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A Meeting of IT-enabled Services (ITeS)

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National Institute of Informatics
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A Meeting of IT-enabled Services (ITeS)

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This meeting is designed to serve as a forum to discuss IT-enabled Services (ITeS). The Internet is certainly one of the core infrastructures in the global economy. As multinational corporations operate globally, mobility of goods, human resources and information resources are expanding in a tremendous scale. Penetration of broadband lets the movement accelerated not only in the scale but also in the scope. Use of broadband lets services in digital form to become ITeS. The scale and scope of ITeS are expanding.

Overview of Talks

What can be further researched in e-service quality measurement? Some personal experiences for future research

Yu-Hui Tao, National University of Kaohsiung

Service quality (SQ) measurement has been extensively researched and widely applied in the early 1990s. To advance the (e-)SQ research with new incremental knowledge, future research needs to meet at least one of the following criteria: innovative, interesting, important or insightful. After a few cases of personal experiences, I am convinced that there may still exist certain practical and academic contributions for future (e-)SQ research. The most dramatic personal experience was the measurement scale development for e-Banking, in which a paper I supervised focusing on a review of seven research studies conducted in seven countries was positively recognized by the reviewers of and accepted by the Service Industry Journal after two major revisions and significant context changes. So was the development of a blog SQ measurement scale for identifying interesting dimensional differences between the non-transaction BLOG website and transaction-based e-Banking websites by E-Commerce Journal published in Taiwan.

Finally, as the director of Information and Library Center at my affiliated university, I found that there is no readily available measurement scale for Information Center as compared to the widely adopted LibQual+ for the library. With a moderately high percentage (16 percent) of combined library and information center in the higher educational institutes in Taiwan, it presents a significant research interest to know (1) what should be the commonly accepted SQ for an information center, (2) can LibQual+ be directly applied to measure the service quality of the combined library and information center, and (3) what are the difference of LibQual+ and the theoretical SQ for the combined library and information center? From the above personal experiences, it is advocated that a user-accepted SQ toward an intended ITeS is still a critical concern for its initial acceptance and future sustainability.

Rethinking Internet Korea and eID system

Dongoh Park, Indiana University, Bloomington

This research deals with the development of Korean information infrastructure, which emerged extremely rapidly and successfully as part of national efforts to create an information society. This research critically explores the tensions among state policies, social understandings of the information society, and the creation of information infrastructure. Korea is often celebrated for its digital capabilities, as seen in the popular phrase Internet Korea. It will demystify this image by showing how information policy was created, implemented and evaluated, and how social, ethical, and political factors shaped Koreas vision for information infrastructure.

South Korea developed a unique secure online system, which was formally called the Official Certificate infrastructure. Use of this infrastructure is now mandatory in e-commerce and e-government systems. According to OECD

statistics, e-commerce in Korea grew seven-fold between 2001 and 2010. According to the Bank of Korea, in 2010 the number of internet banking users in South Korea reached over twenty million. About 87 percent of the economically active population uses the digital certificate system for their secure online activities. Once a user obtains the certificate from a bank, he or she can then use the certificate to access any other private or public bank, stock trade website, internet shopping mall, or government website nationwide. The certificate acts as the digital registered seal, which is analogous to the traditional legal certification system in Korea. Like the legal certification system, the digital certificate system provides authentication, identification and confidentiality protection within for government and commercial transactions in Korea. In 1999, when the use of high-speed internet became widespread, the Korean government emphasized building a national digital certificate infrastructure to promote e-commerce and economic competitiveness. U.S. Export control regulations prevented the Korean government from adopting the same 128-bit data encryption system used in the United States. Therefore, the Korean government and the Korea Information Security Agency (KISA) developed their own certificate system. It used a different encryption algorithm, called SEED, and was based on PKI (Public Key Infrastructure), a common technology used for digital certificates. However, Korea had to develop its own unique encryption algorithm and could not import of foreign PKI system products.

The design of the Korean certificate system led to unintended consequences. For example, its use of Active-X technology meant the system could only run on Microsoft Internet Explorer and the Windows operating system. Moreover, the system was not compatible with mobile device operating systems, like Google Android and Apple iOS. This incompatibility has created an instance of Galapagos Syndrome, a term used in the policy literature to describe being isolated from global markets or global trends.

This research traces the development of this unique technology and uses it to explain the political economy of e-commerce in Korea. It analyze the Korean certificate technology, but it also illustrate the social, political and cultural elements of this system, such as the domestic and international policies used by the Korean government to promote internet business and build Internet Korea. In addition my research is interested in how changes in information management are related to understandings of national modernity, the function of the state, and the workings of the commercial sector. It also uses methods from political economy and anthropology as a way to analyze the political and economic structures and culture differences of Korea and Japan.

Young peoples behavior and perceptions for online shops

Takashi Okamoto, Ehime University

In the ICT environment, we can consider EC as IT enabled services and B2C sales as a common EC service. We see that B2C has been commonly used as an important element of the consumer market. B2C shops, however, are not always profitable. To develop online shops market, we need to know users behaviors and perceptions. As living environments may affect their behaviors, we should understand more specific consumer behavior of online shops. Especially we focus on young people behavior and perception of online shops.

To examine young peoples behavior and perceptions for online shops, we use a questionnaire as the research method. From our research result, we find some features of behavior for online shops. For most students, online shops are common channel of purchasing. Many students purchase goods from physical shops although they use the Internet for gathering information of goods. They will have inertia to physical shops for purchasing. And there are some differences between urban students and non-urban students for their behavior. Non-urban students give more priority to goods availability at nearby physical shops than urban students.

From conjoint analysis, goods availability is not significant for online shops, and site perception is most important. Students evaluate postage more negative than price of goods. Urban students think Site perception and Procedure more important and they estimate price more seriously than those of non-urban. Those who have experiences of using online shops place less importance to site perception. Women think availability important, although men do not think it important. Women dislike postage more than men. We need more precise research for consumer behavior of online shops, for about other ages, other areas, and other countries. These will be our future studies.

Unexpected events and the resilient systems

Kazuhiro Minami, Institute of Statistical Mathematics

After the 3.11 earthquake many people realized that there are events that cannot be reasonably anticipated. These "unexpected" events occur as an outside of the anticipated envelope (e.g., Tsunami of 14m high vs the anticipated max of 5.7m), or something completely unheard of (e.g., Tokyo subway gas attack in 1995). It is thus important to establish general design principles for building "resilient systems" that contain damages from such unexpected events to an acceptable level and recover from those damages in a flexible way. In this presentation, we describe an overview of the systems resilience project addressing those challenges and discuss several fundamental research questions and possible promising approaches for building resilient systems.

Co-regulatory approach for resilient society

Naoto Ikegai, Creative Commons Japan

In the rapid changing information society, traditional top-down governmental legislation process cannot build the legal system to respond to unexpected situations. To realize the resilient society, there is a need to establish the bottom-up rule making system, under the recognition that only decentralized private entities have the knowledge to contribute to the resolution of problem.

I emphasize the importance of new public policy concept "co-regulation", which is recently becoming increasingly important in Europe's information policy. Co-regulation means the combination of the industry's self-regulation and the government's regulation. In this concept, government has the role of complementing shortcomings of private rule making and enforcement mechanisms.

Two Examples of Bottom-up Style Resilient IT enable Service

Shigeichiro Yamasaki, Kinki University

I showed two examples of bottom-up style approach for resilient IT enable service. The characteristics of my proposals are (1) diversity of methods (2) decentralized system (3) adaptable (4) continuous refinement. However, almost all of them also require some top-down style control to integrate them.

My first example is a survivor identification service in large-scale disaster. The proposed service provides diversity of methods to identify the survivors, such as paper based version, standalone database version, distributed database cloud version and Twitter BOT type survivor search service version. I also pointed out that my proposal will not work without the continuous social preparation for information management in the time of disaster including education, drills and refinement of the system.

My second example is a sensor for adjustment on the demand and supply of electric power. It is a very simple device to sense the frequency of the AC electric power in house. The fluctuation of the frequency is an indication of the imbalance of the demand and supply of electric power of the residential area. The device may have a potential to give consumers to join the control for the adjustment on the demand and supply of electric power with it, if it works well. It also will be an example of decentralized and adaptable demand and supply control service for electric power.

What is "real name"?

Akiko ORITA, Keio University

My presentation started with questions asking about your online screen name usage. Most participants have their policy to keep their unique name or use different names by purposes. After my classification of pseudonymity and anonymity online and layered ID representation, I asked again and again "What does real name mean?" to all. Is this a name registered to national registration? Is it defined by relationship among friends (Social graph)? How do you assure whether your companion's name is real name or pseudonym? From the discussion, I am very impressed by some episodes; it is allowed to put a couple of "a.k.a" name on the passport in Taiwan, foreign registration in Japan requires "Roma-ji" name even different from the original name and so on. "Real-name" sounds a priori idea for us, however, regarding to identity treatment, it is time to re-define this term.

Facebook Commerce in Thailand

Nagul Cooharojananone, Chulalongkorn University

Facebook has been the most popular Social Network Site (SNS) in Thailand. This also caused an emerging online market for businesses by introducing e-commerce on Facebook, so called F-commerce. In Japan, even though E-commerce is running well, many Japanese companies decided to invest on F-commerce business.

This is a technological challenge to examine the Facebook's interface whether its design really supports e-commerce or not. The investigation of Facebook's social network features toward e-commerce. Social network features allow user (a) to press Like, (b) to update friends information on Wall and (c) to do Comment on friends thoughts and their reactions. In many cases on real life shopping, friend reactions effect our shopping.

This is also a good opportunity to study that how friend reactions effect online shopping.

The smart devices, past, present and future

Kazuaki Naruse, Matsuyama University

1. The ATM services, e.g., extended service hours, authentication, sorting, recycling banknotes are realized by multi CPU embedded system in 1970's.

2. Another embedded device for financial services, smart card, was developed in 1980-90's.

3. Most dominant smart card market is SIM, Subscriber Identification Module for mobile communication. More than 1 billion SIMs are delivered annually in 2010.

4. The research topic of new interfaces for aged people was proposed. The possibility of tablet devices was discussed. They would help order placement in Sushi restaurant for aged people who have less sensitivities in reading and hearing etc.

Benefits and Challenges of IT-Enabled Human Resource Practices Agenda for future research

C. Rosa Yeh, National Taiwan Normal University

The abstract of Talk 2 appears here. A prominent feature of 21st century is the wide application of IT innovation in business. The human resource management field as well takes advantage of IT applications and manifested these IT-enabled services in E-HR systems and practices. E-HR has been helpful in leveraging organizational resources. E-HR contributes to the Human Resource department in many perspectives, such as streamlining the administrative processes, lowering the costs, competing effectively for talents from all over the globe, improving accessibility to employees and managers in organization, providing timely information for decision making and enabling HR professionals to focus more on business strategies.

This presentation introduces the overall benefit of adopting IT in the HR field, as well as the current features and issues of E-HR in core functions, including HRIS, e-recruiting, e-learning, e-performance management and employee self services. Major issues resulting from the use of IT include higher expectations on HR department, lack of expertise in IT installation and maintenance, identity and privacy of job applicants and employees, trust and credibility as a result of increasing virtuality (decreasing visibility) of HR professionals.

HR applications in emergent technology such as social networking tools and cloud computing are also discussed. The presenter concludes that (1) because HR is an applied field, it relies on the research and development from many

different fields, IT included, to advance its practice; (2) the human resource processes and activities still require much human judgment, thus HR professionals should regard IT as a mean, not as an end, and use IT wisely to the organizations advantage.

Man shall not live by bread alone A Challenge for Developing A New Standard to Measure the Level of ITeS

Shiro Uesugi, Matsuyama University

The measurement of the level of ICT or IT has been developed and deployed by organizations such as OECD and UN. They use such measurement as the degree of FTTH penetration, readiness to access broadband, numbers of PC per population, and so on. The results of these measures have been reflected to the policy making by the government as well as to the marketing of commercial organizations.

It seems to me that the measurement is useful at macro-level but not at micro-level. For micro-level, such as individuals and small corporations, more easy-to-use measurement is necessary. In my observation, it is like an equivalent of Big Mac Index in ITeS field. Once you travel abroad and find the price of the Big Mac, you can convert the level of consumer prices there to the level at home intuitively with very simple calculation.

Likewise, I found the price to access voice and/or data communication over mobile phones reflects the level of the ITeS in the designated nation or region. To be precise, the price of SIM plus minimum prepaid amount reflects the level of ITeS. Furthermore, in my observation, the price that the combination (SIM + minimum service) usually totals around JPY3,000-5,000 or US30-50 or EU30-50.

Therefore, my challenge to develop a new standard to measure the level of ITeS is to look for the evidence that the minimum level of mobile phone service (voice and data) is how defined and provided for how much. It is essential for human beings now a days to have the access to the net – Man shall not live by bread alone.

Comparative analysis of Japanese restaurant information services

Hidenobu SAI, Ehime University

Popularization of restaurant information services is remarkable and it is changing customers' behaviors. Restaurant information has characteristics of local information, which is generated in local place, and highly valuable in one place and not valuable in others place. Because of it, restaurant information service has characteristics different from other information services.

In this talk, we present some data and compare three major restaurant services in Japan; Gurunavi, Tabelog, Hot Pepper Gourmet. Quality and quantity of information offered by them are affected by each structure of service (Type CA, Type CGM, and Type GB). Especially, number of consumer who input information is important for success of Type CGM and it is necessary to lower input burden and encourage them to input information.

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