

# Communication, Collaboration and Digitalization—A Study of Three Cases

## ABSTRACT

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Digitalization of library collections, museum collections and archives has been processing for a couple of years in many countries. However, it became as a nationwide policy or as an institution's developmental focus was started around 1997. Precisely speaking, some individual cases may start their digitalization much earlier like Academia Sinica's 25-dynasty history in 1980s, but the overwhelming gathering on digitalization with a lot of budget, resources and research just started right after the NII policy became as a national policy in many countries.

From then, communication and collaboration are one of the key factors involved with all the digitalization work. This situation is very different from the old research pattern, always work on their own or only with their peer fellows. Now, researchers have to cooperate and communicate with others from outside of their own community. How the researchers from different backgrounds, especially people who are from the computer side and from the humanity side, work together, is mainly my research interest. Besides, whether there are some cultural differences, not only according to the "two cultures theory" but also according to the "diffusion theory" in the digitalizing process.

Three cases have been chosen for this study since 1998. They are the University of California at Berkeley, Institute for Research in Humanities at Kyoto University, and the Digital Museum Project of Academia Sinica (1998-1999). The research methods like participant observation, interview, questionnaire survey and content analysis are applied in this study. This paper is a progress report because the study is still continuing.

## INTRODUCTION

Digitalization is a high technology, a resistant trend for academic community in everywhere now, also with an overwhelming power to push scholars, researchers and professors to face a changing environment never happened in their life. To cooperate and communicate with others from outside of their own community, especially with those whom they barely know each other. For those who always feel comfortable in their own working environment, the globalization and virtual world created by the Internet push them to open or to walk out of their ivory tower. In this case, communication to people in academic community becomes much more important than before.

As CC Hsieh said many years ago, “the medium, which means the Internet, is changed, therefore, the way of collecting, storing, preserving and presenting data/papers/ideas is also revolutionary changed. And, the knowledge is also going to change.” This is going to be a long nightmare for academic people if they don’t get themselves ready for the change. CC Hsieh often said in his lecture to scholars, “if we don’t aware the change within the 10 coming years, we will feel sorry for...”

From the innovation theory, in a traditional society, farmers and workers as lagers still could be survived from a changing process. But, no one knows whether this is true in the information society, especially in the academic community, survival with dignity, respect is the requisite. From science communication theory, people from scientific (including technological) community and from literary community, historically barely understand each other. In the coming information age, it seems the two groups must communicate in order to help each other in their own work with the new media environment, combined with multi-media, multi-lingual and globalization, also with their own local culture.

With this proposition, I started to find suitable cases to study. Why are these three cases? The reasons can be summarized as: typical, ideal, available and easy for me to access. Three key persons, Lewis Lancaster at UC Berkeley, Testuya Katsumura at Kyoto University, and Ching-chun Hsieh at Academia Sinica, who help me and foster this study. In fact, CC Hsieh is much more like an initiate to most part of this research.

## LITERATURE REVIEW (In Brief)

### Science Communication; the Two Cultures explanation

Communications between scientists, technical people and literary people are like two oceans; never able to communicate. There is a gap between the two. They are people who live next to each other but never talk to each other, like people who live in two cultures.

--Snow, C. P. THE TWO CULTURES And A SECOND LOOK, Cambridge: Cambridge University Press, 1980

### Diffusion of Innovations

According to Rogers, in a traditional society, people who can be categorized as **Innovator, early adopter, early majority, late majority and lagers** in the adoption process. In many cases, higher education, higher income and more informative people are innovators or early adopters. In a diffusion process, people have been through aware, attitude change and behavior change.

--Rogers, Everett M., and Shoemaker, F. Floyd, Communication of Innovations, a cross-cultural Approach, New York, The Free Press, 1971.

## RESEARCH METHOD

Participant Observation

Interview

Questionnaire Interview

Content analysis

## THREE CASES

The case of America: University of California at Berkeley.

“Participant observation” method was applied in this case. K-12 and Interactive University Project

In 1998 summer, with Professor Lewis Lancaster’s help, Ching-chun Hsieh and I had a chance to look at those research collaboration projects like Museum Informatics Project、Interactive University K-12 Project、Department of Technical Development、East Asian Library’s Rare books and Rubbings, and Oriental Studies Center. In

about 11 weeks visiting at UC Berkeley, we talked to Thomas Duncan · David Greenbaum · David Wasley and Jean C. Han, also talk to other projects managers. Besides of interviewing and talking a couple of times with those key persons of the projects, we also participate their technical and group meetings.

### The case of Japan: the Transformation of Documentation Center at the Institute for Research in Humanities, Kyoto University.

In 1999 November, “interview” and “questionnaire interview” methods were applied in this case.

The Institute is on a changing stage, especially on the transformation from Documentation Center into Digital Center. This study is trying to get the information of scholars’ feelings, attitudes, opinions, comments and suggestions. This case is focused on how the literary scholars react to Internet, and how literary scholars, scientists and technologists work together on behalf of Internet’s resource.

### The case of the Republic of China: the Research Project of Digital Museum in Taiwan.

“Participant observation,” “interview,” “questionnaire Interview,” and “content analysis” were four research methods applied in this case. Because CC Hsieh is the director of the National Digital Museum project started from 1998 summer, he gave me a lot of background of his work, including reviewing the preliminary planning in written materials before the project really was started. I also took the advantage of my sabbatical year in 1999 to attend every working group meeting, collaborate group meeting, reviewing meeting, field trip and other gatherings for the project.

## RESEARCH FINDINGS

### Diffusion speed:

Group support, community support, policy support, individual awareness and adoption speed

There is no significant difference of individuals among the three cases in the adoption process of digitalization. But, there are some different patterns of collaboration with different groups in the three cases.

### Cultural Differences (Two Cultures and Big Culture)

In general, the two cultures do exist in the three cases no matter what big culture is, that is, there are some communication problems or differences between technical people and literary people, although they all realize it is important to share information and to communicate to each other in the information age.

**Communication Patterns within community, between communities, and in domestic, international arena:**

Americans communicate to each other or group in formal meeting and informal meeting with freely discussion, and with the results of decision made. There is individual difference of opinions toward collaboration in the communication process.

Japanese communicate to each other in much more formal way like faculty meeting, with a seniority/ or authority decision made in formal meetings, also with decision made ahead of faculty meeting through a small group of seniority or authority without objection.

Chinese communicate to each other or group in formal and informal meeting with much flexible discussion; talking, giving speech, arguing and e-mailing before or after meeting, with decisions made but with some difference attitudes toward group collaboration.

**Collaboration within community, between communities, and in domestic, international arena:**

Americans collaborate with individualism in persons, groups and internationally.

Japanese collaborate with collectivism in persons, groups and internationally.

Chinese collaborate with individualism, collectivism in persons, groups and internationally.

**Timing:**

**Within community and between communities:**

Digitalization has been happening in the American academic community for a while, but still new to some areas, especially in the oriental studies with non-English research materials. To the majority people at the Institute of Research in Humanities at Kyoto University, digitalization of research collections is totally new in late 90s. The case of digitalization at Academia Sinica in Taiwan is just ahead of the other two for the 25's-dynasty has already digitalized in full text database in early 1990.

**Globalization, collaboration:**

All the three cases are highly involved in collaboration and globalization

since the project-oriented digitalization program started.

## CONCLUSIONS

Communication plays the key role in the digitalization of three cases. The term “communication” used here, represented as communication “pattern,” also can be called as “culture.” People play the second important role in the digitalization process. Then, timing is another key role also pushing the speed of digitalization.

In Chinese culture, to find the right, competent person, also with a fully support or to give the authority to do things, is always making much progress. Scholars in Buddhism may recall the case of Shaun Tsuan to translate Buddhist texts in Tang Dynasty, he got an exclusively support, with enough qualified people and money from the emperor. Maybe we can add one factor, the right timing, to Tang’s case. In short, the project of Digital Museum in Taiwan is more like this case. Other two cases are waiting for more explanation in there future.