Browsing for English: an investigation of non-material cultural diffusion among Taiwanese youth

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Abstract: The development and the mass commercialization of the Internet in the early 1990s has brought reflection upon aspects of diffusion studies. Unlike traditional forms of mass media (e.g. television, radio, etc.), the Internet is an unscheduled and interactive point to multi-point venue of communication. Diffusion via the Internet allows for non-material culture phenomena to be diffused over great distances. One of the goals of this study was to re-examine four influential diffusion models, all of which were developed prior to the mass commercialization of the Internet. The concept of world cities is utilized to aid in re-examining these models. The connections the city of Taipei has to the global network are important in examining the diffusion of non-material cultural phenomena.
An in-person survey was administered to 137 youths in downtown Taipei, Taiwan, who frequent public Internet cafés, in order to uncover trends in Internet use and adoption of Western culture. The study concludes that the Internet may play an important role in the diffusion of non-material culture, and that two of the diffusion models developed in the early 1960s are capable of modeling this diffusion.

Introduction

Since the late 1980s globalization has increasingly become a central point of attention in the social sciences. It has "emerged as a powerful paradigmatic concept in explaining many far-reaching cultural, economic and social transformations taking place in many parts of the modern world" (Hsiao 2002, 48). Through processes of globalization the world has seen an intensification of relations which link distant regions in such a way that local happenings are shaped by events occurring many kilometres away

(Giddens 1990). To provide intellectual structure to the globalization phenomena, Appadurai proposes that the "new global economy has to be understood as a complex, overlapping, disjunctive order" (1990, 296). To theorize this, Appardurai created a framework which rests on the relationships within five dimensions of global cultural flow: ethnoscapes ('moving' groups of people, such as tourists or immigrants), mediascapes ("image-centered, narrative-based strips of reality"), technoscapes (global configuration of technology and the speed by which it travels), finanscapes (disposition of global capital) and ideoscapes (ideologies of states and counter-ideologies) (Appardurai 1990, 297).

Appadurai's '-scapes' all provide interesting perspectives on the influence of globalization on culture, and on the nature of cultural connections between places. However, an analysis of this influence is very difficult because there is no simple cultural dimension of globalization. Rather "culture is an intrinsic aspect of the entire process of complex connectivity at globalization's core" (Hsiao 2002, 50). The diffusion, or spread, of culture has been occurring through various media for many years, although it has accelerated recently due to the set of technological innovations that are often argued to be intrinsically tied to the general intensification of the processes of globalization.

One of the least understood media of cultural diffusion is the Internet (Goodman *et al.* 1994). "Despite the Internet's increasing importance, there is little social scientific work that addresses its diffusion" (Hargittai 1999, 701) or its influence on other processes of diffusion. The diffusion occurring via the Internet, given the importance of information and communication in a rapidly globalizing economy, is worth investigating further (Robinson and Crenshaw 2002).

The Internet is unlike the traditional mass media forms of diffusion. This new medium provides "interactive and mostly unscheduled access", while the traditional forms of media offer "mostly one-way point to multipoint programming" (Canadian Radio-television and Telecommunications Commission 1999, 18). Castells believes that the "Internet's integration of print, oral and audiovisual components into a single system promises an impact on society comparable to that of the alphabet" (Castells 1996, 328). With seemingly unlimited distribution channels and a borderless distribution network, the Internet is changing the geography of diffusion.

The foundational literature on diffusion studies does not integrate the Internet as a potential channel. Neither Hägerstrand (1952) nor Rogers (1971), two influential academics in diffusion studies, could have addressed the Internet since their work was conducted prior to the mass commercialization of the Internet. Nor has subsequent work on diffusion

addressed this new means of communication; and work on the Internet itself has only gone so far as to deal with diffusion of the Internet, but not to consider the Internet as the means of diffusion of other phenomena (*eg*. Du 1999; Goodman *et al*. 1994; Hargittai 1999; Press *et al*. 1998). Consequently Hägerstrand's and Rogers' models (the Wave Profile Model, Monte Carlo Model, the Central Place Model and the S-M-C-R Model) should be re-examined in light of mass commercialization of the Internet.

This analysis of the diffusion models will be explored geographically, taking into account the role of the city of Taipei as a world city. World cities are defined by their high connectedness to other urban centres through a variety of means. It is probable that the role that the city plays within the global network of cities will have a large influence on the way non-material culture diffuses to it via the Internet. Based on the research of Friedmann (1986), Beaverstock *et al*. (1999), Castells (1996), and Taylor *et al*. (2001), it is revealed that the city of Taipei is indeed a world city. This role will have a unique influence on the diffusion of non-material culture, and subsequently on our understanding of the existing models that explain diffusion.

The four models of diffusion examined within this research are the Wave Profile, the Monte Carlo, the Central Place and S-M-C-R model of diffusion. Hägerstand's Wave Profile model of diffusion is a four stage model that represents diffusion as progressing in waves, or stages. This model is rooted in spatial distance, as the model describes the rate of adoption at increasing distance from the centre of origin of the phenomenon being diffused (Hägerstand 1952, Colemen *et al*. 1966).

The Monte Carlo model of diffusion, also developed by Hägerstand, attempts to simulate the spatial pattern of acceptance of an innovation by dividing the study area into a cellular grid, and assigning to each cell a probability of an innovation being adopted in that cell (Coleman *et al*. 1966). The probabilities used in the Monte Carlo model are based on communication between accepters and non-accepters within physical proximity of each other.

Hierarchical diffusion is the essential focus of the Central Place model of diffusion. In this model, hierarchical diffusion is combined with the neighbourhood effect to represent the diffusion of an innovation. Specifically, an innovation or phenomenon is first diffused across the centres at the top of the urban hierarchy, and subsequently through the networks of smaller places in the hinterlands which those centres serve.

The final model considered was Rogers (1971) S-M-C-R model. Rogers detailed the diffusion process as a special type of communication, a "process by which innovations spread to the members of the social system" (Rogers 1971, 12). The model represents the acronym for **S**ource-

Message-**C**hannel of Communication-**R**eceiver. According to Rogers, diffusion is part of the much larger process of social change. Unlike the other three models, this one does not spell out a geographical process of diffusion, but has the advantage of being based principally on communication.

The Study

For the purpose of examining non-material cultural diffusion, the case of the English language was selected. This element of non-material culture was examined only within a study group of individuals between the ages of 16 – 24 who frequent Internet cafés in Taipei. Over a three-week period in February 2003, a sample of 137 questionnaires was collected for analysis. Five hypotheses were formulated to identify the influence of the Internet on non-material culture diffusion among Taipei youth. Through these five hypotheses, the validity of the central argument will be assessed.

The first hypothesis is that the percentage of English based websites that respondents visit will be positively correlated to their self-rated proficiency in English. A greater percentage of English based websites would tend to be linked to a greater self-rated proficiency. Since those respondents with a low self-rated proficiency would have greater difficulty comprehending the content of English based websites, it is hypothesized they would visit a significantly lower proportion of English based websites.

The second hypothesis in this project is that the Internet will be in the top three venues in which participants utilize English. It is expected that since the mass commercialization of the Internet there would be an increase in the number of youth utilizing it as a channel of communication. Studies conducted in the USA in 1998 revealed that youth are spending an increasing amount of time on the Internet, and consequently a decreasing amount in the 'traditional media' forms (Hintze and Lehnus 1998). It is hypothesized that Taiwanese youth would follow a similar pattern of increased use of the Internet.

The third hypothesis is that there will be a positive relationship between the number of years of education and use of English via the Internet. It is expected that those participants with a greater number of years of education will have higher rates of English Internet usage, and consequently those with a lower number of years of education will have lower rates of English Internet use. It is predicted that higher education levels will represent the respondents' increased ability to utilize English via the Internet.

The fourth hypothesis is that there will be a relationship between the self-rated proficiency in English and the language of the respondents' favourite website. Those respondents who have higher self-rated proficiencies in English are more likely to actively seek out English content on the Internet.

Closely related to the first and third hypotheses, the fifth hypothesis speculates that respondents who have had a knowledge of English for a time period of less than 5 years will rank the Internet within the top three media for using English. It is predicted that respondents who have under 5 years familiarity will be more likely to actively seek English based websites since the Internet can be utilized as a learning aid or tool. These individuals will seek out popular English based websites in an attempt to improve their proficiency in English. Respondents who have over 5 years of familiarity with English will have learned the language before the mass commercialization of the Internet in Taiwan. We therefore expect that this latter group will be more likely to have established other media or channels in which they seek English content, and will not rank the Internet as highly as these others. The most recent learners of English have a new channel for assisting in the learning of English.

Each of these five hypotheses assists in assessing the central argument of this study, that the Internet has an important influence on the diffusion of non-material culture. Helping to determine if indeed the geography of diffusion is changing since the introduction of the Internet, the second and fifth hypotheses address the importance of the Internet as an emerging channel for non-material diffusion. The other three hypotheses (one, three and four), contribute to the central argument by providing insight on how youth in Taipei are utilizing the Internet.

Study Area

Located in the north of the island of Taiwan, the city of Taipei, population 6.2 million (Department of Health 2003), serves as the administrative node for the island. Taipei has been ranked as a world city by many academics (Friedmann 1986, Beaverstock *et al.* 1999, 2000, Taylor *et al.* 2001). Much of the literature suggests that the role of Taipei in serving world city functions will increase in the future (Castells 1996, Yeung 1996). Influenced by the entry of Taiwan into the world's largest trade agreement, the World Trade Organization, and Taiwan's aggressive approach to attracting global financial business, the possibility for an increase in Taipei's connection to other world cities is growing.

World cities consist of those cities that are highly connected through 'spaces of flows' (Castells 1996). These spaces of flows can take a variety of forms, however, the space of flows in the form of the Internet is the primary concern in this study. This study wishes to evaluate the influence of the Internet, as a space of flows, on the geography of the diffusion of non-material culture.

For the purpose of this study, the population is Taipei youth who utilize the Internet and who have some knowledge of English. Youth were chosen for this study since according to Du (1999), they are the most likely candidates for adopting technological innovations, such as the Internet. From Du's study in China it was found that youth, especially those from an affluent background, were more likely to adopt innovations than older adults in the same environment (Du 1999). Access to individuals from this population was gained through the facilities of Internet cafés, Internet users stations and educational institutions that provide access to the Internet.

Methodology

The primary data for this study were collected through a questionnaire delivered in person in Taipei to youth that frequent Internet cafés. This questionnaire was delivered from 15 February to 2 March 2003, to run parallel to the start of the second semester of public schools and universities. This targeted timeframe was seen as optimal since it would mark the return of youth to school-based routines. Youth had returned from their semester break and were again engaging in school-based activities.

Stemming from a legislative amendment in 2001, the once unregulated business of Internet cafés became highly regulated in Taipei. Under the current legislation, Internet cafés must be established in commercially zoned areas with roads wider than 8 metres and not be within 200 metres of any school (Taipei Times 2001). Because of these new regulations, many older Internet cafés have had to close. As a result, the turnover of the location of Internet cafés has recently been very rapid, making locating them difficult. Therefore a variety of methods was required to identify potential Internet cafés. First, the Taiwan Chamber of Commerce (2003) provide a list of registered entrepreneurial Internet cafés. The second method involved personal communications with people at established Internet cafés in the city identified by the Chamber of Commerce. Operators/owners were asked to provide information, both names and addresses, of other Internet cafés within the city. These personal

communications with located Internet cafés proved to be the most efficient means to trace other sites, since much of the information gathered from the Chamber of Commerce was found to be outdated. Many of the reported businesses were no longer operating at the address indicated in the Chamber's records. A third method employed was utilizing the Internet as a search engine for existing websites or contact information of local Internet cafés. Due to language limitations of the researchers, only those listings of Internet cafés on the Internet that were presented in English were utilized. Focussing primarily on downtown Taipei, six Internet establishments were chosen for conducting surveys. These establishments were chosen because of the large number youth who frequent the cafés on a daily basis.

Although all six locations were in commercially zoned areas, as per legislation, two cafés were located near, but not in, the downtown core like the other four. Primarily residential areas surrounded these two locations. All six cafés were accessible to youth as they were all located within close proximity to the mass rail transportation within the city.

During the survey period of 12 February until 2 March 2003 participants were approached during the times of 11:00 a.m. to 1:00 p.m. and 7:00 p.m. to 9:00 p.m. The first time period of 11:00 – 1:00 was chosen to capture youth who may frequent Internet cafés during the lunch hour. The second time period of 7:00 – 9:00 was based on a restriction created by three of the Internet cafés, who objected to any surveying during the period of 4:00 p.m. to 7:00 p.m. because it was one of the busiest periods for the café, correlating with the break between the end of school and the beginning of private tutoring schools (Brown and Shiah 2003, Chin-Hwa 2003). To respect their wishes, the second survey period was 7:00-9:00, although the after-school period would have been preferable. Due to time limitations in the study area, questionnaires were delivered face-to-face and were self-administered. The greatest advantage to this method of questionnaire delivery was a high return rate of completed questionnaires as well as efficient use of the researchers' time. Out of a total of 250 distributed surveys, 137 were returned, representing a return rate of 55%.

Characteristics of Study Group[1]

The study group can be characterized as being predominantly female, as only 28% of the respondents were males. The respondents' average number of years of schooling was 12.79. This number however may be

misleading since responses ranged from 1 year of schooling to 21 years of schooling, suggesting that some may have misunderstood the question. Of the 124 respondents who answered the number of years of education question, it was found that 53.7% had between 14-16 years of schooling. Regarding the location where respondents' learned the English language, the majority (75.9%) reported they learned it through the school system. The importance of private school tutoring is seen as 7.1% of the youth reported they learned English in this setting. Of the remaining youth, 5%, reported learning English at home and 12% indicated a combination of home, school system and/or private school.

Thirty-six per cent of respondents reported learning the English language between five and ten years ago. The majority of respondents, 52.6%, learned English at least ten years ago. The remaining 11% learned English less than five years ago. In terms of English usage by the respondents, 36.0% reported that they speak English two or three times per week. At 25% of respondents, the percentage speaking English on a daily basis is noteworthy. The greater part of the sample group, 62.5%, speak English at least two times a week.

Respondents' reasons for learning English were grouped according to the general themes that emerged from this open-ended question. The top reasons why youth are learning English include:

- For better employment (23%)
- Required for school (19%)
- To communicate with the west/foreigners (14%)
- Hobby or out of interest (14%)
- Because English is the "international language" (11%)

Some interesting comments that were mentioned in this open-ended question included: "it's a trend to use English", "Through it [English], I can really become a member of the global village" and "I learn it because teachers want me to learn it. Its [sic] CULTURAL INVASION!". The last comment indicates the presence of resistance to English in Taipei. This attitude towards the English language was mentioned by 12 youth, representing 9% of the respondents.

As for the fluency of respondents, only 1.5% rated their proficiency in English as being fluent. The bulk, 47.7%, of respondents rated their proficiency as being functional (requiring a dictionary often). In total, 84.8% of the study group rated themselves as being at least functional. This should be of little surprise since in order for participants to complete the survey they were required to have a minimum proficiency to read the

questionnaire. While youth who cannot communicate in English were therefore excluded from the study, such youth will also, by definition, not (yet) have adopted the English language by any means of diffusion (Internet or otherwise).

Regarding access to technology by respondents, 94.5% reported having a computer within their home. Internet access within the home was reported by 87.1% of the study group. With a high proportion of youth having access to the Internet at home, it is not overly surprising that 52.0% say they access the Internet the most often from their homes. Other common places for youth to access the Internet include their school (18.4%), their workplace (12.8%), or Internet cafés (2.4%). The low number of respondents reporting using Internet cafés as the most common location for accessing the Internet is interesting since the questionnaires were all conducted in Internet cafés. A total of 55.4% of youth revealed that they utilized Internet services seven times per week, or at least once every day. The functionality of the Internet for youth is very diverse. The top function was communication purposes, followed by school purposes, then gaming, job/employment reasons, and lastly news.

As for the language content of what youth are seeking when visiting the Internet, 56.3% reported that less than 20% of the websites they visited were in English. The dominant websites that they visited (*i.e.* most frequently) were Yahoo! Taiwan (64%), Kimo (10%), Sina (7%) and PC Home (3%). Conversely this means that over 43% of the youth devote their time to 20% or more of English based websites. Among the most frequently mentioned English based websites by the youth were Yahoo! (52%), International Community Radio Taipei [ICRT] (10%), Hotmail (10%), and Google (7%). This means that just less than one half of all respondents are actively seeking out English through the channel of the Internet.

When the youth were asked to rank the 'media' channels in which they use English the most, the top five channels were: (1) television (2) movies (3) radio (4) the internet and (5) class/school communications. Of these five channels, on a scale from 1 to 11, with 1 being the most frequently utilized channel, these top five channels had the following median ranks:

Television	2
Movie	3
Music	3
Internet	4
Class Communications	4

Notably, the top three are what have been termed 'traditional' forms of mass communication (Owen 1999). Each of these has been extensively studied by various academics over the years (Owen 1999., Rogers 1971, Turow 1997). The presence of the Internet with these more 'traditional' channels of communication indicates that the Internet does indeed offer considerable potential for diffusion. Not only is it a potential channel of importance, it is a channel of importance that youth are utilizing. Considering the Internet's relative newness, in comparison to the others, this channel has good potential to increase in importance. As DiMaggio *et al.* point out, the Internet is critically important because it "is a medium uniquely capable of integrating modes of communication and forms of content" (2001, 307).

In terms of the language of choice on the Internet, 69% of Taiwanese youth reported that their favourite website was in Chinese, while 21% reported English and 11% reported 'Other' which included languages such as German. In terms of the most frequently visited website, 79% of Taiwanese youth reported that their most frequently visited website was in Chinese. Thirteen per cent of respondents answered that the most frequently visited website was in English and 7% reported their most frequently visited website was neither Chinese or English.

Results/Findings

Four of the five hypotheses for this study were substantiated. In the first hypothesis, a significant relationship between the percentage of websites visited that are in English and respondents' self-rated English proficiency was found. The chi-square statistic between these two variables was found to have a significance of 0.031. An examination of the crosstabulation of response categories for the variables supports the claim that there is a positive relationship, namely that the higher the respondents' self-rated proficiency in English, the greater the percentage of websites they visit in English. This relationship suggests that the Internet is becoming an important medium of English transmission among selected Taiwanese youth.

The delay in technological development of the Internet may have confounded the predicted outcome of hypothesis two. When asked to rank various channels of English communication, Taiwanese youth ranked the use of the Internet as the fourth most popular, with television, movies and music ranked higher. Although hypothesized that the Internet would be included in the top three, it was later found that the island of Taiwan

has experienced a technological lag in the general development of the Internet compared to both Canada the United States. However, this indicator proved to be a 'close call' – of those who provided rankings of the various communication channels/venues in which English was utilized, 39% did place the internet in the top three. It is reasonable to suspect that the further development and adoption of the internet generally in Taiwan will be accompanied by increased importance of this medium for the experience of English language communication/content.

As suggested in the third hypothesis, it was found that there is a relationship between the respondents' ranking of the Internet as a channel in which they use English and respondents' years of schooling. For this analysis, a t-test statistic was found comparing years of schooling across students differentiated between those who ranked the Internet among the top three venues in which they utilize English, and those who ranked it from 4th to 11th. A t-test statistic of 1.73 was significant at a=0.05 (2-tailed). We may conclude that those with a greater number of years of schooling tended to rank the Internet more highly as a venue in which English was utilized.

In support of the fourth hypothesis, A relationship was found between the respondents' self-rated English proficiency and the language of their favourite website. Again, a chi-square statistic was calculated and found to be significant at a=0.05. Youth whose English proficiency was 'fluent' or 'partially fluent' tended more often to declare that their favourite website was in English.

The final hypothesis of this study showed that youth who have learned English within the past five years have a greater propensity than youth who learned English over 5 years ago to rank the Internet in the top three channels for using English. Those respondents falling in the former category were, in fact, equally likely to rank the Internet in the top three as in the bottom eight. However, the group of respondents who have known English for more than five years showed a different trend. Of these, about 38% ranked the Internet in the top three, while the majority ranked it in the bottom eight. Compared to youth who have known English for greater than five years, youth who have recently learned English are more likely to rank the Internet more highly as a venue in which they use English. This could be explained by the fact that many language-training institutes utilize the Internet as a tool for learning English (Brown and Shiah 2003), itself a notable observation of the utility of the Internet as a support mechanism for the diffusion of English language.

Conclusions

The mass acceptance of the Internet has produced equally massive changes in the diffusion process. The Internet has introduced an active participation component to the traditional forms of mass media, which were largely by passive participation. To add to that new participation component, this form of mass communication has transcended many political, social and economic boundaries. English based websites are available to most Internet users around the world. It is possible for youth in Africa or Asia to access any English websites, such as an American popular culture website. The changes that have resulted from the introduction of the Internet have given cause to re-examine the geography of diffusion.

The principal advances in diffusion studies were made in the 1960s, by Hägerstrand and Rogers. At the time of their research, diffusion of non-material culture was transmitted through media such as word of mouth, letters, movement of people, newsprint, radio and, later, television. In the late 1990s a new channel for the diffusion of non-material culture was brought to the forefront. Unlike other channels of communication, the Internet has an apparent distribution that is only limited by an individual's access to the Internet and the required apparatus to make it functional. The significance of the Internet is only heightened by the rapid speed of its acceptance throughout the world.

An examination of 137 youth Internet users in Taipei reinforced the importance of the Internet as a channel of diffusion. Overall, youth rated the Internet as the fourth most popular venue in which they utilized English, with only television, movies and music ranked higher. Considering the 'lag' in Internet development between Taiwan and both Canada and the United States, it is likely that the Internet will continue to increase in popularity among Taiwanese youth.

This examination of English diffusion via the Internet among Taiwanese youth has shown that not all models of diffusion are adequate for explaining the diffusion of non-material culture. The Monte Carlo Diffusion Model, developed by Hägerstrand, is inadequate to model the diffusion of non-material culture via the Internet due to its dependency on the Mean Information Field to describe potential acceptance. The Internet is not reliant on physical proximity and therefore the Mean Information Field is incapable of modeling this diffusion.

A second diffusion model of Hägerstrand, the Wave Profile Diffusion Model, is also inappropriate for modeling the diffusion of non-material culture via the Internet. The greatest shortcoming of this model is that it too is rooted in physical distance. According to Hägerstrand, the rates of

adoption are positively related to the distance from the origin. The lack of physical proximity in the Internet would prove that this model is incapable of modeling this aspect of diffusion.

The final model of Hägerstrand discussed in this study is the Central Place Diffusion Model. The basis of this model is hierarchical diffusion, a parallel that can be made with the concept of world cities. Unlike the Wave Profile Diffusion Model, the Central Place Diffusion Model is not established on the notion of physical proximity. Instead the Central Place Model is concerned with the movement of an innovation through a hierarchy, in this case the hierarchy of world cities.

The final model considered was Rogers' S-M-C-R Model of Diffusion. Originally used for the diffusion of communication innovations, this model can describe the diffusion of non-material culture to Taipei. The S-M-C-R Model does not imply a single form of diffusion, but rather that the diffusion process could be any form or even a combination. Through identifying the five components of Rogers' model the process of non-material cultural diffusion via the Internet can be better understood. The source of English is the western world; the message being diffused is English; the channel of diffusion is the Internet; and the receiver of the message is Taiwanese youth. The S-M-C-R Model does not specify the geography of diffusion, rather the elements of the model allow us as geographers to interpret the observed diffusion and to subsequently determine the geography.

This study of the diffusion of non-material culture via the Internet has shed light on aspects of the geography of diffusion. Many of our existing diffusion models were found to be inadequate at describing the diffusion of non-material culture via the Internet. This is largely due to the heavy presence of physical proximity in the models. The advent of the Internet has created an environment where potential adopters need not be in 'direct' contact with adopters. The Internet has created a 'space-less' dimension for interaction. Diffusion studies must recognize this and be able to accommodate this aspect of diffusion in order to accurately model it.

Endnote

1. While 137 youth responded, not all respondents provided answers to all questions, so in some cases, the number of responses will not total to 137.

Acknowledgements

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