 'SNS-O', the 'U-net' started promotion at social events, and encouraged more citizens to join this site. In addition, it hosted offline meetings in order to create social relationships among users. This community media embraced younger people such as university students located in city A. The 'SNS-O' created a variety of connections between younger and senior generations inside and outside of this

site. In comparison to other SNS undertaking the demonstration experiment initiated by the MIAC, the 'SNS-O' was more active as regards enrollment, the number of active users, and the ratio of those users (indicated in table 1). The 'U-net' also hosted the Fourth National Regional SNS Forum, which attracted more than 2000 participants. The mayor of city A had a speech at this forum. The success of the national forum demonstrated the effectiveness of the 'SNS-O' in creating social relationships crossing boundaries. The real social events, which came out of the 'SNS-O,' constructed new social relationships different from those pre-existing, and consisting of neighborhood community-based ties.

Table 1: Comparison chart of each regional SNS funded by the MIAC

	Enrollment	Active Users	Ratio of Active Users
Total Average	674	226	33.6%
Introduced in 2005			
A	2,219	189	8.5%
B	787	53	6.7%
Introduced in 2006			
C	1,423	494	34.7%
D	1,432	258	18.0%
E	359	81	22.6%
F	1,266	522	41.2%
G	670	252	37.6%
SNS-O	1,324	565	42.7%
I	508	174	34.3%
J	581	315	54.2%
K	752	242	32.2%
L	149	31	20.8%
M	145	39	26.9%
Introduced in 2007			
N	148	108	73.0%
O	167	167	100.0%
P	355	263	74.1%
Q	143	113	79.0%
R	326	265	81.3%
S	441	188	42.6%
T	288	208	72.2%

Data, as of Feb 2008 ※ Active users: those who log in once a month

Source: Authors adopted and revised the data from LASDEC (2008, p. 31)

However, this community media caused ‘unintended consequences’. The first one is that although many social events were mediated by this media, few users were motivated to take part in or form civic organizations. Each online community only had weak ties with other communities because each had high internal cohesion. It was found that the civic organizations (including ‘U-net’) forming their own on-line community on the SNS more frequently used IT not for expansion of their own activities but for on-line based decision making. Therefore, each organization seemingly preferred not to open their on-line community to outsiders. Such usage of IT eventually led to a fragmented on-line community. In this sense, the usage of ‘SNS-O’ was totally different from that of GY. It’s possible to say that a regional SNS could become a useful tool to strengthen the cohesion of each community as well as to promote interactions among communities. In the context of the regional ‘SNS-O’, a regional SNS was understood as an IT tool to strengthen the cohesion of each community. Actually, ‘U-net’ did not encourage the users (who belonged to NPOs) to promote their own organizations with use of the SNS, since they regarded this community media as an individual based-communication tool. This fact encouraged analysts (researchers) to reconstruct assumptions on informatization practices.

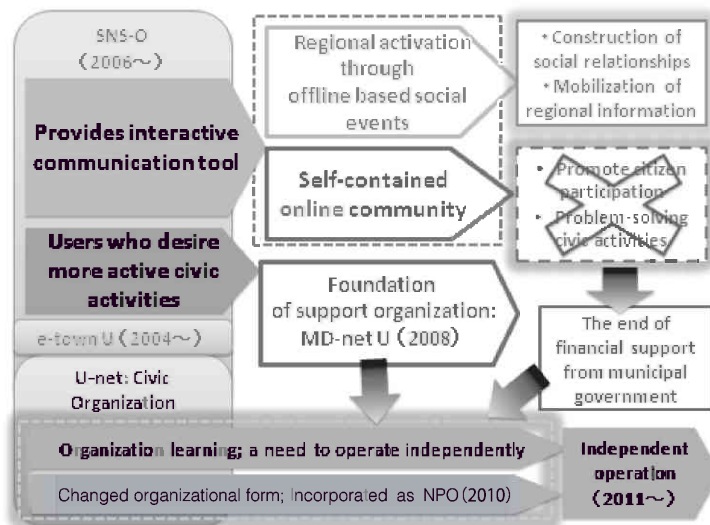
On the other hand, these results went against the expectations of the public sector side because public officials including N expected active social events or communications mediated to promote citizen participation in each field of public policy such as child-rearing, social care and town development. In fact, when they hosted the national SNS seminar, the municipal government placed a workshop about environmental issues with the purpose of motivating the SNS users to participate in a policy process, less users attended than they expected. Even the mayor recognized that the SNS had a strong impact on a regional society, but it did not receive widespread support from public officials of the municipal government. Finally, when the demonstration experiment period ended in 2009, it was decided to sustain financial support for both the ‘SNS-O’ and ‘e-town U’ until the end of March in 2011.

Following this result, public official N sensed the emergency of the situation as only NPOs were allowed to operate ‘SNS-O’ after the end of financial support. N brought Y (ex-leader of ‘U-net’) and some SNS users (who sought to promote civic activities) in



order to found the NPO (‘MD-net U’) for succeeding the operation of community media as well as town development with use of IT in 2008. As soon as the NPO was founded, many public institutions such as a prefectural government, requested the ‘MD-net U’ to undertake some partnership projects. This NPO became a platform to promote collaborative projects in order to meet regional challenges. In addition, the ‘MD-net U’ is expected to work as the first infrastructure organization in this region to support local NPOs. This NPO currently helps local NPOs to promote their activities, and share information regarding such as management and fund raising with other NPOs.

Figure 3: Organizational transformation of ‘U-net’ through introduction of ‘SNS-O’



Source: Created by the authors

The foundation of ‘MD-net U’ was an ‘unintended consequence’ for ‘U-net’. However, this event accelerated the organizational learning within ‘U-net’. This unintended consequence prompted ‘U-net’ to transform its own practices in accordance with such environmental changes. Even though ‘U-net’ still had concerns about a lack of its own management resources, M made a hard decision to obtain legal status as a NPO in order to operate community media independently, because he had a considerable attachment to the regional ‘SNS-O’. M changed the fundamental direction of ‘SNS-O’ towards activating interactions among users and crossing online communities as well as strengthening cohesiveness among those within a single on-line community.

In year of 2010, the 'U-net' was granted legal status as a NPO to take over the operation of both community media, which surprised both members of the 'MD-net U' and public official N. Although 'U-net' struggled to gain contributions for its operation, the running cost, for the time being, is covered by membership fees. Since incorporation of the 'U-net', the offline based activities of the 'MD-net U' could potentially complement the online based activities by the 'U-net' in order to activate a regional community. 'U-net' has been trying to encourage interactive communications among a wider variety of users crossing online communities to mobilize shared context in motion on one hand, and 'MD-net U' has been trying to construct offline connections among more local NPOs seeking to resolve regional problems on the other hand.

These informatization practices illustrated above brought about 'unintended consequences' for both practitioners and researchers. This case study also indicates a need to reconstruct some of our assumptions on the benefits of SNS indicated in the previous chapter. First, a regional SNS is effective for the existing real (not virtual) communities to promote flexible communications and decision makings rather than to form a variety of both online and offline networks by crossing the boundary of their own community. In other words, a regional SNS is regarded as an effective IT tool for existing real communities to activate their own communities by enabling flexible and interactive communications among members on their own communities online. In this case study, it was found that many users preferred a closed, self-contained community to an open community within the web. This phenomenon shows a situation in stark contrast to the researchers' assumptions. Following this context, even though users were able to create new communities in accordance with their needs on the web, many of them were not in need of creating other online communities on the web. This case study encouraged both researchers and practitioners to consider other unexpected aspects of their current informatization practices. In a sense, both of them need to promote or investigate through reflexive informatization practices while reconstructing their assumptions or norms regarding those practices rather than apply those assumptions or norms onto informatization practices.

## 5. Conclusion

This article investigated the process of regional informatization promoted by the municipal government A. Through the case study, this article demonstrated that ‘Informatization’ implied reorganizations of both informatization practices and social relationships with use of IT rather than ‘computerization’: a mere introduction of IT. This process is led by ‘unintended consequences’ caused by use of IT. These consequences enable practitioners to reconsider a given context of IT use and a meaning of IT, and then to change their own practices. This case study demonstrates that the regional informatization reconstructed a regional society through a recursive relationship between IT and practitioners. The ‘unintended consequences’ of the use of IT provided insight into other aspects of IT functions. Many users regarded a regional SNS as a tool to fulfill their own community interests or enhance community cohesiveness, rather than to expand community activities or construct a variety of new communities. Such results accelerated reflexive practices which led to structural reforms of the civic organization. Following such phenomenon, researchers (analysts) also reconsidered and reconstructed their assumptions on informatization practices. During field research, researchers conducted reflexive dialogues with practitioners in order to look into their reflexive processes in operating community media.

Further research issues are as follows. First, through further research, researchers could provide a deeper insight of informatization practices within an example of regional informatization with the civic organization in order to find a way to commercialize community media. Through a collaborative study, both practitioners and researchers need to demonstrate to various users (including local firms, and NPOs) the implications and potential benefits of community media by finding a way to mobilize a shared context in motion on the web. The second research issue could be to refine the hypotheses on informatization practices by cross-comparing with relevant cases. Finally, through a comparative study, there is a need for researchers to provide useful knowledge on the operation of community media with civic operating organizations. In particular, researchers need to offer practical suggestions for the development of regional

informatization facilitated by community media.

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