How We Share: A Cross-Cultural Comparison of
Tablet Adoption and Usage Between the United States and Taiwan

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Abstract: This study applied Silverstone and colleagues' Domestication Approach to understand tablet adoption and usage in the United States and Taiwan. Domestication Approach studied how a user appropriated a new technology into his/her everyday life. Results showed that ages, locations, and situations were major factors in determining how tablet users used the device differently. Other uncategorized tablet adoption and usage patterns were explained by Geert Hofstede's individualistic versus collective dimension. In Taiwan, a highly collective culture, users frequently shared a tablet within a family and also shared the device with in-group members. They treated the tablet as a "family device." On the other hand, in the U.S., a highly individualistic culture, fewer tablet sharing activities were found unless it was temporary sharing with children.
Keywords: Tablet, use, adoption, domestication approach, individualistic versus collective dimension, mobile

1. Introduction

Research has shown that there has been a massive rise in ownership of tablet computers and e-book readers (e.g., Apple iPad, ASUS Transformer Pad, HP TouchPad, Google Nexus, Kindle Fire) (Rainie, 2012). Tablets have been reported possibly to replace personal computers (PCs) because of their mobility, ease of use and smaller size (RTTNews.com, 2012). Since purchasing a tablet, a Nielsen study showed that 35% of tablet owners reported that they used desktop computers less often, and 32% of tablet owners reported that they used their laptop computers less often ("Connected Devices", 2011). Since September 2010 (i.e., 4 % ownership), tablet ownership increased to 25% in the U.S. (Rainie, 2012). College students, adults younger than 65, Hispanic adults, parents, and households with incomes higher than $75,000 were more likely to own tablets (Purcell, 2011).

On the other hand, the *Foreseeing Innovative New Digiservices* (FIND) study reported that although Taiwanese tablet ownership was 7.7% in 2011 and less than laptop PCs' ownership (i.e., 38.3%), tablet ownership has a great potential for growth (FIND, 2012). One Nielsen report showed that in 2010 Taiwan ranked in the top 3 nations (tied with Egypt) with a great interest/ ownership rate for tablets in the world ("Few Consumers Interested", 2010). Interestingly, Taiwanese females and adults between 30 and 34 years old were more likely to own tablets (FIND, 2012). 15.9% of participants reported that they planned to buy tablets in 2012, and 26.4% reported that they would like to own tablets in 2015 (FIND, 2011).

Use of tablets is growing rapidly. Tablets are used as education, entertaining, information-seeking, and socialization devices in everyday life. A Nielsen survey reported that American

families treated their tablets as their playmates, their teachers, and their baby sitters ("American Families See", 2012). In addition, a Google study found that American people used their tablets for fun, entertainment, and relaxation while using their laptop PCs for work ("Consumers on Tablet Devices", 2011). Tablet users developed emotional connections toward their devices. They reported that their tablets made them feel happier and more relaxed; made them more effective at managing their everyday life, and boosted their creativity. Some of them agreed that "my tablet brings out the best in me" (PRNewswire, 2012). Tablet users also used the device to research and vet product purchases ('Consumers on tablet devices', 2011; 'Consumers turn to tablets', 2012). Tablet users reported that they played games (i.e., 84%), searched for information (i.e., 78%), emailed (i.e., 74%) and read the news (i.e., 61%) on their device. A research done by Google found that 56% of tablet users in the United States checked social networking services on their device, while 51% consumed music and/or videos, and 46% read e-books ("AdMob Tablet Survey", 2011). In Taiwan, on the other hand, the top three uses of tablets were browsing webpages (i.e., 41.7%), playing games (i.e., 28.1%), and checking email (16.1%) (FIND, 2012).

Research on new technology adoption often uses Davis' (1989) Technology Acceptance Model (TAM) to predict how people might adopt a new technology. TAM argues that people adopt a new technology because they (1) perceive usefulness of the technology in their life; and/ or (2) perceive ease-of-use of the technology. This study, on the other hand, aimed to understand the social aspects of the tablets adoption and usage. The tablet culture may not be fully explained by TAM in either Taiwan or the U.S. because tablets were not new technologies or new ideas. Both Taiwan and the U.S. are mobile media rich countries and tablets are both useful and easy to use for savvy mobile media users. Many people have several mobile devices (e.g., laptop computers, mobile music devices, smartphones) as well as other non-mobile media (televisions, desktop computers) to fulfill their education, entertainment, information-seeking and socialization needs. Touch screen functions on both computers, and smartphones are used in everyday life in both countries.

Genevieve Bell (2003) stated that media users made their new media to fit into their everyday life. She argued that new medium adoption and usage might challenge more traditional assumptions about what medium might or should do for people. Therefore, this study utilized Silverstone and colleagues' Domestication Approach (Silverstone, 1994; Silverstone & Haddon, 1996; Silverstone, Hirsch & Morley, 1992) to examine tablet culture in both Taiwan and the U.S. The Domestication Approach is the process of socio-cultural appropriation of media. It looks beyond the individual adoption and use of a medium and seeks to answer how the medium integrates into users' everyday life and what the medium means to its user. It looks at cultural norms, social relationships, and social expectations around the medium and how people make rules to use the medium. There are four stages of a medium domestication: (1) Appropriation: People imagine how a new medium will be used at a home and consider the consequences of owning the device; (2) Objectification: People consider where the medium could be placed within the home; (3) Incorporation: People think about how to incorporate the medium into their everyday life, and (4) Conversion: People actually find a place in their home for the medium and integrate it into their daily life (Silverstone et al., 1992).

The original concept of the Domestication Approach provided a framework for examining

media culture at home settings. Leslie Haddon (2003; 2004) extended the Domestication Approach to study mobile media culture from home spaces to public spaces. He used the Domestication Approach to study how mobile phone users used the device to create personal and group interaction rituals in both home and public spaces. It became one of the more widely used theories to explain mobile media culture, alongside Rich Ling's (Ling, 2004; Ling,2008; Ling & Yttri, 2002) micro and hyper- coordination via mobile media. Hijazi-Omari and Ribak (2008) used the domestication approach to explain mobile phone usage among Palestinian teenage girls in Israel. Bolin (2010) used the approach to compare the use of voice calls and texting by youths in Sweden and in Estonia. The current study applied the Domestication Approach to understand the process of tablet (a newer type of mobile media) adoptions into Taiwanese and American cultures. Understanding how people share personal and physical spaces with their tablets and what emotions they hold toward them are the two key dimensions in which the current study would benefit from the Domestication Approach. Specially, this study documented and analyzed tablet users' activities, emotions, locations, and social settings.

2. Related Work

The Domestication Approach looks at how people share their (home) emotions/ resources/ relationships/ spaces with a new medium. Below, this study reviews some relevant work regarding people's sharing behaviors around mobile media. In addition, this study reviews prior literature on mobile media adoption and usage in different cultural settings.

2.1. Sharing Mobile Media

2.1.1. Sharing Mobile Devices

Katz and Aakhus (2002) and Rangaswamy and Singh (2009) argued that mobile media were highly personal and individual devices. Sharing behaviors might challenge mobile media use and design (Rangaswamy & Singh, 2009; Weilenmann & Larsson, 2001). Studies on sharing mobile media have been conducted in some developing nations. Research found that families with lower socio-economic status shared their mobile device (Raswamy & Singh, 2009; Steenson & Donner, 2009). Raswamy and Singh's study (2009) reported that Indian families' mobile phone acted as a "walking landline." Indian women shared not only their family's mobile phones but also their neighbor's mobile phones. Steenson and Donner (2009) studied mobile phone sharing in Bangalore and found Indian mobile phone users also often shared their mobile phone with family members and friends.

However, other research (e.g., Bell, 2003; Steenson and Donner, 2009; Weilenmann & Larsson, 2001) showed that mobile media sharing was not limited to economic necessity. Weilenmann and Larsson (2001) reported that Swedish teens might share their mobile phones among friends and occasionally strangers in early 2000. When friends met together, they read text messages aloud and showed the messages to others from their own mobile devices.

Bell (2003) argued that culture impacted how people shared mobile devices. She argued that Asian people's sharing of mobile media might be due to a lesser valuing of the 'individual'

compared to American culture. Steenson and Donner's (2009) study found that Indian adult girls shared their mother's mobile phone when they went out together despite girls owning their individual mobile phones. And, some wives in India were less interested in owning their own mobile phone because they did not want to share their personal space with their husbands. In Chen's study (2011), many Taiwanese teens borrowed their friends' mobile phones to make quick phone calls when their friends were at the same locations and sometimes shared their family's mobile phone when they needed to go out because, as one said, "if I need to go out, my mother will share her mobile phone with me." As with Swedish teens' mobile phone sharing behaviors (Weilenmann & Larsson, 2001), Chen (2011) found that Taiwanese teens also read text messages aloud and showed messages to others from their own mobile devices. Taiwanese teens used their mobile device as a mobile BoomBox and mobile TV and consumed the device with their friends together.

In the U.S., Karlson, Brush, and Schechter (2009) studied whether smartphone owners would also share their phone with other people. Their study found that middle-class Americans shared their smartphones - depending on the type of phone activity – if there was a social relationship between the owners and borrowers and/or a physical proximity. Americans sometimes temporarily lend their smartphones to their friends or acquaintances to make quick phone calls in their presence. A Nielsen study reported that nearly half (i.e., 43%) of all tablet owners sometimes shared their devices with family members in 2011 ("Connected Devices", 2011). The Google study also found that tablets are primarily individual devices although some users might occasionally share the device with their family members ("Consumers on Tablet Devices", 2011).

2.1.2. Sharing Mobile Contents

Prior studies reported that mobile media users shared content (Koskinen, 2007; Taylor & Harper, 2003) and locations (Consolvo, Smith, Matthews, LaMarca, Tabert & Powledge, 2005; Humphreys, 2007) with their close friends and family (Ling, 2008; Chen & Katz, 2009) as well as with strangers (Hjorth & Kim, 2011; Vieweg, Hughes, Starbird & Palen, 2010). Taylor and Harper (2003) found UK teenagers shared and exchanged their mobile devices and mobile media contents with their friends. The research argued that by offering the mobile media to each other and exchanging the contents, the teenagers were building social relationships. Taylor and Harper (2002; 2003) called it a "gift-giving" ritual among youth. Chen (2011) found similar results in her 2011 study of Taiwanese teens. Chen reported the teens created rituals with in-group friends by sharing mobile media and mobile contents. Those Taiwanese teens exchanged and shared "funny" short message service (SMS) or multimedia message service (MMS) messages with each other. They forwarded chain MMS or SMS messages to their friends and used Bluetooth mobile media to share music among mobile devices when they were together. They also allowed their friends to read, listen, or watch media contents on their personal mobile devices.

2.1.3. Sharing Emotions with Mobile Media

Because mobile media were highly personal and individual devices (Katz & Aakhus, 2002;

Rangaswamy & Singh, 2009), many mobile media users developed personal attachments with their devices. Ventä, Isomursu, Ahtinen & Ramiah (2008) reported how people built relationships with their mobile media. The researchers identified several essential steps, such as personalization of the mobile media and individualization of the mobile media content, whereby mobile media users built their relationships with their mobile media. Other research found that smartphone owners were not comfortable sharing their devices because they were concerned about personal data privacy; worried about others' carelessness with their smartphones; feared data deletions by others, and were anxious about others' smartphone skills (Karlson et al., 2009). Katz and Sugiyama (2006) found that mobile media users treated their mobile devices as a symbolic tool and physical extension of their bodies. On the other hand, Turkle (2007) was aware of the emotions that mobile media users had toward to their devices. She argued that mobile devices were perceived as evocative but not authentic companions.

2.1.4. Sharing Spaces with Mobile Media

Mobile media studies have also paid attention to how people share their personal, private and public space via their mobile media. Bull (2000, 2008) found that mobile music device users created personal spaces in cities. Chen (2010) found that mobile media users used their mobile media to bridge their personal relationships and isolate the unwanted human interactions or sounds in public spaces. Green and Haddon (2009), on the other hand, argued that mobile media users shared their personal and private home space to the public.

2.2. Studies on Cross-Culture Differences in Media Use

This study compared tablet adoption and usage in two different cultures. Comparative studies of mobile cultures have been conducted in several countries. For example, Bell (2003) reported an ethnographic fieldwork on how people used their "new" media at home in five Asian countries, including China, India, Indonesia, South Korea, Singapore and Malaysia. She found that Indian people used instant messaging to communicate within family members in different locations. Malaysian people used some new media for their Islamic religious practices. Castells, Fernandez-Ardevol, Qiu, and Sey (2006), Gordon (2007), and Rheingold (2008) also documented mobile media cultures from different nations. However, there are few studies that compared mobile media use in cross-cultural settings.

Baron and af Segerstad (2010) compared the differences among young people's attitudes toward use of mobile media in public places. They found Swedish, American and Japanese college students' mobile media use was consistent across their cultural contexts. For example, Swedes and Americans felt that it was acceptable to use mobile media in public whereas Japanese did not. It was a cultural norm to keep quiet in public spaces in Japan. Japan had a "quiet" public space policy. Shuter and Chattopadhyay (2010) studied American and Indian SMS behavior and found that American SMS activities happened in the public space with strangers around them whereas Indians liked to send and receive their SMS in a private space while they were with family and friends.

In sum, while mobile culture was studied in European countries (Castells et al., 2006;

Shuter & Chattopadhyay, 2010) and developing countries (Donnar, 2008), Castells et al., (2006) mentioned that there was a need for more research in the U.S. and the Asian Pacific. Bell (2005) found that Asian mobile media use was individualistic, but sharing the devices was common within families. Bell (2003) also argued that Asian culture was more focused on family than the individual, and the individual was not seen as the primary unit of social organization. Steenson and Donner (2009) commented that there is a lack of research in how mobile media users share their devices. Studies (e.g., Rainie, 2006; Turkle, 2007; Srivastava, 2005) showed that mobile media users have developed special emotions toward their technologies. The current study was trying to understand mobile tablet users' sharing behaviors and emotions toward their devices in Taiwan (i.e., an Asian Pacific country) and the U.S..

3. Method

This study used an ethnographic method to understand how tablets would be integrated into everyday activities and their roles in the creation of cultural meaning (Brewer, 2000). The study was conducted between 2010 and 2012 and used participant observations to understand tablet use in the different places, such as university settings, coffee shops, restaurants, streets, train stations, and airports. In addition, focus groups and semi-structured interviews, which were suggested by Weilenmann and Larsson' study (2001), were also conducted to explore cultural differences in tablet users' attitudes to their devices. Tablet users' activities, emotions, locations, and social settings were the main focus in this study.

Originally, this study was intended to collect both audio and video record data, but due to ethical difficulties no such recordings were made. The observations and interviews were documented in field notes. Over the course of this study, a couple hundred subjects using the tablet in public places were observed. In addition, interviews were conducted with more than two-dozen subjects to understand how they shared their tablets. Most of the interview questions focused on sharing behavior, why they shared and with whom they shared their tablets. Questions were designed based on prior research on mobile media use, several years of participant observation in the public space, discussions with mobile media users, and popular literature on media impact in everyday life. Samples questions included *"Do you often share your iPad with others? Why?" and "How do you share your iPad with others?"*

At the beginning stages of the research, the principal investigator (PI) took observation field notes. The PI made several international trips to locations where the research was conducted. In June 2012, three graduate students (i.e., one American male student, one American female student, one Taiwanese female student) at an American East coast public university were recruited to join the project. The main reason to recruit graduate students was to reduce PI's culture bias and increase the cultural richness of the project. The PI and graduate research assistants observed several events together to increase inter-observer reliability. Based on prior research findings on mobile media sharing and several preliminary field observation analyses, certain observation themes, such as gender, age, location, tablet usage, Western or Eastern nationality, were documented. In addition, researchers also asked tablet users' attitudes toward their tablet use, if that could be determined. These observations and interviews were conducted mostly in Norfolk, Virginia, New York City, Taipei, Taiwan and Kaohsiung, Taiwan. Those

locations were selected because these cities have many mobile media users in public places.

4. Findings

4.1. General Tablet Usage

This study found three major themes among tablet usages: ages, locations and situations. Different age groups used the tablet in different ways. Babies watched pre-downloaded videos on tablets. Children often played pre-downloaded games and watched pre-downloaded videos on tablets. Adults played games, updated their social status, and read news and books on their tablets. In addition, location altered the way tablets were used. Tablet users read more in café shops, on trains and at subway stations when they were alone. At airports, tablet users often played pre-downloaded games, watched pre-downloaded videos, and read e-books. At museums, tablets were used to take photos of exhibitions. At family restaurants, tablets were used as baby-sitters for kids and babies to watch pre-downloaded videos and play pre-downloaded games. At university libraries and classrooms, tablets were used to support studies. College students searched class-related information, took photos and notes from class lectures, then used their tablets to share those class notes on social networking sites. Of course, they updated their social networking status anytime at any place via their tablets. Finally, this study found that tablets were used in different ways when wifi was available. With free wifi, activities such as browsing the web, video conferencing, updating social networking sites and reading online news were frequently found whereas users read e-books, watched pre-downloaded videos and played pre-downloaded games when there was no free wifi available.

4.2. Sharing Behavior

This study applied the Domestication Approach to understand tablet adoptions and usage. Domestication Approach was an approach to study how people shared their (home) emotions/ resources/ relationships/ spaces with the technology. Weilenmann and Larsson (2001) studied mobile phone sharing behavior. This study used their framework to analyze data and report the findings. Weilenmann and Larsson (2001) looked at mobile media sharing culture from (1) mobile device sharing with friends and family as well as with unknown others, (2) mobile content sharing, and (3) turn taking to use their mobile devices.

4.2.1. Tablet Sharing

Mobile media have been described as individual devices (Katz & Aakhus, 2002; Rangaswamy & Singh, 2009). This study found that there were many sharing activities among tablet users. Parents shared their tablets with their children in restaurants as well as in airports. Children took turns using their parents' tablets and developed sharing rules among siblings and other children at the same locations. By handing their tablets to other people, students shared media contents on their tablets with co-present friends or others. Tablet owners sometimes let strangers who showed interest in the device hold and feel their tablets.

Excerpt 1: *interview, afternoon, a restaurant, Taipei, Taiwan*
A parent took his tablet out and told his children to show siblings and other kids "how to play a car game." Six young children, aged 3-7, put their heads together and tried to see a boy demonstrate the game.
Question: *Do you often share your iPad with your children?*
My iPad could keep my kids busy, especially when we went out to eat. Therefore, all adults could chat. I always made sure that I took it with me when I dined out with my children (Father_TW #1).

Excerpt 2: *interview, Taiwan*
Question: *Do you often share your iPad with your grandchildren?*
My daughter bought me an iPad. I only used it for a health app and played a pre-downloaded card game. When my grandchildren finished their homework, I lent them my iPad so they played games and updated their social networking statuses. I don't let my grandchildren play on their parents' or aunt's computers or iPads because my kids' computers and iPads have important data and my grandchildren might mess them up (Grandmother_TW #1).

Excerpt 3: *interview, early morning, an university campus, Norfolk, Virginia.*
A young female student's 2-year-old boy watched "Blue Clues," a pre-downloaded video on his mother's iPad while the student did her work.
Question: *Do you often share your iPad with your kids?*
I share my iPad with my kid. However, if I could afford another one for him, I'd like him to have his own iPad (Mother_U.S. #1).

On the other hand, some tablet users do not share their tablets with others. At café shops, hospitals, trains, or subways, tablets were used to read news or e-books. At university libraries, students used their own tablets to study and research. At one American student center, a female student petted her tablet and moved the device toward herself while she communicated with another student. At airports and American restaurants, kids had their own tablets and watched different pre-downloaded videos or played different pre-downloaded games.

Excerpt 4: *evening, airport*
Three American children watched pre-downloaded videos and listened to music on their mobile media. The two bigger boys had their own iPods to listen to music whereas the baby boy was watching pre-downloaded videos on his iPad.

4.2.2. Mobile Content Sharing

Some tablet users used the tablet to produce media content and share with others on the social networking site. They did mobile content sharing both online and offline. Examples included taking photos at museums and sharing on Facebook and taking photos and notes at classes or meetings and sharing on Google+ via tablets. In another case, the tablet remained in the owners'

hands and had others read the content aloud by sharing the display with others.

Children in Taiwan frequently shared mobile contents. At Taiwanese restaurants, children got together and watched children playing games on tablets. In a Taiwanese elementary school, children put their heads together to watch videos, photos or stories on their tablets during recess even though all children had their own tablets. Those children also shared earplugs and listened to music stored on their tablets.

On the other hand, some tablet owners showed concerns when others shared their mobile contents.

Excerpt 5: *interview, evening, airport.*
Question: Do you often share your iPad with your kids?
I worry that my kids might mess up my data on my iPad. Therefore, I bought two big boys their own iPods and bought an iPad for my baby boy as holiday gifts (Father_U.S. #1)

At college libraries, café shops, subway and train stations, tablet users were often focused on their own devices. No mobile content sharing activities were found although some users were co-present with others. A few people listened to music on their tablets alone at the subway stations and on college campuses.

4.2.3. Taking Turns

Tablets' ownership was not as high as that of mobile phones or computers. As a result, many families took turns using the device. It was interesting to note how tablets were used within families and groups.

Except 6: *evening, a college hallway, Norfolk, Virginia.*
Two college female students were video conferencing. One student was chatting on an iPad. When she finished talking, she said, "Do you want to talk with "xx"? She is right next to me. Yes, hold on," she said, and gave the iPad to another female student who was next to her.

Except 7: *afternoon, a restaurant, Kaohsiung, Taiwan*
A group of children played a pre-downloaded car games on an iPad. The oldest boy played first. It was his father's iPad. Then, the boy gave the iPad to the oldest girl who was his father's friend's child and showed her how to play the game. Their younger siblings watched the older children playing. Then, it was their turn to play while the older kids watched.

Except 8: *interviews, Taiwan*
Question: *How do you share your iPad with your family?*
You don't know how important "my iPad" is to my family. I bought the device; however, if my wife is with me, it becomes her iPad. Also, my daughter's turn is

always after my wife (Father_TW #2).

My wife and I just bought a new iPad. This is our second "i" family member[1]. It was registered under my name, but my wife knew the password. We took turns using it. My mother and my father also took turns using my mother's iPad. There was no secret data in my family (Male_TW #1).

5. Discussion, Implications, and Limitations

This study used the Domestication Approach as a framework to explain tablet cultures in the U.S. and Taiwan. Tablets have become firmly domesticated in both countries. Tablet users think about buying a tablet for themselves or others to use, imagine how the tablet could be used in their life, and integrate the tablet into their everyday activities. Ages, locations and situations were found to be three key factors that determined different uses of tablets.

This study found that parents in both countries used tablets as baby sitters for their children. Parents used their tablets to keep their children busy in public places, such as restaurants or airports. Most children used the tablet as entertainment devices to play games or watch videos, whereas some college students used it as an educational device at schools. Adults used their tablets differently depending on the locations and situations. For example, if a location had wifi service, adult tablet users socialized with their friends by video conferencing or updating their social network site statuses. If wifi service was not available, they used their tablets to read, watch pre-downloaded videos or listen to music. Tablet users integrated their devices into their everyday life and shared their personal and physical spaces with their devices. This study found that the tablet seemed to be domesticated into its users' everyday life.

While most of the tablet adoption and usage patterns could be explained by the Domestication Approach, there were some differences between tablet adoption and usage in these two countries. For example, many Taiwanese families treated their tablets as though the family owned the devices although someone (e.g., the head of the household) individually registered the tablets. While American tablet users were concerned about data privacy, Taiwanese users seemed to care more about taking turns using the tablets.

Other cross-national mobile media studies found that mobile media adoptions and usage process are complicated and need to be studied more. Bell (2003) and Chen (2007) found that some aspects of Asian "collective" culture have an impact on mobile media use. Based on the findings, this study tried to explore if Geert Hofstede's (1997) individualistic versus collective dimension could profile those differences between Taiwanese and American tablet adoption and usage. Hofstede studied employees at a large international company and found culture influenced human behavior. Sharing tablets and mobile contents on tablets may be an example of this .

Research shows that people in collectivistic cultures are more interdependent whereas people in individualistic cultures are more independent. Intercultural communication studies have demonstrated differences between individualistic and collectivistic cultures resulting from

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[1] The first one was an iMac in his family.

communication style (e.g., Gudykunst, Matsumoto, Ting-Toomey, Nishida, Kim & Heyman, 1996), perspective taking (e.g., Wu & Keysar, 2007), and virtual teamwork (e.g., Zakaria, Amelinckx & Wilemon, 2004). Bell (2005) commented that mobile media use among Asian family members might be less "individual." Steenson and Donner (2009) found cultural factors might influence Indian mobile phone sharing behavior.

This study found that there was more sharing of devices, sharing of media contents, and taking turns to use the tablet in Taiwan and that many Taiwanese participants treated their tablets as "family tablets" and were willing to share with their family members and friends' family members. Many Taiwanese families had only a "family tablet" that the family took turns using. The Taiwanese grandmother shared her tablet with her grandchildren because she thought the children might mess up her sons and daughters' data on their mobile devices. The Taiwanese father not only shared his tablet with his own children, but also encouraged his children to teach his friends' children how to play mobile games on the tablet in the restaurant. Those findings seemed to fit Hofstede's (1997) collectivistic culture characteristics, which often valued the needs of the in-group members more than the needs of individuals. The results were also similar in Bell (2005), Chen (2011), Steenson and Donner (2009), and Weilenmann and Larsson's (2001) studies.

On the other hand, American tablet adoption and usage pattern was similar to Katz and Aakhus (2002) and Rangaswamy and Singh's (2009) arguments. They argued that the mobile device was highly individual. American tablet adoption and usage pattern seemed to fit Hofstede's (1997) individualistic culture characteristics, which often oriented around the self. As Karlson et al. (2009) found on smartphone sharing, some American tablet users might also temporarily share their tablets with their children. However, they were always concerned that other people might mess up their personal data on their personal devices. Some of them planned to get their children their personal tablets when they could afford them. At airports and restaurants, American children were playing on their individual mobile devices. At train stations, American tablet users were focused on their devices and blocked unwanted human interactions or city noises (Bull, 2000; 2008). In American colleges, students received the tablets as "educational gifts" for special holidays from their family members, such as Christmas or birthdays, even without asking for them. They always kept their tablets with themselves. While they seldom took turns using the device, some of them shared mobile media contents on social networking sites. Those American tablet users used their devices to fulfill individual needs and reach academic goals.

These different results might be explained by Hofstede's individualistic versus collective dimension. The United States, with a score of 91 on Hofstede's individualistic index, is a highly individualistic culture. On the other hand, Taiwan, with a score of 17 on Hofstede's individualistic index, is a highly collectivistic culture (Hofstede, 2012). Hofstede (2012) argued that people are often focused on themselves and their direct family in an individualistic culture whereas people belong "in groups" in a collectivistic culture. In this study, some aspects of tablets' adoption and usage between the U.S. and Taiwan fit into Hofstede's dimension.

This study tried to explain tablet usages and adoptions in a cross-cultural context, but observation locations were limited. This study was conducted mostly in Norfolk, Virginia, New York City, Taipei, Taiwan and Kaohsiung, Taiwan. Future studies might explore different

American and Taiwanese locations to see if people use and share tablets differently.

6. Conclusion

This study explained tablet adoptions and usage from the perspective of Silverstone and colleagues' Domestication Approach (Silverstone, 1994; Silverstone & Haddon, 1996; Silverstone, Hirsch & Morley, 1992). The results showed the approach could explain major tablet adoption and usage in both the U.S. and Taiwan. In this study, tablet users first considered how the mobile device could be incorporated into their everyday life and later shared both physical and emotional spaces with their devices. They used their tablets for fulfilling their information, socialization, and entertainment needs. Some cultural differences between the two countries were explained by the Hofstede's individualistic versus collective dimension (1997). Tablets in Taiwan were shared with in-group members whereas tablets in the U.S. seemed to be highly individual devices to meet personal needs. This study found patterns indicating that national culture may impact tablet adoption and usage.

Studying cross-cultural technology adoption and usage is rare because there are too many factors, such as access, affordabiliity, connectabilities, policies, and regulations that might impact users' willingness to adopt new technology. The data for this study was collected through ethnographic fieldwork. Although generalizability was not the purpose of this ethnographic research, the future research could utilize the findings from this study to design a random survey to understand cross-cultural differences in technology adoption and usage. Moreover, future cross-cultural mobile media research might include a broader cultural sampling and different age groups. Studies on mobile device use among youth (e.g., *India*-Raswamy & Singh, 2009; *Japan*-Ito, 2005; *Norway*-Ling, 2004; *Palestine*-Hijazi-Omari & Ribak, 2008; *Sweden*-Weilenmann & Larsson, 2001; *UK*-Taylor & Harper, 2002; 2003) found that many young mobile media users shared similar mobile media usage patterns across the world. They used the mobile media to mark their social status as well as to build their personal and group identities. Therefore, more cross-cultural research could be done in technology adoption and usage.

References

AdMob tablet survey. (March, 2011). *Google*. Retrieved October 4, 2012 from http://services. google.com/fh/files/blogs/AdMob - Tablet Survey.pdf

American families see tablets as playmate, teacher and babysitter. (February 16, 2012). *The Nielsen Company*. Retrieved October 4, 2012 from http://blog.nielsen.com/nielsenwire/ online_mobile/american-families-see-tablets-as-playmate-teacher-and-babysitter/

Arthur, Charles. (November 18, 2011). Tablet use up during mornings and evenings. *The Guardian*. Retrieved October 4, 2012 from http://www.guardian.co.uk/technology/2011/ nov/18/tablet-smartphone-use-breakfast-evening

Baron, Naomi S. & af Segerstad, Ylva Hård. (2010). Cross-cultural patterns in mobile-phone

use: public space and reachability in Sweden, the USA and Japan. *New Media & Society, 12*(1), 13-34. doi: 10.1177/1461444809355111

Bell, Genevieve. (2003, April). *Other homes: Alternate visions of culturally situated technologies for the home*. Paper presented at the Conference on Computer-Human Interaction (CHI 2003). Fort Lauderdale, FL.

Bell, Genevieve. (2005). The age of the thumb: A culture reading of mobile technologies from Asia. In Peter Glotz, Stefan Bertschi & Chris Locke (Eds.), *Thumb culture: The meaning of mobile phones for society* (pp. 67-88). New Brunswick, NJ: Transaction Publishers.

Bolin, Göran. (2010). Domesticating the mobile in Estonia. *New Media and Society, 12*(1), 55-73. doi: 10.1177/1461444809355112

Brewer, John D. (2000). Ethnography. Philadelphia, PA: Open University Press.

Bull, Michael. (2000). *Sounding out the city: Personal stereos and the management of everyday life*. New York, NY: Berg.

Bull, Michael. (2008). Sound moves: *iPod culture and urban experience*. New York, NY: Routledge.

Castells, Manuel; Fernandez-Ardevol, Mireia; Qiu, Jack Linchuan & Sey, Araba. (2006). *Mobile communication and society*: A global perspective. Cambridge, MA: The MIT Press.

Chen, Yi-Fan. (2007). Public mobile communication technology use: A comparison between America and Taiwan. *Intercultural Communication Studies, 7*(1), 14-25.

Chen, Yi-Fan. (2010, November). *A longitudinal study of mobile information and communication technology use in public*. Paper presented at the meeting of the 96th annual conference of the National Communication Association, San Francisco, CA.

Chen, Yi-Fan. (2011, September). *Exploring mKids' convenience, identity and privacy in mobile content sharing*. Research presented at a meeting of the EU Kids Online conference, London School of Economics and Political Science, University of London, London, UK.

Chen, Yi-Fan & Katz, James E. (2009). Extending family to school life: College students' use of the mobile phone. *International Journal of Human-Computer Studies, 67*(2), 179-191. doi: doi:10.1016/j.ijhcs.2008.09.002

Consumers on tablet devices: Having fun, shopping and engaging with ads. (November 30, 2011). *Google*. Retrieved October 4, 2012 from http://googlemobileads.blogspot.com/2011/11/consumers-on-tablet-devices-having-fun.html

Consumers turn to tablets to research purchase decisions. (April 26, 2012). *eMarketer*. Retrieved October 4, 2012 from http://www.emarketer.com/Article.aspx?id=1009000&R=1009000

Connected devices: How we use tablets in the U.S. (May 5, 2011). *The Nielsen Company*. Retrieved October 4, 2012 from http://blog.nielsen.com/nielsenwire/online_mobile/connected-devices-how-we-use-tablets-in-the-u-s/

Consolvo, Sunny; Smith, Ian E.; Matthews, Tara; LaMarca, Anthony; Tabert, Jason & Powledge, Pauline. (2005). Location disclosure to social relations: Why, when, & what people want to share. In *Proceedings of the SIGCHI conference on Human factors in computing systems, CHI '05*, (pp. 81-90), New York, NY, USA: ACM. doi: 10.1145/1054972.1054985

Davis, Fred D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319-340. Retrieved October 4, 2012 from http://*www.jstor.org/stable/249008*

Donner, Jonathan. (2008). Research approaches to mobile use in the developing world: A review of the literature. *The Information Society: An International Journal, 24*(3), 140-159. doi: 10.1080/01972240802019970

Few consumers interested in tablet PC. (August 16, 2010). *The Nielsen Company*. Retrieved October 4, 2012 from http://www.marketingcharts.com/direct/few-consumers-interested-in-tablet-pcs-13883/

Foreseeing Innovative New Digiservices. (FIND) (July 26, 2011). 未來生活，從「心」出發，融入創新力、設計力、科技化的五大「貼心」服務體驗〔*From bottom of the heart, five service experiences combined innovation, design, and technology in the future life*〕. Institute for Information Industry. Retrieved October 4, 2012 from http://www.find.org.tw/find/home.aspx?page=many&id=291

Foreseeing Innovative New Digiservices. (FIND) (April 5, 2012). 台灣消費者使用平板電腦行為解密：娛樂性、資訊性成為消費者使用的重要特質〔*Taiwanese consumers' use of the tablet PC behavior decryption: Entertainment and information are important traits*〕. Institute for Information Industry. Retrieved October 4, 2012 from http://www.find.org.tw/find/home.aspx?page=many&id=315

Green, Nicola & Haddon, Leslie. (2009). *Mobile communications: An introduction to new media*. New York, NY: Berg.

Gordon, Janey. (2007). The mobile phone and the public sphere. *Convergence: The International Journal of Research into New Media Technologies, 13*, 307–319. doi: 10.1177/1354856507079181

Gudykunst, William B.; Matsumoto, Yuko; Ting-Toomey, Stella; Nishida, Tsukasa; Kim, Kwangsu & Heyman, Sam. (1996). The influence of cultural individualism-collectivism, self construals, and individual values on communication styles across cultures. *Human Communication Research, 22*(4), 510–543. doi: 10.1111/j.1468-2958.1996.tb00377.x

Haddon, Leslie. (2011). Domestication analysis, objects of study, and the centrality of technologies in everyday life. *Canadian Journal of Communication, 36*(2). Retrieved October 4, 2012 from http://cjc-online.ca/index.php/journal/article/viewArticle/2322

Haddon, Leslie. (2003). Domestication and mobile telephony. In James E. Katz (Ed.), *Machines that become us: The social context of personal communication technology* (pp. 43-56). New Brunswick, NJ: Transaction Publishers.

Haddon, Leslie. (2004). *Information and communication technologies in everyday life: A concise introduction and research guide*. New York, NY: Berg.

Hijazi-Omari, Hiyam & Ribak, Rivka. (2008). Playing with fire: On the domestication of the mobile phone among Palestinian teenage girls in Israel. *Information, Communication & Society, 11*(2), 149-166. doi: 10.1080/13691180801934099

Hjorth, Larissa & Kim, Kyoung-Hwa Yonnie (2011). Good grief: the role of social mobile media in the 3.11 earthquake disaster in Japan. *Digital Creativity, 22*(3), 187-199. doi:10.1080/14626268.2011.604640

Hofstede, Geert. (2012). *National Culture: Countries*. Retrieved October 4, 2012 from http://geert-hofstede.com/countries.html

Hofstede, Geert. (1997). *Cultures and organizations: Software of the mind*. New York: McGraw Hill.

Humphreys, Lee. (2007). Mobile social networks and social practice: A case study of dodgeball. *Journal of Computer-Mediated Communication, 13*(1), 341-360. doi: 10.1111/j.1083-6101.2007.00399.x

Karlson, Amy K.; Brush, A.J. Bernhei & Schechter, Stuart. (2009). Can I borrow your phone?: Understanding concerns when sharing mobile phones. In *Proceedings of the 27th international conference on Human factors in computing systems*, CHI '09 (pp. 1647-1650). New York, NY: ACM. doi:10.1145/1518701.1518953

Katz, James. K. & Aakhus, Mark. (2002). Making meaning of mobiles: A theory of apparatgeist. In James E. Katz & Mark Aakhus (Eds.), *Perpetual contact: Mobile communication, private talk, public performance* (pp. 301-318). Cambridge, UK: Cambridge University Press.

Katz, James E. & Sugiyama, Satomi. (2006). Mobile phones as fashion statements: Evidence from student surveys in the US and Japan. *New Media & Society, 8*(2), 321-337. doi: 10.1177/1461444806061950

Koskinen, Ilpo Kalevi. (2007). *Mobile multimedia in action*. New Brunswick, NJ: Transaction Publishers.

Ito, Mizuko. (2005). Mobile phones, Japanese youth, and the re-placement of social contact. In Rich Ling & Per E. Pedersen (Eds.), *Mobile communications: Re-negotiation of the social sphere* (pp. 131-148). Surrey, UK: Springer.

Ling, Rich. (2004). *The mobile connection: The cell phone's impact on society.* San Francisco, CA: Morgan Kaufmann Publishers.

Ling, Rich. (2008). *New tech, new ties: How mobile communication is reshaping social cohesion*. Cambridge, MA: The MIT Press.

Ling, Ring & Yttri, Birgitte. (2002). Hyper-coordination via mobile phones in Norway. In James E. Katz & Mark Aakhus (Eds.), *Perpetual contact: Mobile communication, private talk, public performance* (pp. 139-169). Cambridge, UK: Cambridge University Press.

PRNewswire. (April 17, 2012). Tablets are leading alternative for full-length TV show viewing after television, according to Viacom's "Tapping Into Tabletomics" Study. *Viacom*. Retrieved October 4, 2012 from http://www.prnewswire.com/news-releases/tablets-are-leading-alternative-for-full-length-tv-show-viewing-after-television-according-to-viacoms-tapping-into-tabletomics-study-147733995.html

Purcell, Kristen. (June 27, 2011). E-reader ownership double in six months. *PEW Internet and American Life Project*. Retrieved October 4, 2012 from http://www.pewinternet.org/Reports/2011/E-readers-and-tablets.aspx

Rainie, Lee. (October 4, 2012). 25% of American adults own tablet computers. *PEW Internet and American Life Project*. Retrieved October 4, 2012 from http://pewinternet.org/Reports/2012/Tablet-Ownership-August-2012.aspx

Rainie, Lee. (April, 2006). PEW Internet project data memo. *PEW Internet and American Life Project*. Retrieved October 4, 2012 from http://www.pewinternet.org/~/media/Files/Reports/2006/PIP_Cell_phone_study.pdf.pdf

Rangaswamy, Nimmi & Singh, Supriya. (2009). Personalizing the shared mobile phone. *Internationalization, Design and Global Development, 5623*, 395-403.

Rheingold, Howard. (2008). Mobile media and political collective action. In James E. Katz

(Ed.), *Handbook of mobile communication studies* (pp. 225-240). Cambridge, MA: MIT Press.

RTTNews.com. (May 17, 2012). Tablets gear up to replace PCs. NASDAQ. Retrieved October 4, 2012 from http://www.rttnews.com/1847068/tablets-gear-up-to-replace-pcs.aspx

Shuter, Robert & Chattopadhyay, Sumana. (2010). Emerging interpersonal norms of text messaging in India and the United States. *Journal of Intercultural Communication Research, 39*(2), 123-147.

Silverstone, Roger. (1994). *Television and everyday life*. Routledge, UK: London.

Silverstone, Roger & Haddon, Leslie . (1996). Design and the domestication of information and communication technologies: Technical change and everyday life. In Robin Mansell & Roger Silverstone (Eds.), *Communication by design: the politics of information and communication technologies* (pp 44-74). New York, NY: Oxford University Press.

Silverstone, Roger; Hirsch, Eric & Morley, David. (1992). Information and communication technologies and the moral economy of the household. In Roger Silverstone & Eric Hirsch (eds.), *Consuming technologies: Media and information in domestic spaces* (pp.115–31). London, UK: Routledge.

Srivastava, Lara. (2005). Mobile phones and the evolution of social behaviour. *Behaviour & Information Technology, 24*(2), 111-129. doi: 10.1080/01449290512331321910

Steenson, Molly W. & Donner, Jonathan. (2009). Beyond the personal and private: Modes of mobile phone sharing in urban India. In Rich Ling & Scott W. Campbell (Eds.), *The reconstruction of space and time: Mobile communication practices* (pp. 231-250). New Brunswick, NJ: Transaction Publishers.

Taylor, Alex S. & Harper, Richard. (2002). Age-old practices in the 'new world': A study of gift-giving between teenage mobile phone users. In *CHI '02: Proceedings of the SIGCHI conference on Human factors in computing systems* (pp. 439-446). New York, NY: ACM.

Taylor, Alex. S. & Harper, Richard. (2003). The gift of the gab?: A design oriented sociology of young people's use of mobiles. *Computer Supported Cooperative Work (CSCW), 12*(3), 267-296. doi: 10.1023/A:1025091532662

Turkle, Sherry. (2007). Authenticity in the age of digital companions. *Interaction Studies, 8*(3), 501-517. doi: http://dx.doi.org/10.1075/is.8.3.11tur

Ventä, Leena; Isomursu, Minna; Ahtinen, Aino & Ramiah, Shruti. (2008). "My phone is a part of my soul"- How people bond with their mobile phones. In *2008 The Second International Conference on Mobile Ubiquitous Computing, Systems, Services and Technologies*, UBICOMM '08 (pp. 311-317). Washington, DC: IEEE. doi: 10.1109/UBICOMM.2008.48

Vieweg, Sarah; Hughes, Amanda L.; Starbird, Kate & Palen, Leysia. (2010). Microblogging during two natural hazards events: What twitter may contribute to situational awareness. In *Proceedings of the 28th international conference on Human factors in computing systems,* CHI '10 (pp. 1079-1088). New York, NY, USA: ACM. doi:10.1145/1753326.1753486

Weilenmann, Alexandra & Larsson, Catrine. (2001). Local use and sharing of mobile phones. In Barry Brown, Nicola Green & Richard Harper (Eds.), *Wireless World: Social and Interactional Aspects of the Mobile Age* (pp. 92-107). Heidelberg: Springer-Verlag.

Wu, Shali & Keysar, Boaz. (2007). The effect of culture on perspective taking. *Psychological Science, 18*(7), 600-606. doi: 10.1111/j.1467-8691.2004.00290.

Zakaria, Norhayati; Amelinckx, Andrea & Wilemon, David. (2004). Working together apart? Building a knowledge-sharing culture for global virtual teams. *Creativity and Innovation Management, 13*, 15-29.

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