Chapter 7

Understanding the ICT User Typology and the User Types

The five user types of the *ICT User Typology*, the Enthusiast, Practicalist, Socializer, Traditionalist, and Guardian, capture the diversity of older adult ICT users from those who are excited to those who are fearful. Each user type represents a distinct domestication (Silverstone & Hirsch, 1992; Silverstone & Hirsch, 1994; Silverstone et al., 1994) pattern in the way that individuals are introduced to, use, display, and come to find meanings in ICTs. People can be categorized into these patterns based on their general philosophy toward technology. Table 1 integrates all five user types, exploring the domestication pattern for each, allowing easy comparison:

Enthusiasts love ICTs, display them proudly in their home, are interested in new innovations, and center their lives around technology. They can often remember "tinkering" with ICTs in their youth, an activity encouraged by a technological mentor who had a deep interest in technology themselves. They often use multiple ICTs at the same time and they push their workplaces to use more technological innovation. Enthusiasts' seek out new ways to use ICTs they own in every facet of their lives and form relationships with others over the topic of technology and through its use. Technologies are displayed predominantly in their homes to allow easy and constant use. Eager to try new innovations, Enthusiasts see ICTs as fun toys.

Practicalists enjoy using ICTs which fulfill a need and help them complete tasks in their everyday lives. They see the ICTs they use as being function-specific and highly tied to a single aspect of their lives, be it for use in their work, family, leisure, or community. These technologies are viewed as for their own personal use and they place a high value on those with proven functionality. They have no interest in exploring how to use a single ICT in every facet of their lives. Practicalists place ICTs in function-specific rooms, often placing computers in home offices and televisions in entertainment rooms. Practicalists see ICTs as tools.

Socializers have large intergenerational networks of friends, family, and community contacts. They use their ICTs to create, grow, and maintain these connections. Technologies which allow them to socialize and build these bonds are highly valued; technologies that are seen as isolating have little value. Socializers, who have busy lives due to high community involvement, prefer

Table 1. The ICT User Typology: Comparison of the Five User Types.

User Type	Views ICTs as	Formative Experiences	Introduction to ICTs	Use	Display	Role in Society in Regards to ICTs
Enthusiasts	Toys Fun Play	Positive Tech mentors Encouraged to tinker	Media Relationships Self-sought	Stretches ICTs across life contexts Simultaneous multiple ICT Use	Every room Focal point	"Technological Evangelists"
Practicalists	Tools Functional	Early work experiences	Work Relationships	Focuses on function Enjoys practical application Single life context use per ICT	ICT-specific rooms Functional placement	"Technological Tool Users"
Socializers	Connectors Bridges Social	Highly intergenerational families and communities	Relationships (especially relationships with younger individuals)	Focuses on connection and community Enjoys socialization, constant contact	Mobile ICTs Moves ICTs with them	"Technological Social Butterflies"

Traditionalists	Tradition Nostalgia	Positive experiences with ICTs in youth	Relationships (gifting of unwanted ICTs)	Enjoys using ICTs of their youth Rejects newer ICT forms	Older forms displayed Newer forms hidden	"Technological Tradition Keepers"
Guardians	Allowing individuals to wallow in negative traits Harmful	Salient traumatic experience(s)	Relationships Work Self	Focuses on control Highly restricted Disciplined	ICTs hidden Restrict use through inconvenience	"Resistance Fighters" in a Digital Society

mobile ICTs that they can take with them or use while completing other tasks. Most importantly, they choose to mimic how their youngest contacts use technology; adapting to and adopting the use patterns of the youngest members of their social networks. Socializers see ICTs as connectors.

Traditionalists love the ICTs of their youth. They tend to be very nostalgic and place a high value on the ICTs that were available when they were young adults and children. Their lives are so full of these more traditional ICT forms that they see little to no value in using more modern ones. They receive advanced technologies as gifts from friends and family members. They will try these devices (often under the urging of their loved ones) but find that these newer technologies cannot compare to their beloved devices. More traditional forms of ICTs are displayed prominently in their homes, while the newer devices they have received as gifts are hidden. Traditionalists love the ICTs of their youth but see little use for newer ICTs in their lives.

Guardians highly value in-person face-to-face (non-virtual) contact and relationships. They view all ICTs (regardless of when an ICT was introduced into their lives) as potentially negative influences: devices which allow people to wallow in gluttony and wastefulness. They believe strongly that technologies themselves are not negative, but rather can be misused with negative consequences for individuals and society. Guardians set strict self-imposed guidelines on how often, how much, and when they use ICTs, resisting what they view as societal pressure to become consumed with and by the virtual world. Guardians place ICTs into areas of their homes which make them less accessible to prevent themselves and others from "mindless" use. They are proud of maintaining ICT-free spaces in which they can enjoy non-virtual relationships and tasks. For Guardians, ICTs are devices which allow us to wallow in our negative human traits, especially if we are not disciplined in using them.

It is important to note that these user types represent the predominant way in which individuals approach ICTs in their lives. Regardless of a person's predominant approach toward technology, almost all people have concerns over its misuse. While Enthusiasts tend to love new ICTs and are willing to try them, most are still concerned about issues such as privacy and corruption. However, the difference between Guardians and Enthusiasts is that Guardians' predominant view is shaped by concerns of misuse, whereas Enthusiasts' predominant view is shaped by a sense of play. Almost all participants shared concerns over the misuse of technologies, regardless of their type. For types other than Guardians, however, these concerns are very much secondary, if not tertiary. For Guardians, these concerns take center stage.

For instance, Alice, an Enthusiast, shared a story of how she found her Facebook profile pictures placed on a family tree website. She was disturbed by finding her pictures posted elsewhere and asked for them to be removed. However, Alice continued to use Facebook, stating that she loved it, but realized that there were risks involved. Other Enthusiasts expressed concerns about issues such as net neutrality and the influence of advertising. However, these concerns were secondary to Enthusiasts' love of ICTs. Given the number of contact hours spent in interviews, it is unsurprising that almost all the individuals in the study
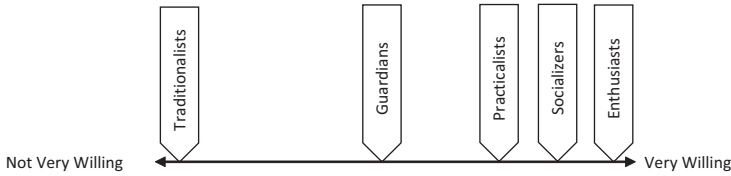
Figure 9.   Willingness to Try New ICTs.

shared that they had concerns with technology misuse. Indeed, most of us have such concerns, and if we do not, we probably should.[1]

Comparisons between the User Types: Understanding Similarities and Differences

While each of the user types is distinctly different, there are some similarities between the types. Some types are more willing to try new ICTs or more knowledgeable than others. Several of the types are extremely nostalgic, with fond memories of using ICTs in their youth, while others are not. This next section uses scale gradient bars to illustrate several important features of each type to facilitate easy comparison.

Willingness to Try New ICTs

Enthusiasts tend to be extremely willing to try new ICTs, viewing new technologies much like a child views new playthings, carrying this willingness to experiment with technologies from childhood into adulthood (Figure 9). Anything new, as long as they see it as fun, they actively want to try. Alice and Fred, who were romantic partners, often were trying new ICTs and showing them to each other. Socializers want to try any ICT they observe their social networks using to communicate and pay particular attention to those used by younger individuals. Gwen, as a Socializer, was shown a tablet by her daughter at a sporting event and was immediately interested in trying it. Practicalists are also willing to try new ICTs, as long as the technology has a proven function that they believe

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[1]Overall, privacy and information security (and other ethical issues) has been understudied in Gerontechnology (Schulz et al., 2015), despite the ethical concerns involved in many ambient (van Hoof, Kort, Markopolous, & Soede, 2007), assistive (Mortenson, Sixsmith, & Woolrych, 2015), and caregiving technologies (Parviainen & Pirhonen, 2017). As privacy concerns just beginning to be addressed in much of the Gerontechnology literature, the current ethical concerns have focused on the individual (concerns over a person's privacy or agency) and fewer on how a technology impacts a larger social group, such as communication patterns in a care setting. As Coeckelbergh (2018) suggests we, as Gerontechnologists, should begin thinking about such technologies not only in terms of individual impacts, but also societal and group impacts.

will benefit their daily lives. Belinda was constantly learning new ICTs for her job and targeted her exploration of these new technologies for educational purposes.

Guardians, while they are suspicious of all ICTs, are moderately willing to try new ones. They often have concerns about the quality of media content and are concerned about issues such as privacy and information security. If they have adequate reassurance that something is indeed safe, they will try a new technology. They will likely continue using such a technology as long as it is not too intrusive to their non-virtual lives: they can restrict and control its use. Margaret was willing to adopt online shopping after she had reassurance from both her neighbor (who served as her technical support person) and was walked through the process by an employee of the company over the phone. Both reassured her online shopping from this retailer was secure (and explained the security procedures in a way she could understand).

Traditionalists are the least likely to try new ICTs, at least in any sustained way, as they have little interest in newer innovations. They often are gifted these technologies from well-meaning family and friends and may try them under duress or urging. However, their use is not sustained. Mindy Jean's laptop had been used several times in the six months she had owned it, but it was typically stored in a locked desk and remained untouched for weeks at a time unless her children prompted her to get it out for a lesson.

Fun versus Function

Enthusiasts tend to see ICTs as pure fun. They enjoy and expect functionality out of their devices, but technologies are more playthings than work (Figure 10). Fred often spoke about the great fun he had with various technologies from the television to the smartphone. Traditionalists also believe that ICTs are great fun and, therefore, use their chosen devices quite frequently. For Traditionalists, their favorite and most fun ICTs are those of their youth. Newer ICTs simply are not fun to Traditionalists. June found her television fun, but not her computer.

Socializers consider technologies that can be used to build community and/or communicate great fun. Non-social or isolating technologies that Socializers cannot use to communicate or build community are seen as having little value. While Gwen had great fun making up text speak, she had no enjoyment from watching her television, as she believed it was an isolating device. Such beliefs
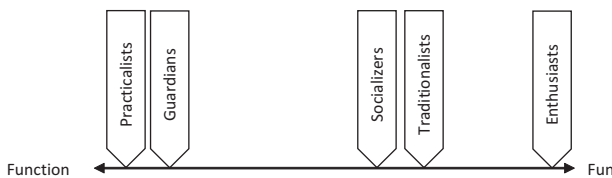

Figure 10.   Fun versus Function.

emphasize that Socializers base their judgment of fun primarily on their beliefs about the communication and/or community building potential of a technology.

Practicalists and Guardians view ICTs as much more functional devices than fun ones. Practicalists are concerned primarily with the usefulness of a technology; their interest is in how an ICT's functionality can improve their lives. Many Practicalists, like Boris and Belinda, are intentional about not playing with technology as a toy, but rather using it to complete tasks as a tool. Guardians, who view ICTs as potentially negative influences, tend to not see ICTs as fun, but rather functional items that they use to complete an activity without becoming too absorbed. Margaret carefully regulated her own computer use to a small number of tasks, limiting the time she spent online.

Experiences with Technology (Positive versus Negative)

Enthusiasts have had the most positive experiences with ICTs throughout the life course (Figure 11). They have loved ICTs from childhood, integrated them into every aspect of their lives, and have introduced numerous technologies into their workplaces, families, and communities. Their experiences are overwhelmingly positive and they have positive memories throughout the life course about ICTs.

Practicalists, Socializers, and Traditionalists also tend to have positive interactions with ICTs. While Practicalists and Socializers do not wax poetic about their love for technology as Enthusiasts and Traditionalists tend to, they do tend to focus on positive interactions they have had. Belinda, a Practicalist, spoke about how ICTs enabled her work as an educator. Gwen, a Socializer, would speak about how technology positively enabled a connection with her family. Traditionalists' experiences with the technologies of their youth are overwhelmingly positive. Mindy Jean's discussion of soap operas and how they helped her to bond with her mother is an example of the overwhelming positive memories Traditionalists have of traditional ICT forms. Newer ICTs are met with indifference.

Guardians, however, stand apart in this area, as the only type that can pinpoint extremely traumatic and life-changing experiences with ICTs. Margaret's example of the downgrading of her job and Natalie's family's disintegration, and the part that technology played in both these occurrences, are prime examples of such traumatic experiences.
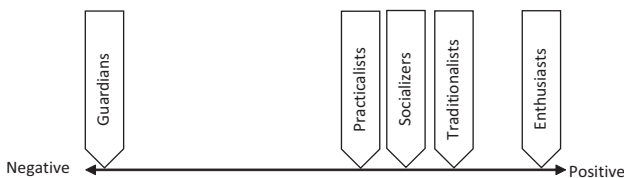

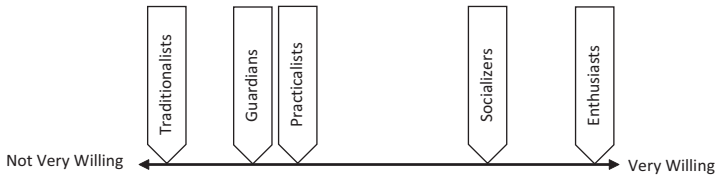Figure 11.   Positive versus Negative Experiences with Technology.

Figure 12.   Willingness to Experiment/Play (On Their Own) with ICTs.

Willingness to Experiment with their ICTs

Several user types are much more willing to experiment and discover, on their own, new uses and functions within an ICT that they already own (Figure 12). Enthusiasts love to "play" and experiment with their technologies. Alice, for instance, spoke about how she experimented with her smartphone to find uses in her work as a home health care nurse and then encouraged others in her office to try these new applications.

Socializers are interested primarily in communication and connection and specifically experiment with ways to use ICTs for social, communicative, and community building purposes. Nancy's use of the gaming console in her assisted living center is an example of how Socializers experiment with using ICTS that many would consider non-social to build relationships and community.

Guardians and Practicalists are less likely to experiment with ICTs. Guardians are uninterested in investing a significant amount of time to learn new uses. Jackie shared that while she enjoyed using her laptop for digital photography and news, she wasn't interested in finding other uses – she would much rather go for a walk or visit with friends. In Guardians' minds, the time spent on deep exploration removes them from their everyday non-virtual lives, where they place the most importance. Practicalists are similarly disinterested in experimenting on their own to find new uses, as they believe ICTs are tools, and not playthings. Belinda, for instance, stated that she did not want to "play" with the internet, but rather used it in a targeted and focused way to find educational tools.

Traditionalists, who only try newer ICTs at their families' and friends' urging, have no interest in experimenting with ICTs on their own. June's children had set up a Facebook account for her and would often call her and urge her to "go online." She often refused, telling them to just tell her on the phone. June had no interest in using or exploring how to use Facebook and had never posted her own content.

Technological Fear

Much of the gerontechnological literature has addressed older adults and technological fear/ anxiety (Nimrod, 2018). In the early literature, this was often
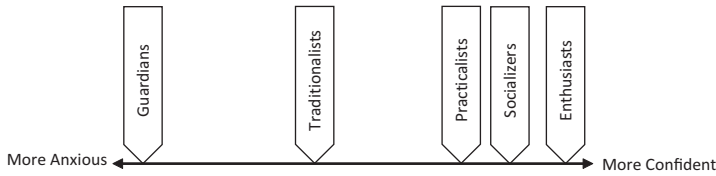
Figure 13.   ICT Anxiety.

termed computer anxiety.[2] Numerous studies have shown that computer courses (Dunnett, 1998; Dyck & Smither, 1996) and exposure to ICTs (Czaja et al., 2006; Jay & Willis, 1992) are effective countermeasures.

A different way to conceptualize this anxiety is to term it as confidence or self-efficacy. Prior studies have shown that self-efficacy, or a person's self-belief that they can use a technology, is critical to using an ICT,[3] while feelings of mistrust and worries about privacy and information security decrease use (Golant, 2017; Yusif & Hafeez-Baig, 2016). Enthusiasts, Socializers, and Practicalists express very little computer anxiety and tend to be very confident about their use of ICTs (Figure 13). (A notable exception to this, however, is Practicalists who have not had work exposure to ICTs, such as in Dan's case.)

Traditionalists, who chose not to use ICTs, tend to express neither confidence nor anxiety. They do tend to report lower computer skills due to their choice to not use more modern ICTs in their daily lives. However, it is important to note that Traditionalists do not feel that computer anxiety is the source of why they do not choose to use more modern ICTs. Rather, they are simply disinterested and unmotivated. Mindy Jean shared that she had no desire to use a computer, despite her children's urging.

Guardians show a high amount of technological anxiety. They tend to be overly concerned about internet security and privacy and express fear that they can unwittingly "break" or "harm" things. Much of this concern is overwrought, however. Most Guardians have better technical skills than for which they give themselves credit. Jackie once cleared a computer virus from her machine by calling her local computer store, and following their instructions, even though by her own measurement she was not that technologically competent.

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[2]See for example Charness, Schumann, and Boritz (1992), Dyck, Gee, and Smither (1998), and Laguna and Babcock (1997), all studies which focus on technological anxiety and older adults.

[3]The literature on self-efficacy and older adults is well developed (Eastman & Iyer, 2004; Haddon, 2000; Hogan, 2005; Lagana, 2008; Lam & Lee, 2006; Lee & Coughlin, 2015; Tsai, Shillair, Cotten, Winstead, & Yost, 2015; Turner, Turner, & Van de Walle, 2007).
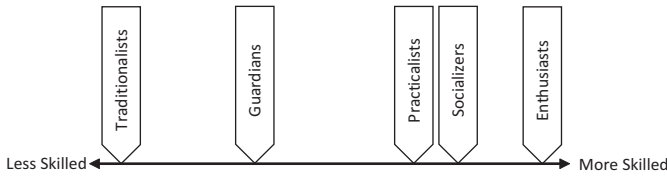
Figure 14.   Self-assessed Skill Level.

Self-assessment of Own Skills

Enthusiasts are, by both their own estimates and those of others, the most skilled ICT users (Figure 14). They live and breathe technology and, therefore, their skills match their high levels of use. Enthusiasts are skilled not only for their age bracket, but as could be seen in Chapter 2, skilled compared to the general population. Harry, for instance, was the technical support person for his entire family, many of his friends, and his coworkers − despite being older than the vast majority of them.

Socializers and Practicalists have mid- to upper-level skills, depending on their exposure, although they exhibit more targeted approaches to learning new ICTs than Enthusiasts. For Socializers, their skills are solidly focused on communication devices used within their social circle(s). They quickly explore all the ways others are using these devices to communicate and replicate these patterns. Gwen often spoke about how she learned text speak to communicate, using many of the same acronyms her grandchildren used.

Practicalists tend to be well versed in the ICTs they use frequently. They are not explorers like Enthusiasts and are more likely to rely on someone to train them (often through their work) or illustrate new functions or uses. Since Practicalists are unlikely to explore on their own, their skills outside of their regular tasks can be quite undeveloped. Dan, who worked in a director position in a global non-profit, had little exposure to computer technology in his work. When he returned to the US after several decades living overseas, he found that he no longer had the office support he enjoyed prior to retirement and so he began taking lessons from his wife. This reflects both Practicalists' targeted use (and non-use), but also their resiliency and ability to use new tools they encounter. Practicalists, once they have determined that something is useful, will marshal the resources they need and learn how to use a device.

Guardians and Traditionalists tend to rate their skills as being lower than the other user types. Guardians tend to have a moderate level of skill when it comes to computer use. They tend to slightly underrate their skills, as seen previously, as they believe that they are less competent than they truly are. In particular, Guardians are well versed when it comes to issues such as net neutrality, internet security, online safety, and search engine optimization. Although they may not always know the exact technical terms for these concepts, they understand the basic premises. Their tendency to believe that technological devices can unlock negative human traits makes them sensitized to learning about these issues from

the media and from their own experiences. Jackie spoke about how corporations used techniques to ensure that their results appeared first in a search engine (search engine optimization), something she had discovered from her own observation and then extensive research. In many ways, Guardians allow their anxiety and concerns over technology to cloud their own judgment of their actual skill level.

Traditionalists, who are not modern ICT users in their elder years (outside of required work use), tend to have the lowest skills. If they used advanced ICTs in their work they are well versed in using those ICTs; however, if retired, their skills may be dated. June's computer skills had degraded since her retirement from her legal secretary work and although she once had a good basis of knowledge, she did not desire to expand or update it. Mindy Jean, who had been a stay-at-home mother and then wife, had never been exposed to computer technology in the workplace and, therefore, lacked even basic computer skills. Despite her husband's and children's urging (and technological gifts), she did not wish to learn how to use the computer or to use her cell phone for features beyond basic calling.

Nostalgia and User Type

While Traditionalists and Enthusiasts tend to be very nostalgic about technology (Figure 15), this nostalgia is decidedly different. For Traditionalists, they tend to fondly remember using the ICTs of their youth, often reminiscing about important relationships that involved use. Mindy Jean's relationship with her mother, as they watched soap operas throughout their shared lifetimes together, is a prime example of such nostalgia. For Traditionalists, they have fond memories of the media and technology of their youth, and (in part) because of this fondness, they continue to predominately use these technologies throughout the rest of their lives.

Enthusiasts also tend to have fond memories of the technologies of their youth, but these experiences are qualitatively different: Enthusiasts remember playing with the technology, often tearing technologies apart and putting them back together. Most importantly, Enthusiasts remember having a mentor, an important person in their lives who shared their own love of technology. This mentor encouraged them to tinker and play with the technologies they encountered, as Fred's father brought home radios for him to tear apart. This love of
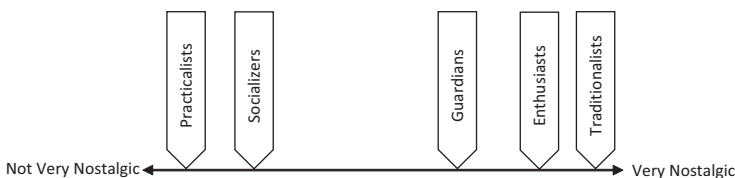

Figure 15.   Tendency Toward Technological Nostalgia.

technology and this view of ICTs as playthings and toys continue to be Enthusiasts' predominant view into adulthood.

Guardians tend to have a moderate amount of nostalgia toward the ICTs of their youth. Often, they remember technology use in their childhood as being more moderated and controlled by individuals than in current times, and therefore, more ideal. Margaret shared that as a child she enjoyed watching movies and television as both (at the time) were social activities that nurtured family relationships. Currently, Margaret felt television was used as an isolating activity that degraded relationships. Moderately nostalgic Guardians contrast with Practicalists and Socializers, who are relatively un-nostalgic.

Practicalists, who are focused on the function of ICTs, and Socializers, who are focused on the potential for ICTs to connect them to others, tend to not be overly nostalgic about the ICTs of their youth. In their opinions, modern ICTs provide greater levels of functionality and connectedness (respectively). Such advantages clearly outpace any fond memories they may have.

Overall, the five user types in the ICT User Typology allow us to better understand how older adults approach technology, how they use it, and the meaning technology has in their everyday lives. But how and when do these user types develop? Is there applicability of these user types to younger generations? Chapter 8 addresses these issues, examining these five types in the data collected from the age and generational diverse family members, friends, and coworkers of the Lucky Few participants presented in Chapters 2 through 6.