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The Use of Information and Communication Technology (ICT) among Alaska Native Women

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Abstract - English

This master thesis contributes to the discussion of communication technology, identity, and cultural change within the subsistence lifestyle of Alaska Native women. By using an ethnographic methodological strategy, sixteen selected Alaska Native women from different ethnic groups of different ages were interviewed, observed and "followed" on social networks such as Facebook, Twitter, Instagram or Pinterest. It was found that some of these women are very dedicated users of cell phones and the social media, basically using them to communicate with their communities of origin, to keep in touch with friends and family across a nearly limitless territory, to access cultural referents on their Facebook groups, discuss issues, get rapid information, form their identity, create Blogs, access pictures as well as store and recall traditions. Each member of this group has a cultural memory and remembrance of the past collectively established through the Internet and social media, which further shows, how technology is integrated and adapted to a culture rather than the culture being weakened by the incorporation of technology. In this sense, these women "graze" through the social media, using them for their own purposes such as accessing cultural referents of the land and keeping up the modern form of subsistence in a multimedia interface. Analyzing the frequently used Alaska Native websites I can state that increasingly tribal communities and organizations are realizing the value and significance of indigenous knowledge and the importance of preserving it for future generations. Centers as the Alaska Native Heritage Center or the Morris Thompson Center are being established both as physical spaces to learn about indigenous history and virtual spaces producing video clips and virtual information on their websites. The capture and preservation of indigenous knowledge is being used to revitalize their sometimes already endangered cultures, improve the economic independence and sustainability of indigenous communities and to increase community-based involvement in planning and development. Parallel to the increasing recognition of the value and relevance of indigenous knowledge and the need to preserve it, information communication technology plays an important role in collecting, storing, managing and disseminating the oral traditions. My research shows that the interviewed women were really convinced that the advantages of information communication technology outweigh the disadvantages for Alaska Natives especially due to the fact that the Alaskan indigenous oral story finally can be kept alive for the descendants by storing it on virtual and digital spaces.

Abstrakt - Deutsch

Diese Masterarbeit versucht, einen Beitrag zur Diskussion über Technologie, Kommunikation, Identität und kulturellen Wandel in der Subsistenzwirtschaft von Alaskas indigenen Frauen beizutragen. Mit Hilfe einer ethnographischen methodische Strategie wurden mehrere ausgewählte indigene Frauen aus verschiedenen ethnischen Gruppen und unterschiedlichen Alters interviewt, beobachtet und in den sozialen Medien begleitet. Es sollte erforscht werden, wie viel Zeit sie mit ihren Handys verbringen, im Internet surfen, WhatsApp und die sozialen Online-Netzwerke, wie z.B. Facebook, Twitter, Instagram, Pinterest, etc. verwenden. Es wurde festgestellt, dass einige dieser Frauen sehr intensive Nutzer von Mobiltelefonen und den sozialen Medien sind, hauptsächlich zur Kommunikation mit ihren Heimatgemeinden, der Familie, Freunden, um mit ihnen im Kontakt zu bleiben aber auch um das kulturelle Wissen von Generationen von Vorfahren zu erhalten und an die nächsten Generationen weiterzugeben, damit diese ihre indigene Identität stärken können. Sie erstellen Blogs, in denen sie Erfahrungen als Indigene publizieren und erinnern an Traditionen ihrer ethnischen Gruppen. Jedes Mitglied dieser Gruppe hat ihr kulturelles Gedächtnis und Erinnerung an die Vergangenheit über das Internet mit Hilfe der sozialen Medien oder ähnlichem veröffentlicht und gleichzeitig für die künftigen Generationen archiviert. Des Weiteren wird gezeigt, wie Technologie integriert und in die Kultur angepasst wird und nicht wie manchmal befürchtet, dass die Technologie den kulturellen Hintergrund schwächt bzw. verschwinden lässt. In diesem Sinne, surfen diese Frauen durch die sozialen Medien zu ihrem eigenen z.B. kulturellen und ökonomischen Nutzen und ermöglichen dadurch unter anderem eine moderne Form der Subsistenz-Wirtschaft mit Hilfe von Multimedia-Interfaces. Diese Studie diskutiert mit Hilfe der Akteur-Netzwerk-Perspektive, den Anteil der Alaska Native Frauen an einer der Verbreitung ihrer kulturellen Werte und Traditionen durch Veröffentlichung ihres soziales Leben und ihrer Erfahrungen in immer größerem Maße in den sozialen Netzwerken.

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1. Introduction

> *Communication and information have always been fundamental sources of power and counter-power, of domination and social change* (Castells 2007:238).

This master thesis will explore the advantages and/or disadvantages of using information communication technology (ICT) for the Alaska Native communities and the impact of this technology on indigenous tradition and cultural identity. The focus will be on Alaska Native women. For one thing, a study from 2014 shows that today 68% of women and only 62% of men are using social media (Perrin 2015). Also, in most cases women have to organize family life, events and nutrition and are responsible for economizing the resources and maintaining the social contacts. Women continue to be the backbone of their communities. They are grounded in their culture, with a solid understanding of where they come from and with a confidence rooted in their ethnical values (Adams et al. 2010:11). Finally, this research debates, from an actor-network perspective, on Alaska Native women taking part in a culture of connectivity (van Dijck 2013:5) through which their social life and their experiences are increasingly influenced by social network sites.

Figure 1: Instagram – 09/2015

The basic of the thesis are personal or Skype interviews conducted with sixteen selected Alaska Native women. These personal and some of the Skype interviews were given during my field research in Alaska in May 2015, whilst most of the Skype interviews took place after my return to Austria. Originally the topic of my master thesis was to be: "The subsistence life of Alaska Native women in the 21st century". One of the main questions was: "How have their lives changed compared to the lives of their female ancestors?"

During my collection of theoretical data and the preparation for writing the seminar paper about the “Feldpraktikum” the results had to be checked every now and then with the interview partners via Skype. After some phone calls one of them recommended that I read her Blog and link her on Facebook and Twitter. She promised using the social media would facilitate my research and I would get the information needed and searched for. As a consequence I became a „friend „on Facebook and “follower“ on Twitter of several Alaska Native women and could follow them on their daily published activities. My interview partners were members of different Alaska Native groups namely the Tanana Chiefs Conference Inc., Alaskan Federation of Natives, Nana Regional Corporation, Chugach Alaska Corporation etc. but all interviewed women were very active in their effort to pass indigenous traditions on to the next generations. After a while I changed my original plan and decided to write about the influences of ICTs on these women’s lives, especially in connection with the possibility of changes the new communication technologies brought to their indigenous lifestyle and traditions.

1.1 Impact or not that’s the Question

After finishing the fieldwork the guiding question had to be found, which should focus on the topic of this thesis and be the entry and red line through the paper. The main interest laid on the way the interviewed women were using ICT and on finding some special form of utilization of these tools. Following these arguments the research questions finally investigates, what are the advantages, what are the disadvantages from the Alaska Native women’s point of view by using Information and Communication Technology?

In addition, the following sub-questions emerged:

- How influential is ICT on the lifestyle, culture and indigenous identity of the selected women?
- How is ICT used to transform the Alaskan indigenous oral tradition into a virtual and digital tradition to keep it attractive for the younger people?
- How are these women involved in the engagement of ‘traditional’ culture and its promotion?

Dealing with the subsidiary questions I want to address the influences of ICT the everyday life of these women as well as on their identity as Alaska Natives. I was looking for changes in their self-images and subsistence lifestyle and how they are publishing their traditions on social media.

Numerous studies on how indigenous peoples have used media and communication technologies have tended to look at this relation positively (Ginsburg 1994; Budka 2009a; Dyson and Underwood 2006; Santo 2008; Krone 2008:6, 2007:140; Landzelius 2001, 2006; Wachowich and Nagy 2010; Christensen 2003, 2006). Some of the authors maintain that for indigenous peoples such as the different Alaska Natives, new communication tools and media are a way to enable culturally and community-focused goals (Taylor 2012; Young-Ing 2003) and to establish and negotiate identity in a globalized world (Longboan 2010:8). Also, these information and communication technologies have been viewed as tools that can be used for indigenous cultural transmission (Carpenter et al. 2013; Landzelius 2003), and some researchers have stressed their usefulness for users around the world to learn from e.g. the Inuit, especially when concerning websites (Budka 2009a, Budka et al. 2009b) and multimedia technology.

On the other side, however, some academics have also pointed to the risks of indigenous peoples dealing with media and communication technologies (Ginsburg 1991; Krone 2007:141, 2008:6; Evans 2002; Santo 2008; Dyson and Underwood 2006; Ess 2005). These researchers suggest that indigenous people's accessing media could result in the loss of culture and that they could unconsciously be westernized or in other words, may again be "colonized".

In the first chapters of my master thesis the main points of media and cyber anthropology as well as the social construction of technology are discussed. In addition, the methodology used in this paper is presented.

The second and third chapter contains the main focus of the topic, starting with a short overview of Alaska demographics and presenting some characteristics of the different Alaskan indigenous groups and what they have in common.

Also the technical infrastructure and development of broadband and wireless support are dealt with. The accessibility of Internet and availability of cell phones and the problems caused by the huge extensions of uninhabited and undeveloped regions and the low population density are pointed out.
In addition, the ways are shown how oral traditions are implemented in the virtual world. Sometimes this is done unconsciously but more often by a conscious and planned effort by Alaska Natives using various social media, YouTube videos or websites. Virtual worlds are places of imagination that encompass practices of play, performance, creativity, and ritual (Boellstorff et al. 2012).

In the fourth chapter the collected data from the interview transcriptions, evaluated questionnaire, social media, blogging and indigenous websites are analyzed and interpreted.

Finally the summary resumes the main arguments of the thesis, followed by the conclusion, which argues the efficiency of ICT for Alaska Native women's lives and the great advantage of using the now virtual tradition to reach the descendants and keep the Alaskan Native traditional culture alive.

1.2 Social Construction of Technology

The following argument will partly be based on Bourdieu's discussion of imagined spaces (Bourdieu 1989:16) as well as on Bourdieu's explanation of the social capital (Bourdieu 1986), Places and spaces in the world of ICT are imagined but can the reproduction of real places correlated to imagined places (Levi-Strauss 1962). In the case of the interviewed persons is the imagined digital and virtual tradition similar to their real oral transferred tradition? Another issue is that of cultural and social capital, defined by Bourdieu (1986). Bourdieu remarks that cultural capital consists of three forms, which includes long-lasting dispositions of the mind and body, cultural goods such as pictures, books, dictionaries, instruments, machines and a form of objectification. The social capital consists of resources linked to possessions of a durable network of relationships or memberships in a group. The Alaska Natives' cultural capital is their dances, songs and stories, as well as their special knifes and clothes. The social capital of the indigenous people of Alaska is their membership of a tribal group, Native organization besides their families. This social capital can gain in importance by using social media, which is a network form, which enforces relationships and with this digital media the volume of the social capital can increase. Bourdieu (1989:16) cited Durkheim, who, although he didn't live to see the internet-era, spoke of "social reality" as an ensemble of invisible relations. Those relations constitute a space of positions external to each other and are defined by their proximity to neighborhood and their relative position – a nearly perfect description for social media.

In recent years social capital has become one of the main concepts for analyzing the impact of information communication technology in families and in communities in general. "Social capital" refers to the resources available in and through personal and business networks. These resources include information, ideas, business opportunities, power and influence, emotional support, even goodwill, trust, and cooperation. This specified impact will influence the lives of the persons concerned positively or negatively (Mignone and Henley 2009). Another important component of social capital is the interconnection of dense networks with information and activity flowing between them. A number of individuals belong to many different networks and these networks have to complement rather than to oppose each other so that social capital can grow

(Toursignant and Sioui 2009). Without this central bridging dimension, social capital will be at the service of a few individuals only.

Appadurai's idea of the global technical, ethnical and media flow clearly supports this research. Following the technical communication flows will present also the flow of the development and changes of the subsistence economy and the lifestyle of the interviewed women. Due to the media flow the social and cultural capital of Alaska Natives enlarged and the technical flows enables the women to switch between real and imagined spaces and their physical and cyber profiles within the net (Appadurai 1996). Appadurai claims that ICT is based on the liquidity and flow as a piece of media and technology flows, which are creating and transforming the virtual and the real spaces of the users (Appadurai 1996).

The conceptual framework of the Social Construction of Technology consists of four related components: flexibility, the concept of the relevant social groups, closure and stabilization and the sociocultural milieu in which artifact development takes place (Klein and Kleinman 2002:30). A technological artifact is culturally constructed and interpreted and flexibility is demonstrated in how people think of or interpret the artifact but also ~~i~~n how the artifact is designed. The artifact I am concerned with is ICT. The way in which it is used will be different depending on the individuals as social groups aren't homogenous but heterogeneous and the social environment shapes the technical characteristics of the artifact. What, then, is the difference between the usage of ICT by the Alaska Native women and the "others"? Is there a difference?

The question arises if these concepts are also valid for people living outside the mainstream like the Alaska Natives in rural surroundings. Lanzelius (2003:7) asks whether this technological invention can form a fast track to greater empowerment for the indigenous people or not. Can ICT be integrated or even assimilated into indigenous practices and beliefs and cultural traditions? And last but not least can the internet be "indigenized"?

From a sociocultural point of view, technology is produced by interconnecting activities of certain actors, coincidence and socio-technological constraints. Ess argued that when ICT is implemented around the world it is implemented in such ways that it causes a new colonization and imperialism (Ess and Sudweeks 2005). Ess maintained that users of ICT become cultural hybrids and polybrids. Alaska Natives had already a hard time since the colonization through Russia and the subsequent taking over by the U.S. government. Both political systems attempted to erase the indigenous culture but Alaska Natives' tradition could survive. Certainly the usage of ICT will also influence the cultural identities of Alaska Natives but the dimension of the influence depends on the user and each user of ICT decides voluntary to adopt this technology.

Akrich wrote in 1992:

> *“ ...we can adopt neither simple technological determinism nor social constructivism. Thus technological determinism pays no attention to what is brought together, and ultimately replaced, by the structural effects of a network. By contrast social constructivism denies the obduracy of objects and assumes that only people can have the status of actors. “*(1992:206)
>
> as well as
>
> *“...new technologies may not only lead to new arrangements of people and things. They may, in addition, generate and "naturalize" new forms and orders of causality and, indeed, new forms of knowledge about the world... technologies may generate both forms of knowledge and moral judgements.“* (1992:207)
>
> *“Once technical objects are stabilized, they become instruments of knowledge...“* (1992:221)

Relating to Alaska Natives Akrich’s explanatory remarks proves my opinion that technology and in this paper information and communication technology can improve the knowledge of individuals, who operate with ICT.

One of the most popular and powerful ways of resolving the technological determinism/social constructivism dichotomy in technology studies is the actor-network approach. Those advocating the actor-network approach agree with the social constructivist claim that sociotechnical systems are developed through negotiations between people, institutions, and organizations. But they make the additional claim that artifacts, as mentioned earlier, are part of these negotiations as well. Technology plays such an important role in mediating human relationships that it is incomprehensible how they work without an understanding of how technologies shape our everyday lives (Latour 1992:151). It is a fact that digital technologies have become ubiquitous. The sixteen women I have interviewed serve to illustrate this point extremely well.
They are using the advantages of the internet nearly daily as well as the social media or cell phones. As thirteen of them have challenging jobs, which require frequent traveling, they can be connected permanently with their offices, families, officials, get the needed information etc. This connectivity was impossible in the past.

To be able to investigate the Internet and the various tools connected with it anthropologists need to understand media anthropology.

1.2.1 The Importance of Media Anthropology

When anthropologists use the term ‘media’, they have a tendency to remain within a largely popular semantics, taking ‘media’ to mean communicational media and, more specifically, communicational media practices, technologies and institutions. These are the core areas of attention in the rapidly expanding subfield of anthropological scholarship often known as the ‘anthropology of media’ or ‘media anthropology’ researching the production and reception of communicational media texts and technologies enabling or otherwise affecting the processes of cultural production and reproduction more generally (Boyer 2012:387).

Talking about media and mediation in a socio-cultural context today one is usually referring to communication and culture. In the anthropological sense the term ‘media’ includes communication media and more specifically communicational media practices, technologies and institutions such as film, photography, telephony and the Internet (Boyer 2012:383).

One of the interesting things about ‘media anthropology’ (Rothenbuhler and Coman 2005) is the sudden attractiveness of the term. The label was rarely used until recently but it seems accurate for very many purposes. Media anthropology has a ‘broad, dynamic and somewhat fluid core jurisdiction’ (Boyer 2012:389).
It is very difficult to separate the operation of communicational media cleanly from wider socio-political processes of circulation, exchange, imagination and knowing. The problem of mediation obviously raises the question of practices of communicational media-making and media-receiving and of the conceptualization of media (Boyer 2012:387).
In the anthropological sense the term ‘media’ is nothing new. Media and anthropology have been connected since the beginning of anthropology as their studies are published in print media. Media anthropology is better equipped to analyze points of production and reception than, for example, the intense networks of crosswise messaging among media ‘users’ that have increasingly come to characterize mediated communication as more and more messaging takes place across platforms like cell phones and the Internet. Under such circumstances it is quite difficult to segment ‘producers’ and ‘receivers’ as distinct analytical, let alone social, categories and the justification of studying one or the other has come under more and more pressure (Boyer 2012:387).
To explore the women, who are both producer and receiver of messages, emails etc. the focus must be on what they put into the net and how they represent themselves in the net.

The "Information Superhighway" (Al Gore 1991) is well on the way to paving everyday work and play habits for mainstream citizens virtually everywhere. The slogans of the digital world today are connectivity, fluidity, transparency and universality. The discrepancy between online and offline worlds is therefore becoming less useful as activities in these realms become increasingly merged in our society and as the two spaces cooperate with and transform each other (Carter 2005:2). While a huge body of research on the Internet and computer-mediated communication (CMC) exists, only some of this research is qualitative, and of this, an even smaller portion is ethnographic (Garcia et al. 2009:53). The reason may be that the clouding of public and private in the online world raises ethical issues around access to data and techniques for the protection of privacy and confidentiality. When people are not interacting face-to-face but only via chat rooms or by creating and reading Web pages, it is hard for the ethnographer to keep on watching and to draw a line between research materials and the violation of someone's privacy. Some ethnographers argue that "virtual" sites of ethnographic research differ greatly from traditional "real world" settings (Hine 2000:119) but it is a fact that using ICT automatically is creating a virtual character of the individual, organizations or business branches etc. Nevertheless, digital media only really emerged as a specialized topic of research and ethnographic interest for anthropology as part of the explosion of interest across the human sciences in studying the cultural, social, political and psychological effects of broadcast communication (Boyer 2012:384).

The network society is the social structure characteristic of the "Information Age"[1] or "Digital Age", as tentatively identified by empirical, cross-cultural investigation. It invades most societies in the world, in various cultural and institutional manifestations (Castells 2000:5). Halloween is a good example of this cross-cultural manifestation. In the very north of Alaska in Barrows Tina[3] has planned a Halloween party for her friends and family, has tailored costumes for her children and herself and posted all these details on several social media. Although this event is not originally indigenous it is already integrated in the lives of all Alaska Natives. The only difference, Tina told me, is the certainty that hardly any Native will be dressed in a traditional indigenous dress at Halloween.

Appadurai (1996:5) argued that it has now become something of a cliché that individuals are functioning in a world fundamentally characterized by objects in motion. These objects include ideas and ideologies, people and goods, images and messages, technologies and techniques.

[1] The Information Age, also called the Computer Age, the Digital Age and the New Media Age, is coupled tightly with the advent of personal computers and is the idea that access to and the control of information is the defining characteristic of this current era in human civilization (Castells 1999).

There are also structures, organizations, and other relatively stable social forms. The various flows of objects, persons, images, and discourses are not simultaneous, convergent, or spatially consistent. Media flows across national boundaries that produce images of well-being cannot be satisfied by national standards of living (Appadurai 1996:8).

Modernity has brought a process of self-reflection (Berman 1981; Giddens 1991, 1993, 1998), in which geography is not attached to particular socio-cultural features (Rahimi 2000:9) but it is defined as a *"process"* (Appadurai 2001:5) formed by the global flow of meanings and symbols. This global flow is enhanced when we consider communication technologies as these technologies do not have any national borders. A further crucial fact is the discourse of those instruments and social practices that are emblematic of more settlement-based lifestyles or of those that center on community well-being or of those that enable communication and interaction both locally and globally. Regarding those practices that combine traditional print media and new digital social networks reevaluation and reconfiguration of the received notions of technology have to include creative, relational, ideological, and often immaterial practices to secure that reality and virtuality fit together (Wachowich and Nagy 2010:9) This component is important considering the fact that Alaska Natives are using digital media as an archive and transmitting tool for their oral traditions. Therefore it is relevant that real stories, traditions and rites match those uploaded and stored in the net. These digital records should show and present exactly the same just as if indigenous elders are teaching them.

Today, in an era of shifting geopolitics, with increasing extractive industrial development, worsening climate change, and heightening concerns over Arctic sovereignty, our interest in how Alaska Natives articulate their relationships to their environment through material and technological practice has a renewed legitimacy and a pressing urgency (Bravo and Triscott 2010:21).
The core argument is that technology cannot be so narrowly defined as to encompass only instruments themselves, but must include the social processes that are part of material practice. Such an expanded understanding requires analytical distinctions between those terms derived from the received concept of technology. Thus, technique, which refers to the skills of human subjects must be differentiated from technology "a corpus of generalized, objective knowledge" for practical application and from tools, *"an object that extends the capacity of an agent to operate within a given environment"* (Ingold 2000).
This is a major challenge for sociology because 'internet time' (Wellman and Haythornthwaite 2002) now runs at a clock speed several orders of magnitude faster than that of academic re-

search. During writing this paper a lot of new forms of social media etc. have been introduced to the global users. Sociological reactions to this problem of cultural 'speed-up' broadly fit into one or other of two basic strategies (Gane 2006). What is the first, what is the other strategy? This speed-up leads to the necessity to 'technologize' ourselves rather more than has hitherto been the case. At a time of rapid socio-cultural changes a renewed weight on good critical and thick sociological descriptions of emergent digital phenomena, ahead of any headlong rush into analytics, seems to be a sensible idea. It is important to understand some of the basic parameters of the new digital objects of sociological study before any broader frames of theoretical reference can be satisfactorily positioned (Beer and Burrows 2007:2). Besides media anthropology and digital anthropology there is another new term haunting the fields of anthropology, namely 'cyber-anthropology.'

> *"Cyber culture, moreover, offers a chance for anthropology to renew itself without again reaching, as in the anthropology of this century, premature, closure around the figures of the other and the same."* (Escobar 1994:223)

The concept of cyber-anthropology is a new field of study aimed at the analysis of persons' reciprocal relations with the computer-generated world evolved as a result of technological progress (Libin and Libin 2005). In the cyber-era (Escobar 1994), simulated reality is becoming a force that has the potential to transform the human race. Digital beings such as virtual and embodied agents, although not a part of the natural human habitat, have become necessary elements of people's surroundings and life conditions. As a theoretical construct, cyber-anthropology is concerned with the merger of natural and artificial worlds mediated by the human imagination, as well as with the compatibility between individuals and the digital life they have created. As an empirical study, cyber-anthropology deals with the psychophysiology and psychophysics, semantic and semiotics of human engagement with computer-generated reality, which is viewed as a complex interactive system. Personal competence as a crucial element of any cyber-system underlines the importance of psychological culture in artificial world exploration. A newly developed concept of psychological culture is viewed as an essential part of cyber-anthropology. It concentrates on the following issues: ethical questions, such as whether or not technological tools can be employed to solve human problems (Libin and Libin 2005):

- moral consequences of bringing cutting edge technology into everyday life;
- individual differences regarding psychological competence of technology users (effective vs. ineffective, independent vs. addictive and active vs. passive dichotomies).

The apparent escape from the body is congruent with the unravelling of gender and identity argued by Haraway (1988). Virtual life for a player is also centrally influenced by imagined identities and fantasy within multiuser adventurer games or participants in newsgroups or chat rooms. (Hardey 2002:571).

An example of this cyber-world it the computer game “Never Alone”. A game designed by members of the tribal itself. It is a game based on the history and culture of the Iñupiaqs and it is unique in the environment of computer games designers. An outstanding feature is the fact that the main role is a young Iñupiaq girl named ‘*Nuna*’. Within the story the players learn about the difficult life of the Iñupiaq in the past dealing with natural dangers and mortal environmental hazards. The game brings the Iñupiaq oral history to the younger generation by a technology they are fond of and are using frequently. Today the Iñupiaq’s oral tradition, although passed on for several thousand years from one generation to the next, is at risk. The challenge for some dedicated Natives was to find a way to preserve the community’s stories in a way that could withstand modernity. The purpose of “Never Alone” is to preserve fading stories, but in order to convince the Iñupiaq young people of the story’s enduring power and worth, it must also succeed as a video game. In a sense, it was perhaps the riskiest way of approaching the Iñupiaq’s problem: this kind of storytelling requires an entirely new vocabulary because it is available also in the Iñupiaq language, which does not have words for some new terms used in games. “Never Alone” offers a way, however incomplete, to experience life as an Iñupiaq girl and to learn social interactions such as working together in the Artic. Alaska’s Inupiaq elders created it to keep their culture alive (Neveralonegame 2016). The main characters of the play are a young Inupiaq girl Nuna and an arctic fox. The target is to find the source of the eternal blizzard, which threatens the survival of everything the two have ever known. The player has to trek through tundra, leap across ice flows, swim through underwater ice caverns and face numerous enemies to save the girl’s village. The play is in original Inupiaq language with English subtitles.

Social interactions can be positive or negative, helpful or harmful. They are able to integrate individuals into a community and, just as powerfully, place stringent isolating regulations on behavior (Pescosolido 1991). The above mentioned game for example gives moral instruction and helps to define and preserve the community’s identity.

Networks across all levels are dynamic, not static, structures and processes. The ability to form and maintain social ties may be just as important as their state at one point in time. There may be changes in the structure of networks or changes in membership (Pescosolido 1991).

Whenever anthropology deals with information communication technology the changes in the individual person’s or user’s identity due to the influences of technology must be taken into con-

sideration. This understanding of representation and identity construction can be applied to the self-presentation strategies of the users on the social media platforms. The users portray their personality within these networks as they want to be. On platforms such as YouTube or Facebook etc. the boundaries between authentic and staged representations, as well as between private and public, become blurred. However, the content of the entries enjoys great confidence on the part of the users in terms of its reliability, according to the situation, which helps each person to present her/himself in a way they want to be seen by others (Hudson 2011).

The American sociologist Ezra Park (1945) remarked:

"It is probably not a historical accident that the word "person" in its original meaning refers to a mask. Therein lays rather an acknowledgment of the fact that makes everyone conscious to play a role everywhere and more or less always. [...] In these roles, we recognize each other; in these roles, we know ourselves. In a sense, and so far this mask is the image that we have created ourselves - the role we seek to fulfill - is the mask our truer self: the self that we want to be." (1945:249)

1.2.2 Identity and Information and Communication Technology

"The Internet has not changed anything, but we have changed the ways in which we do many things by using the Internet." (Christensen 2003: 10).

In other words the Internet is not only fast-growing but also increasingly recognized as a vehicle for social change rather than being a dynamic future altering device, and its technology is becoming embedded in everyday social life rather than the other way around. However, one major outcome of the persistence of myths about the Internet is that the search for radically altered futures has until recently overshadowed the investigation of how people are using and understanding the technology itself. This suggests that there is an observable need to investigate those everyday practices through which the Internet is used and understood. In brief, there is a need to emphasize the significance of ways of thinking about the technology instead of the technology itself. Rather than searching for radical futures, what is happening currently should be investigated. People are not simply embedding offline identities online, or indeed escaping into an abstract disembodied, mythical post-modem space. Instead people are acting as mediums for the flow of culture between the online and offline life, resulting in a conceptualization of cyberspace within a whole world (Carter 2005:4).

The nature of on-line and off-line identity and sociability is one of the central themes in speculation and analysis about the way people use the internet. Missing visible bodies, self-representation in online spaces offers participants many possibilities to actively construct a representation of how they would like to be identified. In some contexts, an online identity is explicitly linked to an offline presence (Ellison and boyd, 2013:16).

Stuart Hall maintained that in recent years the concept of 'identity' has been discussed intensively (Hall 1995). One issue is whether those identities, which have defined the social and cultural world of modern societies for so long - distinctive identities of gender, sexuality, race, class and nationality -, are in decline, giving rise to new forms of identification and fragmenting the modern individual as a unified subject influenced by the new ICTs. In general the identity shift for human beings due to ICT is enormous as humans have been prepared for a physical world equipped with a mind-body connection to automatically sense threats etc. to be able to survive. Social networks, on the other hand, are providing individuals with new ways of connecting, engaging and partitioning their lives. A physical person can make thousands of choices daily in in the real world but in the virtual world there are billions of options available and these facts influences a person's identity (Cerra and James 2011).
Anderson Benedict (1983) is insisting that the new media forms are central for the articulation of national and transnational including local processes and for the significance of "*the imagination"* by producing culture and identity in the contemporary world (Appadurai 1991).

Simultaneously with the development of digital media, indigenous digital media encouraged thinking about the role of digital media as a dimension of cultural activism in identity-based social movements and became a major preoccupation of research and program building over the past decade. Scholars have learned an enormous amount from the people in the field. Indigenous people participate in a wider world of media imagery, production and circulation (e.g., national film and television industries), and feel their claim to an indigenous identity within a more cosmopolitan framework is sometimes regarded as inauthentic, critics claiming that they cater to mainstream taste (Ginsburg 2002).

For northern nomadic hunting and gathering peoples, possession of technical knowledge has often been considered more important than actual ownership of tools and instruments (Bates and Tucker 2007). Knowledge-practice is passed on through processes of enskillment, often realize d through narrative practice. Storytelling is fundamental to orienting oneself in a landscape (Apor-

ta 2004; Basso 1996; Cruikshank 2005; Ingold 2000;Turnbull 2010), to upholding codes of morality, and to soothing or smoothing over community discord or ills (Cruikshank 1998). As time has changed, the best way to reach especially youth is using communication tools like the Internet and social media to transmit the stories, which they are fond of.

Indigenous peoples worldwide are increasingly turning to aesthetic practice to mediate intercultural meetings (Ginsburg 1991). For Arctic people the commitment with print, video, commercial art and, of late, digital media has served different functions: enabling people to feed their families (Graburn 1976, 2006; Wachowich 1999), promoting forms of cultural continuity, and, finally, demonstrating their sovereignty and cultural autonomy to greater political constituencies (Wachowich and Scobie and Nagy 2010:11).

To illustrate how technology can be adapted, I would like to cite the example of Mary, who is living in Kotzebue. She is using social media for helping other people of this village by fundraising money for different issues like medical treatment, school travels etc. In other words, she has adapted the social media for their social support system of sharing. She told me that she invited all Kotzebue inhabitants to come by her home where she and her family were preparing a lot of delicious breakfast cookies, coffee, hot chocolate etc. Visitors could have some breakfast and donate for various occasions, e.g. for a girl, who wanted to travel with other classmates to Australia but whose family could not afford the expenditure or for someone, who needed expensive medical treatment. She explained:

> *"Successful marketing and the acquisition of external sources of income have been essential for especially for us living far north or far away from bigger cities in Alaska and depending on subsistence. With such fundraising I will teach my children to think economical but to live caring."*[i]

The technological process is one that derives its roots from traditional, land-based activities. Iñupiaq, Yup'ik, Athabascan etc. technologies of the body are imitated through regular practice of land-skills, the products of which are both material and immaterial such as social cohesion, healing, individual, and community wellbeing (Pasch 2010). In his article Pasch also discusses how wellbeing can act as a driving force behind technological practice. He is focusing on Inuktitut New Media, where he seeks to show how film and digital communication media allow for forms of societal adaptation. Video cameras, and now the Internet, offer up new adjustable strategies

for indigenous persons in a globalized world. Wachowich, Scobie and Nagy (2010) also consider the Internet as a possible tool for expressions of agency and empowerment, but highlight how this process can often begin on an intimate scale, through individual design. By posting "depictive" YouTube videos of everyday life online indigenous young people, in the privacy of their own homes, claim a voice, invite dialogue, and foster new social networks between family, friends, and global web-users from afar. The development of Greenlandic Inuit literacy as a tool and technique to mediate colonial encounters can be studied as an example of this technologized network building within a more comprehensive historical context. The Greenlandic language is important for Inuit indigenous identity as it constitutes 'core elements of their culture' and is seen as an 'indicator of Greenlandicness'. Greenlandic language is also central to the Inuit traditional knowledge, connected to their social practices, beliefs and customs, which constitute the core aspects of Greenlandic identity. The creative transformation of Kaassassuk, the Greenlandic variation of a pan-Inuit "*orphan myth,*" as a YouTube video leads to investigate the possibilities in which its storyline has been adapted by orators, authors, and playwrights to mediate times of political upheaval and change in Greenland (Wachowich and Nagy 2010:12). Similarly one can argue with YouTube Videos created by Alaska Natives.

Indigenous knowledge is embedded in indigenous culture and intertwisted with traditional stories (Bel, 2008; Hunter 2006). Therefore, indigenous people's information practices must be understood within their cultural contexts and traditional knowledge. The information practice approach assumes that "*the processes of information seeking and use are constituted socially and dialogically, rather than based on the ideas and motives of individual actors*" (Du et al. 2015). As such, our attention is directed to indigenous people as members of a community that constitutes the cultural context of their everyday information activities. Surfing on the Internet is viewed to be a ubiquitous way of accessing, sourcing, and sharing a variety of information online (Du et al. 2015). The Internet has become "*folded into*" people's lives at home, work, school, and in leisure activities, and becomes part of people's daily routines (Wellmann and Haithornthwaite 2002). This way of exchange and/or requisition of information implies a form of social transformation. This social transformation affects all types of society in both developed and less-developed regions, in the context of globalization, regionalization, and the emergence of various forms of supranational governance. Globalization is leading to new forms of social differentiation at the international and national levels. Polarization between rich and poor and social exclusion are problems affecting most countries as well as the relations between them. This may involve the mobilization of traditional cultural and social resources, but can also adopt new

forms of 'globalization from below' through transnational civil society organizations (Castles 2000). In the case of Alaska Native globalization has an immense impact on them, but concerning their traditional culture all of the Native organization and the indigenous people struggle to keep it unaffected.

Communication technologies are fundamental aspects of modern life and are almost ubiquitous in every community in Alaska. In general, technology is a factor that always changes the experience of the environment in a dialectic relation. Objects are adapted for human purposes, and consequently people change their habits in relation to the materials (Tester 2010).

Let me explain this with an example. In the past Alaska Natives used dog sledges to move around in the cold and snowy season, while today they often use snowmobiles for their traditional activities. Having dogs meant also to have food supply for them. In contrast, the snowmobiles just need fuel. Debbie told me about a talk with her old uncle, who remarked to her:

> *"Finally I feel free and independent. I have bought a snowmobile and shot all my dogs. I never must think about food storage, veterinarian etc. It's great.*[ii]*"*

Thus, technological innovations have provoked important cultural shifts in the life of Arctic peoples. On the other hand Aporta (2009) describes how using snowmobiles has prevented families from communicating orally while traveling, as opposed to when dogsleds were used. The reason given was that snowmobiles make noise preventing the father or the elder from talking while driving and teaching the youngsters about landmarks and orientation techniques, which cannot be totally replaced by GPS-able cell phones.

Also, the use of GPS while traveling could bring hazards if an Inuit loses the traditional knowledge for orientation, as for example, the GPS might freeze or the batteries might fail in the middle of a journey (Aporta and Higgs 2005); the lack of knowledge regarding changing weather conditions or environmental features that has been furthered by the introduction of snowmobiles carries risks since dogs are sensitive to hazards like shifting ice conditions (Ingold and Kurtilla 2000).

The above examples support philosopher Albert Borgmann's notion of the *"device paradigm"* (1984).

He states that technology distances humans from the context in which things are embedded, thus producing an alienation of the social components of reality. Borgmann understands reality as mediated through devices, which provide us with a great deal of information (for example, all the geographic information one can get in a GPS) that separates us from how we experience reality, just providing us with a fetishized commodity. Borgmann goes on to say that

> *"The farther reaches of reality and the cultural landmarks that used to lend it coherence are being swept off their foundations by information technology.…Whatever is touched by information technology detaches itself from its foundation"*.

Borgmann (1999) refers to indigenous cultures when he states that information technologies such as television

> *"..invade[s] the culture of pre-modern countries most quickly and easily…If information is not the medium of an overwhelmingly new culture, it is at least the entering wedge that permits indigenous cultures to seep away and disappear*".

I am convinced that contrary to Borgmann's opinion not a new culture will be created by new media but changed culture, which happens as culture is dynamic and changes in culture are standard.

The term culture is often commonly used in the fields of technology transfer and its implications on technology transfer. There are many definitions of culture. I prefer the explanation from Clifford Geertz (1973:19), who wrote: Culture is

> "*an ordered system of meaning and symbols, in terms of which social interaction takes place*".

As a matter of fact culture was and is never isolated. A human being registers information flows in the course of his/her life, which are interpreted and learnt incessantly. So culture is changeable but can also stabilize certain aspects of its environment as it is constantly negotiated by the social actors

In my thesis I am concerned with the cultural identity affirmation amongst my interview partners, who used social media and specific web sites. These I have checked and analyzed by reference to their communities (Christensen 2003).

Some scholars argue that in regard to the relation of technology and the dynamics of social organization and culture, there a "technology/culture" dichotomy exists (Barlow 1994; Bauman 1998; Lanier 1990; Postman 1993). According to these writers people have lost social meaning and cultural significance, and are now gathering information on the Internet to reproduce the social meaning and culture (Christensen 2003).

Stuart Hall stated that everyone has several different identities. Each individual woman is a member of different social groups as mothers, wives, daughters, business woman etc.

With the increase of technology and the race to globalization, symbols are being reconstructed and redefined to connect and create a global identity for indigenous peoples. The consequences of this promote the current practices of erasing and reconstructing indigenous history, language,

culture and tradition through control and commodification of representations and symbols. This removal from history and community ensures continued silencing of indigenous voices. However, these misrepresentations continue to frame the discourse for indigenous peoples, Alaska Natives reclaim and resist these representations by creating their social narratives for indigenous people on their websites and in social media entries (Iseke-Barnes and Danard 2007), which is possible with ICT.

Culture is believed to be an influential factor affecting the information practices of indigenous people; for example, traditional knowledge is communicated to suitable persons over time(Meyer 2009; Yeh 2007) face-to-face and oral communications (Du et al 2015). Oral communications are based on traditional stories and beliefs that are passed on through storytelling, ceremony, art and craft gathering and hunting (Bell 2008).

The challenge of bringing broadband to very small, extremely remote villages is exemplified by the experience of indigenous rural populations in Alaska. The use of digital media demands not just access, but adoption, entrepreneurship, and innovation (Hudson 2011).
Nevertheless nearly all of them, from teenager to senior citizen, are using the "modern" technical communications tools. Not only print media created languages of power but also all forms of social media and websites (Anderson 1983).
Finally, with regard to technology, and Information and Communications Technology in particular, a recent report, commissioned by UNESCO entitled *"Indigenous Peoples, WSIS*[2]*, and Emerging Uses of ICTs"*, has to be mentioned. This report was endorsed by Indigenous Peoples attending the WSIS + 10 sessions earlier this year and contains seven relevant recommendations, congruent with the United Nations Declaration on the Rights of Indigenous Peoples and supported by other international instruments (WSIS 2003). During the WSIS process Indigenous Peoples clearly articulated their positions on ICTs in various statements including the *Geneva Declaration of the Global Forum of Indigenous Peoples and the Information Society,* which, along with WSIS outcome documents, provide guidance to all stakeholders interested in using ICTs to help improve Indigenous Peoples' quality of life. At this World Summit on the Information Society indigenous people requested their complete and effective participation in the information age on their own terms. While implementation of the WSIS Plan of Action has been limited, there are many examples of indigenous creatively engaging information and communications technologies sometimes independently, or in partnership with NGOs, private sector, govern-

[2] WSIS - World Summit on the Information Society

ments and intergovernmental organizations, and together with other indigenous persons. The websites of the various Alaska nonprofit organizations are an example for this dedication. The overarching principle of these recommendations is premised on the full and effective participation of indigenous people at all stages of strategy and program development, as well as in implementation, evaluation, and monitoring (Borrero 2013).

Du et al. (2015) stated that the Internet is amplified with text, graphics, audio, and video files, which suits well with indigenous people's strengths in art, music and oral forms of communication. Moreover, Dyson and Underwood (2006) reported on the content of indigenous websites established by indigenous people and the services they accessed via the Web. The increasing use of Internet communications such as Facebook and online chatting by indigenous people has the potential for impacting on their lives (Iseke-Barnes and Danard 2007).The use of mobile devices (e.g. cell phones and tablets) and mobile Internet is popular in indigenous communities because of its echoes of indigenous oral communication structure. In addition, connecting to mobile Interne creates an alternative dimension of social practices where spaces and distances are no longer an issue for indigenous people (Du et al. 2015). Indigenous information practices are thus embedded in cultural and social practices associated with their life experiences (Yeh 2007).

Hunter (2006) referred to indigenous knowledge as traditional or local knowledge that encompasses a large body of accumulative knowledge and skills, which has been passed on by generations of elders. Without this passing on of stories and practical knowledge they would be lost. Hence, there is an urgent need to transfer the wealth of indigenous knowledge possessed by elders to the younger generations so that its culture and knowledge can be retained and prosper. Some researchers suggest making use of the Internet and ICTs to store and disseminate explicit indigenous knowledge that can be recorded in paper or electronic form and shared with a broad community, thereby helping indigenous knowledge survive and thrive (Du et al. 2015). Social Media is a communication technology, in which dialogues between Alaska Natives on the topic *"what it means to be native"* take place, besides all sorts of other dialogues. The indigenous people build collective memories, and their knowledge is consulted and shared through these tools. Anyone, who has an Internet and/or social media account, can join in these conversations, but for my interviewed women some special pages about hunting, fishing or information of their tribal land seem to strengthen their ethnicity. Those pages offer an opportunity to stay connected with the own traditional culture, while being far away from home.

The question arises, how identities in the virtual network or in social media are created and remain, as traditional criteria like gesture, facial expressions and vocal tone are missing. The individual members in this network can neither see nor hear their counterpart. The users are able to create their identity on the strength of their personal imagination. This means that the virtual identity depends only on word or textual concepts and is free from visual embodiment as each user can create his/her personality as he/she likes it (Atteneder 2015). The virtual identities of the interviewed women are not always only depending on textual concepts as mentioned above, because on Facebook some of them upload videos or pictures with comments, which underline the possibility to prove that real identities correlate with imagined virtual identities.

For a better understanding of the topic the second chapter gives some general information about Alaska and the Alaska Natives, including their surroundings plus some demographic data. These background statements are necessary as Alaska is in some ways unique. Only Greenland is comparable to Alaska in some respects. Chapter two finally focuses on those Alaska Native women, who were the actors and the interview partners in this research, and on their identity and their usage of ICTs.

In this chapter the terms “subsistence” and “sharing” will also be defined. It is important to know the difference between subsistence in Alaska and the general definition of subsistence.

In the third chapter with the topic “Mobile and Social Network Revolution in Alaska” there are data of the latest news about service and technical support from the main telecommunication companies in Alaska.

The following chapter reports about the methodology, which is used for the research.

1.3 Methodology

The following passages give an outline of the data-collecting processes as well as the data analysis in order to show how the empirical results of this thesis were arrived at.

A network perspective allows for, and even calls for, multimethod approaches. Jinnett, Coulter and Koegel (2002) argue that quantitative research is valuable in documenting the effects of social networks, but only when accompanied by qualitative research that describes why they operate and look the way they do. There is no standard way to record network relationships - they may be derived from a list on a survey, where individuals are asked to name people they trust, admire, or dislike or with whom they share information.

The network perspective implies many challenges to routine ways of doing sociological research and the concept of fieldwork in this case is a shift from material spaces to so-called cyberspace (Wittel 2000).
As his second methodological rule, Bijker (1995), following Latour (1987:15), suggests that researchers must "*follow the actors*." Central to this technique is the idea that the only categories and lines of social classification of importance are those deliberately recognized by the actors.

Since my research focuses on the subjective relevance of ICT and its integration in the everyday lives of the Alaska Native women I questioned, the main selected methods are qualitative ones and participant observation. I explored the regional sociocultural context and collected relevant meta-documents. The empirical data gathered represents the backbone of this research. Serendipity helped me to find open minded women, who were ready to spend time answering my questions. As Salazar and Rivoal (2013:178) mentioned serendipity has a key role in anthropology. Together with reflexivity and openness it is regarded as a main characteristic of the ethnographic method.
As it involves both chance and knowledge, serendipity has been referred to as 'accidental wisdom' (Calhoun 2004). Decades ago, sociologist Robert Merton (1948:506) described the 'serendipity component' in qualitative research as an approach that 'involves the unanticipated, anomalous and strategic datum, which exerts pressure upon the investigator for a new direction of inquiry, which extends theory'. This line of thinking inspired Barney Glaser and Anselm Strauss (1967) to develop serendipity as a scientific method in their 'grounded theory'. I believe without serendipity my empirical research could not have been done, because it was hard to find Native women to talk with about my topic.

Besides my qualitative interviews I did a small quantitative study by means of a questionnaire I sent the interviewees to fill out.
I sought to investigate how the modern information communication systems are used as tools, which interplay with Alaska Native culture, trying to contribute to the existing literature on technology, social change and cultural identity. The evaluation of the literature and my transcribed interviews are supposed to give more information on experienced cultural phenomena ("*Thick description"* according to Geertz 1983). Furthermore, based on the social construction of technology and actor-networks' perspectives described in the previous section, I also wanted to contribute to the discussion whether it is possible to say that at present there is more culture or less.

My focus here is on some significant developments in subsistence connected with the internet culture, which have emerged in recent years. Amongst others I checked through a range of well-known Native websites, that networks are taking shared responsibility for the construction of vast accumulations of knowledge about their ethnic backgrounds, their traditions and their subsistence economy.

What has already become clear is that a more active and participatory role is being taken by web users of the internet. Indeed, research from the Pew Internet & American Life project reported as far back as 2005 (a long while ago in 'Internet time') found that *"more than half of all teens, who go online, create content for the internet*" (Lenhart and Madden and Hitlin 2005). This has certainly escalated with the significant rise of content generated Web 2.0 applications and particularly social networking sites (SNS) such as Facebook, MySpace and Twitter etc. in the interim. Perhaps the most common user-generated content prior to this explosion was the personal blog or weblog. These are often described as online diaries that users frequently update (Beer and Burrows 2007:4). These are dynamic matrices of information through which people observe others, expand the network, make new 'friends', edit and update content, blog, remix, post, respond, share files, exhibit, tag and so on. This has been described as an online 'participatory culture' (Jenkins et al. 2006) where users are increasingly involved in creating web content as well as consuming it (Beer and Burrows 2007:2). The importance of blogging is that it has become an established practice for creating user generated content and shifted the emphasis in web cultures away from more static toward dynamic content and toward user engagement.
Finally, the most well-known and highly used online video repository is http://www.youtube.com. YouTube now is hosting over 100 million video downloads per day and it has even been suggested that this may offer a viable alternative to mainstream cinema or television (Bradshaw 2006). By way of example, in March 2007 almost 500 videos had been tagged as 'sociology' (Beer and Burrows 2007:5).

SNS[3] are perhaps the most socially significant applications. SNS users build profiles about themselves, posting photos, information about their backgrounds, views, work, and so on, and make 'friends' with other users. These networks often enmesh virtual and physical friendship groups as they 'support both distant and geographically proximate relationships'. Also users make new connections in the virtual space that then later become real-world connections. This creates an interesting convergence of virtual and physical worlds. Connections and friendships

[3] SNS = Social networking sites

now stretch out across physical and virtual spaces as users communicate with 'real-world' friends through SNS. If we search the groups formed on Facebook we find that numerous collectives have been formed to discuss indigenous matters and related matters (Beer and Burrows 2007).
It is important to note that although these networks are free-to-access and user-generated they remain overwhelmingly commercial. It is the user profile that has become the commodity of the internet, as users engage in simultaneous acts of production and consumption. SNS does not only contain the profiles of cultural luminaries, but also of the 'ordinary' user. Even making connections in the network is an act of production as it generates a path with its own history. This is illustrated most clearly by Facebook, which provides news about what a person's 'friends' have been up to every time they log-on (Beer and Burrows 2007:6). Following the selected women on Facebook, Instagram and Twitter I often found uploads with topics concerning their subsistence economy. They wrote about their successful harvesting berries in the summer time. The information published included the place to go and the amount of berries they found. A similar entry pointed to places where to find and hunt seals. These women shared their knowledge about main subsistence activities with their followers without fear reducing their own income.

1.3.1 Field and Methods

This chapter is based on the ethnographic data collected during my nearly one-year lasting study of sixteen Alaska Native women and their engagement with cell phone, Skype, YouTube, Facebook, Instagram, Twitter and the websites they often used. In employing the term ethnography, I am primarily referencing the practices of *"participant observation"* (Malinowski 1922:256) and *"deep hanging out"* (Geertz 1998) alongside qualitative interviews. Geertz coined the term *"deep hanging out"* as a form of participatory observation where the anthropologist is not only physically present but also virtually for extended periods. I have moved between online and offline spaces, systematically observing, documenting, and talking to Native women about their practices and attitudes. Technology assessment employs social theory, social research, and ethics for assessing the impacts that specific technologies have on society (Fuchs 2010).

In examining the practices of the selected women on social network sites, I focus primarily on Facebook and Instagram and only sometimes on YouTube, Pinterest and Twitter. This will be my primary case study, although my discussion of these sites is applicable more broadly; I will reference other sites as appropriate.

Boyd, D. in her study of 2007 about young people and social Network sites, has found it interesting that race and social class play little role in terms of access to social networks but gender appears to influence participation on social network sites (boyd 2007: 3). These gender differences do exist and should not be ignored. I decided to investigate Alaska Native women and their practice of ICT. I wanted to find out how their cultural identities are asserted on the Web and in the social media by reference to their traditions and their offline-lives.

The design of the questionnaire and the interview guides took account of indigenous cultural awareness and racial sensitivity of the local population. The questionnaire was used to collect participants' everyday information needs, information seeking and sharing and their experiences of using the Internet. The audio-recorded interviews concentrated on gathering indigenous views of the Internet. How useful did they find it in connection with their everyday needs, their own information skills as well as the challenges they face. The interview transcripts and observation notes were thoroughly read and coded using the open coding method. The coding focused on the identification of themes, including information obtained from the Internet, Internet use experience, challenges and barriers, and attitudes towards Internet (Du et al. 2015).

As a start of the research for this thesis, I travelled to Alaska in 2015, between May 12 and 26. I followed well-established ethnographic methods, conducting twelve semi-structured interviews with Alaska Native women, who are active users of their cell phones, emails and the social media Facebook and/or Instagram etc. This experience allowed me to have a very close look at how they relate to communication technologies and to their own identities. Furthermore, I distributed a short survey containing questions with closed answers and one final open question. The survey looked to further understand the women's use of ICT and their attitudes towards the social network. During my time in Alaska, I did my best to remain open and flexible in order to include the unpredictable and thus reach the best description and interpretation of what I was studying.

I have transcribed 24 Skype-interviews and 7 personal interviews. The evaluation of the questionnaire helped me to create a small statistical survey of how the internet and the cell phones are used by my interview partners. I also made a count of the frequency of their entries in Facebook, Instagram and Twitter and of the topics, which were published there between June 2015 and July 2016. In the following chapter, I listed my interview partners' names and how often I had contact with them. I had to make my interview partners anonymous as some of them asked me not to be mentioned by name in my master thesis.

I also conducted a content analysis of various Facebook, Instagram and Pinterest pages, both of individual users and group´s pages. Following the model of previous work such as Christensen's (2003, 2006), I paid attention to the comments, pictures, content shared, conversations, etc., that took place on the sites named. This way, after obtaining consent of the participants, I could follow their activities on the social network and actually observe how they used it. This approach follows a digital-ethnographic strategy, which I explore in more depth below. The survey looked to further collect an overview of how often they were using what social media, phone or internet, what were their preferred websites and finally if they believed that ICT supported their subsistence life or not, with reasons for their arguments.

I also undertook some content analysis of various Facebook, Instagram and Twitter pages created by some Native organizations and Alaskan Newspapers. I was motivated by the book "Inuit in Cyberspace" (Christensen 2003) and paid intensive care to the conversations, etc., that took place on these sites.

Using a slogan from ANT[4] according to which you have *'to follow the actors themselves'*, I tried to catch up with the interviewed women often daily entries in order to learn from them, which methods they had developed to make these entries in various social media fit together**,** which accounts could best define the new relationship that they had to establish (Latour 2005:12). In simple words there is need for a re-evaluation of the basic concepts that hold their families, communities and societies together in more general terms: these are shared cultures, shared languages and solidarity (Krone 2008:7). Not only print media created languages of power but also all forms of social media and websites (Anderson 1983).

Culturally appropriate ways of research design depend on negotiations with the indigenous community (Du et al. 2015). The research ethic in the academic world of North America and Western Europe is to be justified. But the research ethic is obviously not about just any kind of new knowledge. It is about new knowledge that meets certain criteria such as the similarity or differences of the physical and the cyber-profile of these women (Appadurai 1996). According to a publication of Walla and Montag from 2016 the changes in the habits of persons using ICT are already obvious. The authors maintain that today people, especially young people meeting each other, don't look straight in the eyes of their counterparts but are nearly continuously watching their smartphones (Montag and Walla 2016). Mauthner and Doucet, in an article published in 2003, encouraged researchers to be reflexive about how they analyze other people's accounts of their lives. It therefore seemed appropriate to me to send my draft paper to some of my inter-

[4] Actor Network Theory

viewed women and asked them to make some comments on it, if possible before I handed it to the examination board. Some but not all of them sent the paper back with corrections.

1.3.2 Internet and its Social Media Apps as Tools for Anthropological Research

As Beer and Burrows (2007) argue, social network sites could be used for research on any topic. They give access to an extensive archive of the daily lives of individuals in which re-searchers can access profiles containing information such as practices, tastes, etc. But most importantly, an online social network is a setting, which brings new insights into sociality (Mychasiuk and Benzies 2011). Wilson et al. (2012:204) remarks that

"*… an ongoing database of social activity with information being added in real time.…is popular across a broad swath of demographic groups and in many countries, so it offers a unique source of information about human behavior with levels of ecological validity that are hard to match in most common re-search settings*".

My concern here is to describe how internet sites are used by Alaska Native women engaging in different cultural activities. Alexander et al. (2009) studied Adventure Website and discussed the value that new media technologies have for the transmission of knowledge, the protection of language and cultural identity and the pursuit of socio-economic goals, through a means indigenous people can negotiate on their own terms. These statements can also be adopted for the websites recommended from my dialog partners. Wachowich, Scobie and Nagy (2010:85) studied YouTube, defining it as a social network that can be used for storytelling, through which young Inuit e.g. can "*bypass the more dominant Western historical consciousness and epistemologies that have traditionally governed media representations of Inuit social life"* and "*claim their own narrative terrains in cyberspace and beyond"*. Yasmine, one of my interview partners, reported me about her produced YouTube Videos, which she had created to inform and teach young Yup'ik about various traditional ways to dance, sing or sew traditional dresses.

A main issue in the digital world is the availability of telecommunications. From the providers' perspective this availability can be defined in terms of houses passed for wireline technologies such as optical fiber, coaxial cable, or copper and coverage for wireless technologies. Availability from the users' perspective requires a different lens. Availability at local sites such as libraries, community centers, and schools is also an important indicator for Alaska, especially concerning broadband. And as cell phones – and increasingly smartphones and portable devices – multiply, individual or personal access should also be considered.

However, access involves more than availability. Therefore, an analytical framework for rural Alaska contains availability, access, and adoption. Aspects that could influence Native adoption of digital media at the household or personal level include price, availability of a computer or other device, availability of electricity, skills, and the perceived importance of content or services. Adoption through shared usage at community locations could be influenced by skill levels, availability of training and/or mentoring, schedule of availability, perceived relevance, and value (Hudson 2011).

American Indian and Alaska Native tribes in the United States are sovereign and therefore can be capable and competent competitors for providing broadband access for their own peoples and geographic regions. Tribes are no different from individuals or corporations in this regard; in fact, tribes of Alaska Natives were organized into corporations with the passage of the Alaska Native Claims Settlement Act in 1971. Tribal sovereignty and competition are not antithetical, though they could be framed that way. Tribal sovereignty in this context simply means that tribes have inherent powers recognized by Congress to function as governments, organize businesses, and compete with other entities if they so choose.
The Federal Communications Commission (FCC) has acknowledged this tribal sovereignty in ways other than the Standing Rock decision:

> "*We are also moving toward a fuller appreciation of what tribal sovereignty means and of the need to accord tribes the fuller and more active role they must have in order to ensure the best and most appropriate deployment and adoption strategies for their areas and populations,"* said former Commissioner Michael J. Copps (Kemper 2013).

The FCC recognized the imperative of promoting competition and efficient broadband access on tribal lands. The overwhelming need for broadband access in Indian Country has emerged in the 21st century, when the FCC's Office of Native Affairs and Policy found that no more than 10% and maybe as little as 5% of people on tribal reservations had access to broadband. Recent initiatives like using federal stimulus money to construct lines and wireless towers have expanded the Internet into Alaska although the U.S. officials accentuate the importance of improving the accessibility of internet for all citizens (Kemper 2013).

One of the indigenous pioneers in the far North, who have also been enterprising in providing telecommunications services, where OTZ. This company was the first native telephone cooperative in the U.S. providing fixed and wireless voice and data services to the Iñupiaq regional hub

of Kotzebue and ten Iñupiaq villages plus the native-owned Red Dog mine in northwest Alaska on the Bering Sea. The Arctic Slope Telephone Cooperative serves Barrow and seven other Iñupiaq villages on the North Slope and in the Brooks Range plus the oil pipeline service center of Deadhorse/Prudhoe Bay. Both obtained funding to install and upgrade their networks from the Rural Utilities Service. A RUS[5]-funded stimulus project to provide wireless 4G services in southwest Alaska involves a partnership between a telecommunications company and a subsidiary of Sea Lion Corporation, the Alaska Native Village Corporation for Hooper Bay (Hudson 2011).

The question arises as to responsibilities of the providers of social media and the Internet towards "users" or, more broadly, towards people in the worlds where ICTs are introduced. This is not the responsibility of "first does no harm" but rather, the responsibilities for taking people – their actions, their statements, and their interpretations – seriously. In the last years there was and still is a call for responsibility of the providers of Facebook to be more careful with various entries such as race-baiting or mobbing as well as of the providers of networks to prohibit fake news, fake emails and similar. This responsibility is both an ethical one but also a methodological one. As an ethnical concern, it suggests that people's worries should be taken as primary rather than attempting to interpret them as providing support for one sort of potential product or another; and as a methodological one, it highlights the important things that one might miss if attempting to read all responses to technology purely as expressions of potential interest or potential adoption (Satchell and Dourish 2009).
Before judging the problems of ICT for the Alaska Natives and for Alaska Native women in particular a short introduction to Alaska itself and to the indigenous and subsistence lifestyle, in particular, should be given.

2. Alaska Natives Women – Subsistence, Tradition and ICT

For a better understanding of the research area it is necessary as Bourdieu explained, to understand the history of the field showed in field imminent rules and rites. *"The social world is accumulated history."* (Bourdieu 1983:46) therefore it is inevitable to understand the uniqueness of the way of life of Alaska Natives and of the country itself.

[5] Rural Utilities Service

2.1 Alaska Demography - a short Glimpse

Alaska is the northernmost and largest state of the 50 U.S. federal states directly situated west of Canada (Weltkarte 2016). According to the most recent digital publications of the U.S. Census Bureau in 2015 about 738.432 people are living in Alaska and 47.4 % are registered as female. The quota for Alaska Natives is only 14.8 % (Census 2015). More than 35% of all Alaskans are living in and around Anchorage but only 8.1 % of these persons are indigenous. As for the inhabitants of the bigger Alaskan cities - namely Anchorage, Fairbanks and Juneau about 50 % of all Alaskans are living in or around them. The percentage of Alaska Native urbanites fluctuates between 7 to 12 % but in the Northwest Arctic Boroughs, the Nome area or the Southwest Arctic the population consists of up to 80 % Alaska Natives. The above statistics always consider Alaska Natives alone without any combination with white, Hispanic or other ethnic groups. The differences by including those persons in the statistics are hardly noticeable - a rise of 2 to 3 % (Census 2015). The ratio of males to females in Alaska is also interesting. In 2013 it was 107 males for every 100 females - much higher than the national ratio of 97 to 100, but down 2010's ratio of 109 to 100. By race, the male-to-female ratio was 111 to 100 for white alone, but 100 to 100 for American Indian or Alaska Native alone (DLWD 2015). This is pointed out as evidence that Alaska Native women are numerous but less than men. One thesis can be that more male persons are immigrating to Alaska than female because of the reputation of this state to be one of the world's remaining wilderness areas and the "*last frontier*" against civilization.

The diagram below shows the above mentioned facts:

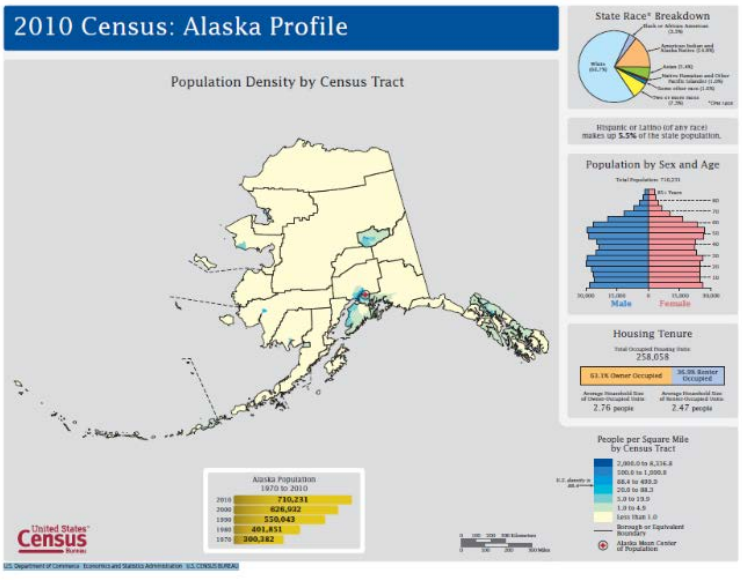

Table 1: Alaska Profile (US-Census 2015)

Nearly 50% of the population in the more rural surroundings of Alaska have Native roots, which implies that a high percentage of Alaska Natives are living in infrastructural less developed areas, which means also fewer services and/or worse support for internet and cell phones.

An important issue is the distribution of landownership in Alaska, which is fundamental to subsistence economy. Numbers of the Department of Fish and Game are telling that nearly 90 percent of Alaska Native residents are using fish and 80 percent using game provided by subsistence (ADFG 2012). One of the main identifying characteristics of indigenous peoples is their continuous occupation of their lands. Discourses about their deep attachment to their lands are found in anthropological research and in international policy documents set out by the United Nations (Longboan 2010). Approximately 65% of Alaska is owned and managed by the Federal Government of the United States as public land, including the national parks, and the National wildlife refuge. The Bureau of Land Management (BLM) administers apart of Alaska, namely 87 million acres or 23.8% of the state (BLM 2015).

The state of Alaska itself owns 101 million acres of the remaining area under its entitlement of the Alaskan Statehood Act. The rest about 35 % is shared by several owners. For instance, the University of Alaska, as a land grant university, also owns substantial acreage, which it manages independently. The main "share" of 44 million acres is owned by 13 regional Native corporations created under the "Alaska Native Claims Settlement Act" of 1971 (ANCSA). This act addressed indigenous land rights in an unusual way, by giving cash and land titles to newly formed "Native corporations" both on the regional and local level. These corporations in many cases hold title including subsurface title, a privilege denied to individual Alaskans. They are, however, not allowed to sell the land. Various private interests own the remaining land, totaling about one percent of the state. Alaska is, by a large margin, the state with the smallest percentage of private land ownership when Native corporation holdings are excluded (Hayes 2015).

The above data significantly help to understand the problems and difficulties of being Alaska Native, especially when considering living. They also help to understand my final results and answers to the main research questions.

But, who are those persons, who are called native and who are the Alaska Native women I interviewed for this paper?

Alaska Natives are generally regarded as persons, who belonged to a particular region within Alaska before the country was colonized by outsiders and/or transformed into a nation state and member of the U.S. (UN 2004 and ILO 1989). Archaeological evidence indicates that aboriginal

people migrated and settled in Alaska about 30,000 years ago, mainly coming from the west (Hayes 2015). Whether a person is "Native" or "Indigenous" is defined by the indigenous peoples themselves. To be indigenous, self-identification of an individual is required. Once an indigenous person has accepted they are indigenous, a level of acceptance from the community must be made (World Bank 2003). Each tribe's membership is defined in their codes. Naturally a baby is an automatic member of a tribe by birth but adults must complete a written application to be approved for enrollment in the tribe in order to get the tribal benefits, and attend their programs and services. Approval also depends on the Native blood quantum. The descendants of original inhabitants of Alaska need no longer live there to be nevertheless accepted as Native but they must have indigenous ancestors.

The Alaskan indigenous communities have different cultures, languages, lifestyles and traditions from the U.S. mainstream society (Harris and Harris 2011:1) and they also live a different life from the one established in so called western ideas about the "Eskimos".

Wachowich and Nagy (2010:9) remarks in one of her articles: *"When we consider Inuit lives in the Arctic, we often think of people coping with harsh conditions using solid, durable technologies—hard or soft things, inert objects made of stone, bone, metal, wood, skin, fur, snow, or ice. We think also of tools, equipment, gadgets, or devices that Inuit use to provide food and shelter for their families."*
But learning the skillful operation of rifles, radios, ATVs, and snowmobiles has become just as necessary for indigenous subsistence and survival on the land today as learning to use harpoons or to drive dog-teams was in the past. The lifestyle is different but mainly due to climate and nature conditions.

As mentioned above, the state of Alaska is the home to a unique and diverse group of aboriginal peoples. These indigenous peoples, who I jointly call Alaska Natives in my paper , can be divided into six major groupings: the Unangan/Aleut, Sugpiag/Alutiiq, Yupiit, Iñupiaq, Athabascans and Tlingit and Haida. Alaska's Natives are speaking 11 different languages and twenty-one different dialects but statistically speaking Alaska Natives are a minority in their *"own"* country (Alaska Heritage Center 2015). On the following map the areas dedicated to the tribal organizations are shown:

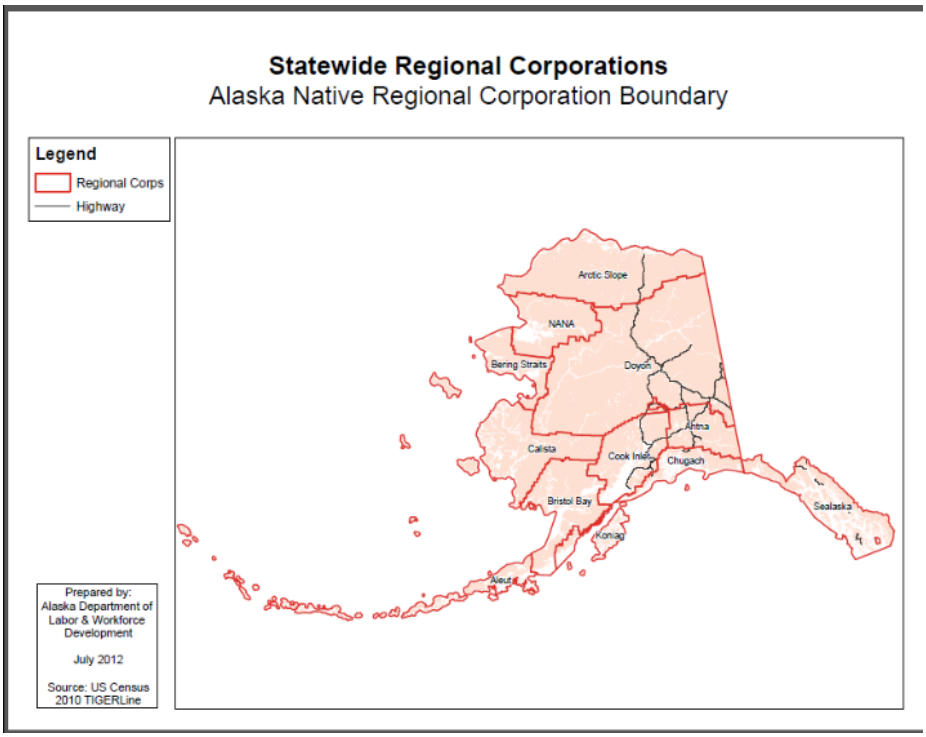

Table 2: Regional Corporations of Alaska (US-Census 2010)

I will briefly describe the main characteristics of the main ten indigenous groups of Alaska as there are significant differences among the Alaska Native groups, which are often not recognized.

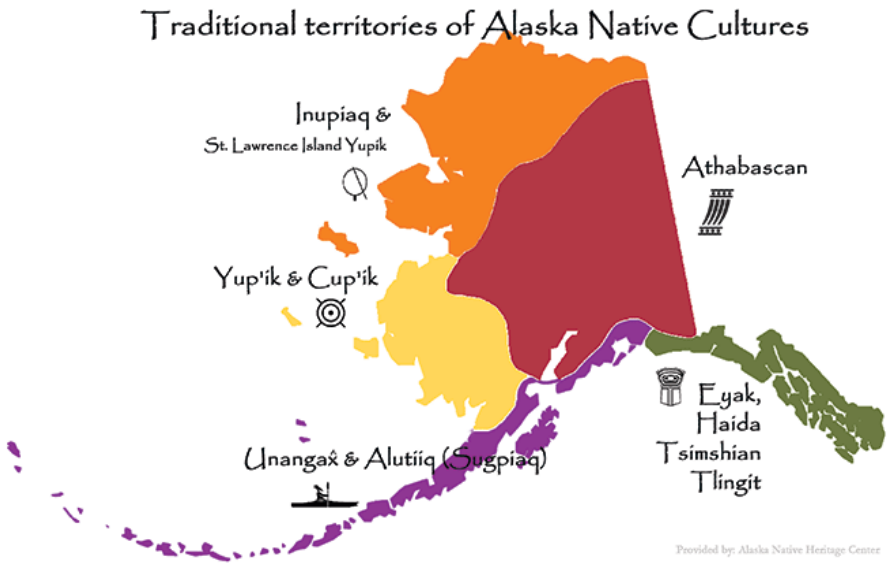

Figure 2: Alaska Native Groups (Alaska Native Heritage Center 2015)

Athabascans

Originally the Athabascan people lived in the interior of Alaska along five major rivers: the Yukon, the Tanana, the Susitna, the Kuskokwim, and the Copper River drainages. They moved seasonally, traveling in small groups to fish, hunt and trap. Today about 6400 of this group are living in Alaska (ANKN 2015).

The Athabascan culture is a matrilineal system in which children belong to the mother's rather than to the father's clan. Clan elders made decisions concerning marriage, leadership, and trading customs. Often the core of the traditional culture was a woman and her brother, and their two families. A central feature of traditional Athabascan life was and still is for some, a system whereby the mother's brother takes social responsibility for training and socializing his sister's children so that the children grow up knowing their clan history and customs (Langdon 2013).

Unangax and Alutiiq (Sugpiaq)

The Unangax and Alutiiq (Sugpiaq) are maritime peoples living in south and southwest Alaska. The territory of these two groups stretches from Prince William Sound to the end of the Aleutian Islands. There are also over 300 on Bering Island, Russia. In the past their cultures were heavily influenced by the Russians, starting from the 18th century onwards. The Orthodox Church is prominent in every village, Russian dishes are made using local subsistence food, and Russian words are part of common vocabulary in the indigenous languages.

Kinship and family relationships are still important for them. These connections persist throughout the regions and are important in the management of the villages, as well as decision-making related to everyday life (Gagne 2015).

Today, Unangax are spread around the world, although most, of course, still reside in Alaska. Over two and a half centuries of contact with foreigners in the region, the number of villages has dwindled, so that there remain fewer than a dozen communities. Some 1,700 Unangax now live in communities in their region in southwestern Alaska. Another 300 live in the community of Nikolskoye, on Bering Island in the Commander Islands of Russia, the descendants of Unangax having been taken there from Alaska by Russians in the early 1800s.

Yup’ik and Cup’ik

Alaska Natives living in the south west of the state are named after the two main dialects of the Yup'ik language, known as Yup'ik and Cup'ik. The traditional way of life of the Yup'ik was semi-nomadic, following the seasonal variations in their environment. Hunting, primarily for sea

mammals, and fishing were subsistence activities. They also developed trade, initially with neighboring groups, and then with the Russians by the end of the nineteenth century (IC Magazine 2015). Originally they believed all living creatures go through a cycle of birth, death, and rebirth, leading them to give newborns the name of a recently deceased member of their community, and to practice rituals in which parts of animals that were killed for food were returned to the ocean so that they could be reborn. Yasmine, one of my interview partners, told me that when she and/or her family were hunting a seal, they always closed the eyes of the killed animal and thanked it for getting trapped. The Yup'ik and Cup'ik people living in the areas mentioned still depend upon subsistence fishing, hunting and gathering for food. In the past social culture and behavior were all geared toward survival and compatibility among the families living in a village. The traditional women roles included child rearing, food preparation and sewing (Langdon 2013). The total population of these groups is estimated about 24,000 people today (IC Magazine 2015).

Iñupiaq or Inuit

Even in the 21st century the Iñupiaq and the St. Lawrence Island Yupik people living in the North Slope area are still members of hunter and gatherer societies. They continue to subsist on the land and sea and to follow the whale, walrus, seal, polar bear, caribou and fish. The Inuit/Iñupiaq are one of the most widely dispersed people in the world, but number only about 60,000 in population. Between 25,000 and 35,000 reside in Alaska, with other smaller groups in Canada, Greenland, and Siberia. The name Eskimo was given to these people by neighboring Abnaki Indians and means "eaters of raw flesh." The name by which they call themselves is Inuit or "the people"(Chance 1990).

Their region is vast, with extreme climate influences but with a natural realm for a variety of mammals, birds and fish, gathered by the people for survival (Langdon 2013). Due to the difficult environment the biggest towns in the North Arctic boroughs are really villages. Kotzebue, Nome and Barrow have an average number of inhabitants of approximately 3000 to 4500, where 79% have indigenous roots (Census 2015). The search for petroleum greatly affected the region. Since the end of World War II, with the discovery of North Slope oil in 1968, the culture as well as the ecology of the region changed in ways never imagined by nineteenth-century Inupiaq. Other wage-economies developed in the region. The Cold War brought jobs to the far north, and native art work became an increasing form of income, especially for carvers. In the 1950s, the construction of a chain of radar sites such as the Distant Early Warning system (DEW) employed Inuit laborers, and many more were later employed to maintain the facilities. Today, a number of

issues face the Inuit, among them the use of technology and urban flight by the young. Thus, the viability of their traditional culture is at stake. Caught between two worlds, the Inuit now use snowmobiles and the Internet in place of the *umiak*[6] and the sleds. Nonetheless, they have designed legislative ways to maintain and protect their traditional subsistence lifestyle (Everyculture 2016).

The Eyak, Tlingit, Haida and Tsimshian

There are about 30,000 Eyak, Tlingit, Haida and Tsimshian Indians worldwide. They share a common and similar Northwest Coast Culture but have important differences in language and clan system. They have a complex social system consisting of moieties and clans. Here the people depended upon the ocean and rivers for their food and travel (Langdon 2013).

All four groups have an exogamous, matrilineal clan system, which means that the children trace their lineage and names from their mother. As a result, the children inherit all rights through the mother, including the use of clan fishing, hunting and gathering land, and the right to use specific clan crests as designs on totem poles, houses, clothing, and ceremonial regalia(Langdon 2013).
For these Alaska Native groups indigenous nationhood is more than simple political independence or the exercise of a distinctive cultural identity; it is also an understanding of a common social interdependence within the community, the tribal web of kinship rights and responsibilities that link the people, the land, and the cosmos together in an ongoing and dynamic system of mutually affecting relationships (Murphy 2010).

The importance of women within the indigenous groups of Alaska is clearly recognizable and my impetus to focus my research only on female Natives.
My interview partners are all members of one of the above mentioned indigenous groups. I talked with eight Athabascan women aged 25 to 75 years, two Yupik women, one about 40 years old, the other one at the end of her forties and four Iñupiaq persons. One of them was my youngest interviewee, namely 13 years old; the three others were in their thirties. Above all I was able to get in contact with one Tinglit woman in her sixties and one Alutii in her thirties.
Alaska Natives living in rural surroundings and in smaller towns still lead a subsistence life. They sometimes use different tools these days such as snow mobiles instead of dog sleds. They also have motorboats and cars and they buy food when necessary and possible in a supermarket. In addition, they are using ICT to get information faster and keep up the contact to their clans, but they still link to subsistence economy.

[6] Skinboat used by Yup'ik and Inupiaq

On the other hand for those Natives living in the big cities it is more and more an economic question to be able to do subsistence activities or not. Many Alaska Native women are working in jobs far away from their hometowns. They often can hardly travel home to help with various subsistence activities, although each of my interviewees assured me that subsistence is very important to them and the future native generation but that they have no time to be part of it or don't have the money to do it. Nevertheless they always try very hard to attend sharing and to take part in traditional events such as a Potlatch. Even the government supports the summer activities in the subsistence cycle by closing schools and universities already in May.

Women living in an urban area in the first generation-also force their children to learn from their elder relatives how to hunt, fish, sew, cook etc. But Alaska Native women living in towns in the second or third generation, although not being totally separated from their roots, don't have a narrow connection to their traditions anymore. They may use special cooking recipes or do fishing and hunting as a hobby when affordable, especially when they are married to non-Natives. Nevertheless noncommercial fishing and hunting play a prominent part in the economy and social welfare of many Alaska Native communities (Wolfe and Walker 1987).

The indigenous people in Alaska identify themselves by living a subsistence lifestyle and have their own social supporting system called "sharing". All Alaska indigenous groups have this social tradition in common.
Even in the 21st century subsistence is an active part of the life of Alaska Natives, both men and women. Naturally there have been a lot of changes depending on the actual resources, the new technologies and tools and last but not least the changes in the circumstances of life such as the migration from rural to urban places or the possibility of getting a better education and/or having a job.

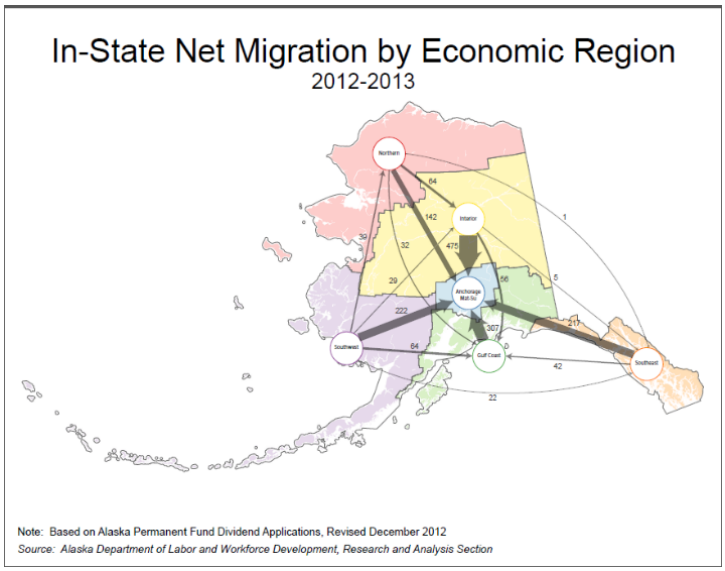

Table 3: Net Migration 2012-2013 (ALW 2014)

But before going into more detail about the subsistence lifestyle of the questioned women I will explain what "subsistence" as well as the term of „sharing" means in Alaska. In Europe the word "subsistence" is connoted with poverty and living under hard economic and social conditions and also sharing has a quite different meaning for Alaska Natives.

2.1.1 Alaska's Subsistence – a Specialty?

During my stay in Alaska I frequently heard the phrase, *"It's different in Alaska"* and I wonder just how many things are *"different"*.

When it comes to subsistence harvesting, Alaska is unique among the states not only through the traditional practice of living off the land, but because of federal law. Every Alaska Native is allowed to harvest, process, distribute, and consume a certain amount of wild animals, and fish, and to make use of tribal laws through an economy and way of life that has come to be termed "subsistence". Together these varied subsistence activities constitute a way of being and thus make up an essential component of Alaska Native identities and cultures. Most Alaskans, Native and also non-Native, would like to see customary and traditional subsistence activities continue, but it is clear that they cannot endure without legal protections as we are living in a world dominated by economic issues, which contradict the idea of subsistence. While some safeguards to subsistence have been passed through federal and state laws, many challenges remain in the effort to chart an effective subsistence policy for Alaska Native peoples (Caulfield 1992).

Alaska is the only state where the subsistence use of fish and game for consumptive use is given the highest priority. This happened more than 30 years ago, when Congress passed a priority

subsistence law in 1980 for federal lands in Alaska with the Alaska National Interest Lands Conservation Act (ANILCA) as an improvement of the Alaska Native Claims Settlement Act (ANCSA) signed in 1971 and the Alaska Statehood Act from 1958.

Anita[iii], one of my interview partners, told me about the time, when ANCSA was developed, because her husband was one of the Athabascan leaders, who succeeded in bringing together all main tribal chiefs of Alaska to force the government to sign this act as well as to make the improvement with ANILCA. She commented laughingly that if they had had the possibility to use Internet at that time it would have been much easier and faster for them to get all the necessary information about how to construct the act and get all the legal advices they needed to get the U.S. government to sign the Acts. But in the days without internet her husband and his fellow campaigners had to go to libraries, read a lot of books, laws etc. to find the correct legal phrases and to avoid the traps constructed by the "white" government. These tribal leaders, she mentioned, helped the government to understand what Alaska Native "subsistence" stood for and finally subsistence became defined by federal law as:

> *"…the customary and traditional uses by rural Alaska residents of wild, renewable resources for direct personal or family consumption as food, shelter, fuel, clothing, tools or transportation; for the making and selling of handicraft articles out of nonedible by products of fish and wildlife resources taken for personal or family consumption; and for the customary trade, barter or sharing for personal or family consumption."* (ANILCA 1980:Sec.803)

Under the state's subsistence law, subsistence uses must meet the criteria for being *"customary and traditional."*
The first subsistence statute establishes subsistence as the priority use of Alaska's fish and wildlife. Subsistence fishing and hunting are important for the economies and cultures of many families and communities in Alaska. Many natives, especially those living in physically remote rural areas (Ardener 2012), depend on the subsistence economy and cannot make use of the financial support from various gas and oil companies because their land has no hydrocarbon resources.

Figure 3: Facebook 5.8.2016 – preparing salmon

When Alaska's oil development boomed in the late 1960s, the proposed pipeline connecting the state's oil-rich North Slope with the Gulf of Alaska was Native land with Native user rights. The `Native issue' had to be settled before large-scale industrial development could proceed. It was in this charged atmosphere that the landmark Alaska Native Claims Settlement Act (ANCSA) of 1971 was hurriedly passed through the U.S. Congress. A mixture of assimilation and self-determination elements, this major piece of social engineering legislation has profoundly affected Alaska Native tribes.

On one hand, ANCSA created 13 regional and more than 200 village corporations, gave these for-profit entities title to 10% of the state's lands, and compensated them with $3 an acre for other lands taken (nearly a billion dollars in total).On the other hand, Congress extinguished all aboriginal hunting and fishing rights as part of the settlement and in return, both the Secretary of Interior and the State of Alaska bound themselves to *"take any action necessary to protect the subsistence needs of the Natives"* (Thornton 1998).

Although Alaska's subsistence laws may be unique, the forces that threaten indigenous peoples' subsistence in the state-industrial development, competition, cultural insensitivity and political marginalization are similar to those affecting Native peoples' livelihoods worldwide. Since a complete subsistence policy is vital to the health and cultural survival of Alaska Natives, this issue merits special attention (Thornton 1998). ANCSA’s benefits included economic self-determination resulting from business and proprietorship ethic; ANCSA business corporations have become powerful mainstream political and cultural tools. But ANCSA possessed several problematic features. The statutory was very vague, its initial delay in enactment allowed the creation of third-party land rights in the State and Municipal governments and for the first ten

years the operating costs were very high. Due to ANCSA created start-up corporations no a clear target and focus. The corporate model facilitated land development, but it has not functioned perfectly particularly in remote villages. Because of a lack of tribal entities and other defining institutions, the corporations became a cultural focal point and means of cultural identity, and occasionally a contested political battleground. The corporation with the most political stability had the best economic performance. ANCSA did not guarantee a continued Native ownership, which was changed later with Alaska National Interest Lands Conservation Act or ANILCA in 1980. The act made 104 million acres of Alaskan land into national parks and preserves, national forests, and national fish and wildlife preserves. About half of the land, 56.4 million acres, was set aside as wilderness. ANILCA brought protection to a significant area of the state previously open to mining and other kinds of entry but the act had many exceptions. The act guaranteed access by floatplane, motorboat and snow machine to millions of acres not just for sport hunting, but for other traditional activities areas can be closed if the guaranteed access causes negative impacts on resources. Access was guaranteed in holdings in the national parks and refuges (Linxwiler 1992). Even the legislature had realized the unique importance of wild resources used for food, raw materials and other traditional uses.

It is a common misconception that there is no money in traditional subsistence economies. A historical research shows that trade and commerce have been part of traditional subsistence systems for thousands of years in Alaska. As a more recent example, the commercial fur trade with European markets began about 300 years ago, exchanging European currencies and goods for furs taken during subsistence trapping. It is true that rural Alaskan economies operate differently from urban economies. Today's rural economies are "mixed economies:" families and communities live by combining wild resource harvests with commercial wage employment. Cash-paying jobs tend to be few and unstable (seasonal or temporary) and cash incomes thus smaller and less secure in rural Alaska than in urban Alaska. Rural economic activity tends to occur in family groups, rather than in businesses, and rural economic ventures are of smaller scale. Rural economic goals are usually for the benefit of family groups rather than for the monetary profits of a business (ADFG 2016). But subsistence, apart from the legal recognition of its importance, has also a cash component. Cash is necessary to purchase the equipment, supplies, and fuel needed to harvest subsistence resources. The Alaska Natives, female or male alike, can earn money by having a job or trading. In addition, they all receive money from the Permanent Fund. The Alaska Dividend, properly called the Permanent Fund Dividend (PFD), is the closest thing to a basic income guarantee that exists in the world today. PFD was established in 1976 by voters passing a constitutional amendment. In 1980 the first permanent fund dividend legislation was enacted and

a program, which gave every adult Alaska resident $ 50 for every year of residency since statehood in 1959 and a dividend fund was established. Since 1990 the residency requirement is 12 months from former 24 months and is valid until now.

It is a yearly dividend, financed indirectly from oil revenues, paid by the state government to every citizen, who lives in Alaska - including all men, women, and children (Alaska Dividend Blog 2016). This fund distributes a certain share of the profit once a year to all Alaskan citizens, who have lived there for a minimum of one year; so even one year old babies obtain their portion. This payment means a big income for bigger families, which secures a quite safe life. If a rest of the fund remains in a given year, it is invested again for paying out dividend the following years.

There is another reason why subsistence economy is so important. This is the fact that Alaska is the largest state of the U.S., but with only 13 state roads connecting urban centers there are thousands of acres of uninhabited lands with no roads at all. People living in the rural areas on the borders of this uninhabited land, have nearly no chance of driving quickly to the supermarket to buy something for dinner, so subsistence harvesting of food and materials is of great importance for them to survive.

A good example of subsistence economy is the small village of Tyonek, not far from Anchorage but only reachable by plane or boat. Due to the fact that often the fish resources are limited, the community decided to construct a garden with several green houses. They built some green houses and prepared beds and within four years they had an enormous output. Dawn told me proudly during a phone call:

> *“In 2015 we could harvest 60 pounds of watermelons, besides of 1800 pounds of other products such as potatoes, salad, beets etc. This is a fabulously healthy addition to our normal nutrition. Thanks to Skype or WhatsApp we keep contact with the University of Fairbanks where we find quick help and information by having problems because of fungal decay or pest control. It’s amazing after starting the project in 2012 two years in 2014 it was the first season produce sales were used to support funding for future garden seasons. Tyonek and Anchorage elders received a total of 140 pounds of the first and last harvest, with additional weekly contributions made to the Elder’s Lunch Program totaling 170 pounds. The crop included tomatoes, pumpkin, zucchini, spinach, lettuce, celery, herbs, peas, green beans, broccoli, cauliflower, cabbage, radishes, potatoes, beets, carrots, rhubarb, and even strawberries.”*[iv]

ANILCA emphasizes the importance of Native subsistence as an exceptional and cultural factor, noting that *"the opportunity for subsistence uses by rural residents of Alaska...is essential to Native physical, economic, traditional, and cultural existence and to non-Native physical, economic, traditional, and social existence."* (ANILCA 1980)

Native and non-Native conceptions of subsistence betray a deeper philosophical division between the two (Thornton 1998).

Alaska Natives typically define subsistence more comprehensively than non-Natives. For most Natives, subsistence is synonymous with culture, identity, and self-determination. Native customary and traditional practices are therefore protected and cannot be arbitrarily overridden by state Fish& Game regulations (Thornton 1998).

> *"Subsistence living, a marginal way of life to most of the non-Natives has no such connotation to the Native people of southeast Alaska. The relationship between the Native population and the resources of the land the sea is so close that an entire culture is reflected…. Traditional law …was passed from generation to generation, intact, through repetition of legends and observance of ceremonials, which were largely concerned with the use of land, water, and the resources contained therein. Subsistence living was not only a way of life, but also a life-enriching process. Conservation and perpetuation of subsistence resources was part of that life and was mandated by traditional law and customs."* (Berger 1985)

Naturally subsistence does not only refer to hunting and fishing. According to the State of Alaska's subsistence Web site, food is one of the most important subsistence uses of wild resources, but there are many other uses.

> *"The current rural subsistence harvest is about 354 pounds of food per person per year. …However, there are other important uses of subsistence products, such as, clothing, fuel, transportation, home goods, customary trade, where specialized products like seal oil are bartered and exchanged in traditional ways, arts and craft and last but not least traditional products, which are used for funerals, potlatches, marriages, and other ceremonial occasions. All of these uses of wild resources are recognized and protected in law. Subsistence is a rich pattern of living, of which food is but one important part."* (BLM 2015)

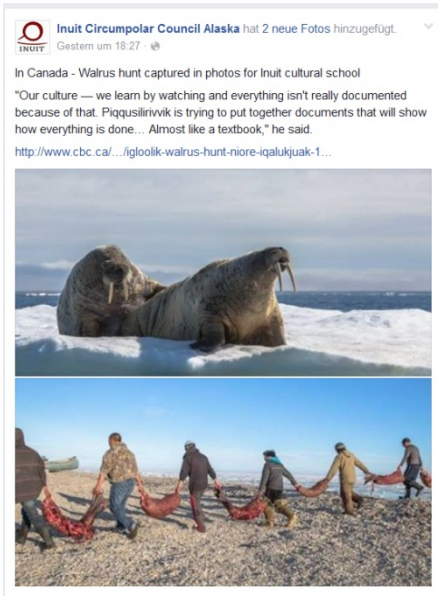

Figure 4: Facebook 4.8.2016 – Walrus hunt

Beside the Alaskan state there are several federal departments, which take care of abidance by the subsistence laws like ANCSA and ANILCA and which protect the interests of the Alaska Native groups. All these offices have their own websites and are members on social media to be quickly accessed by all interested in relevant topics. One of the offices is the Alaskan Bureau of Fish & Game, which has a separate division of subsistence. The function of this division is to give basic information about subsistence uses – who, what, when, where, how, and how much – and this office assists the Alaska Board of Fisheries and the Board of Game in developing opportunities for subsistence as well as for other hunting and fishing. Alaska Department of Fish and Game (ADFG 2016) studies show that rural subsistence accounts for only 4% of the total fish and wildlife harvest, while 95% goes to commercial interests and 1% to sport users.

The core services of this department are gathering scientific data, quantifying and evaluating these data and reporting information about customary and traditional uses of Alaska's fish and wildlife resources (ADFG 2016).

The division of subsistence within the above mentioned department is assisting ADF&G and the Board of Fisheries and Game in determining which users are subsistence users and which methods are subsistence methods. It also evaluates the impact of state and federal laws on subsistence hunting and fishing and makes recommendations if corrective action is indicated as well as regarding adoption, amendment, and repeal of subsistence regulations.

For the public there is a lot of information available both on their website and on Facebook and naturally on paper. It is possible to access the CSIS, the "Community Subsistence Information System", an online database that contains the results of the systematic household surveys. This

database contains information of 260 communities including demographic data, jobs and sources of income of the members of the communities. It also contains the statewide subsistence salmon permit database.

Because Alaska Native groups continue to define themselves to a large degree by the customs and traditions in obtaining, processing, and distributing wild resources, they see the maintenance of these cultural traditions and laws as an essential element of their subsistence. While Natives' definitions of subsistence tend to be broad and holistic, embodying a wide range of customs and traditions, non-Native conceptions are typically more restrictive (Thornton 1998). Many adhere to a popular dictionary definition of subsistence as *"the minimum [food and shelter]necessary to support life,"* thus concluding that only those *"who really need it"* should be considered as subsistence users. This is sometimes referred to as the `subsistence-as-welfare' concept, because of its emphasis on poverty and economic need. Obviously, the notion of subsistence as welfare represents the very antithesis of the Native point of view and has no basis in ANILCA. As Iñupiaq leader Eileen MacLean put it:

"Subsistence is not about poverty; it is about wealth. This wealth is expressed in the harvest and in the sharing and celebration that result from the harvest." (Thornton 1998)

Figure 5: Facebook 6.8.2016/Berries picking in the North Slope

Yet, the popular misconception unfortunately endures. Finally, however, more than terminology, it is the conflicting cultural visions. The Native one is based on cultural identity, customs, and traditional values, and the non-Native one is based on individual rights and economic need - that continue to divide the subsistence debate.

It is a myth that subsistence is merely a lifestyle choice or a rural necessity and not a significant segment of the Alaskan economy. While recreational and commercial users take the main share of fish and wildlife, subsistence economies show important levels of participation and production. In rural Alaska 92-100% of surveyed households use wild fish and 75-98% harvest fish. Given Alaska's rural population of 116,653 (21% of the total population, 48% of which is Native), subsistence is by far the state's largest employer. Subsistence is a crucial part of Alaska rural economies (Thornton 1998).

The Alaska Native subsistence rights are a federal trust responsibility. Congress expressed its concern and intent to protect Native subsistence rights in ANCSA and ANILCA. To this extent, ANILCA is Indian law, regardless of the "rural preference" compromise (ANILCA 2016).To suggest otherwise is to mislead the legislative history of Congress and the special status of American Indian tribes within the U.S. If ANILCA were somehow repealed or nullified, it is clear that the Secretary of the Interior would still have the authority to enforce a Native-only subsistence priority based on his legal responsibilities to protect the welfare of Alaska Natives. It was this trust responsibility that led Congress to grant Alaska Natives a subsistence priority, with the exemption from a ban on hunting certain sea mammals, in the Marine Mammal Protection Act of 1972.While a Native priority might not be politically feasible for other fish and wildlife resources, any changes in the federal subsistence law will have to provide satisfactory protections for Alaska Natives. It’s a pity that native subsistence protections under the rural preference seem fated to demographic weakening, as the state's non-Native rural population continues to grow.

“Though rooted in the past, subsistence is dynamic and varied, adapting by necessity to changing technological, demographic, and socioeconomic circumstances, as for Alaska Natives, it is a matter of cultural survival “ (Thornton 1998).

2.1.2 Sharing – an Indigenous Social System

Indigenous sovereignty and nationhood are determined by interrelatedness and responsibility. In contrast to nation-states, which are based on control over territory, visions of indigenous nationhood are based on care and responsibility for land that all can share. These models of sovereignty are not based on a narrow definition of nation that would entail a closely bounded community and ethnic cleansing (Murphy 2010). Indigenous attitude to share the outcome of the land with all the members of the tribe can be found in all Alaskan indigenous communities.

Sharing is a synonym for (mainly) subsistence products, which are widely given out to support neighbors, who cannot harvest for themselves because of age, disability, or other circumstances. This system is found in all Alaska Native groups and a very old social supporting tool, necessary for the poor and weak members of the ethnic groups to survive in such a very hard and icy climate zone, where the winters are very long, cold and dark and where the nearest hospital, social institution or ~~a~~ shopping center is not right around the next corner. The communal character of Native subsistence economies furthers, among other things widespread sharing among individuals and households. The decision about who will be supported is made by the community council as individualizing permit would undermine the social economy of redistribution and other communal attributes of subsistence and, at worst, turn sharing into the kind of welfare system everyone despises.

Paula originally from Bakers, 150 miles west of Fairbanks, now living in Fairbanks with her family, told me during the interview:

> *"My husband and I we hardly can afford to travel to our family to help them hunting, fishing or berry-picking, but nevertheless they always send us some salmon, moose etc. so we have traditional food the whole year round. It's sometimes magic how they know what we are missing."*[v]

In the social media and on community websites there I found a new and extended form of sharing called fundraising. Amongst others my interview partners on one side organized small events like "Breakfast for all", "Running for help" or similar, where money is collected for persons in the community, who can't afford to send their children to a high school or to pay the bill of a medical treatment. It is notable that also the children are encouraged to organize such charities and to spend a part of their money on the deserving poor. The "*deserving*" poor is a concept originally from England established in the nineteen century but the decision, who belonged to this group was decided individually. It is remarkable that this system is active up to now. I believe that in most cases the Alaska Native women keep this tradition alive as they are responsible for the storage of food and often know best, who in the community needs help. Fifteen interviewed women are convinced that with the help of ICT they are able to reach more people to attend their charity events and that, on the other hand, they can keep up the contact to persons in need more easily. Even the youngest interviewee had already organized herself several fundraising events to collect money for people in need. All women swore that these activities would be less successful without social media as with this platform many friends and neighbors got informed easily and fast.

2.1 Alaska Native Women's Lifestyle and their Utilization of ICT

For the master thesis I interviewed sixteen Alaska Native women - most of them personally, some only via Skype, as already mentioned. Several of these women were recommended to me by Margret, who is working for the Alaska Federation of Natives and through her job knew many Alaska Native persons. She helped me to get in touch with some of them. Margret herself didn't want to get interviewed first because of my original topic of "subsistence". When I phoned her after my trip to Alaska to express my gratitude to her for her assistance, I mentioned the change of my topic. Suddenly she was ready to answer some of my questions about indigenous websites for publishing traditional knowledge. She held the opinion that because of the Internet and social media the solidarity of Natives, not only Alaska Natives, has been strengthened. Since it has become easier to communicate, Natives are not left to their own resources. *"We now have a loud and strong voice.*[vi]*"* She talked about the website of her employer, where Alaska Natives can find information about the yearly convention or about Native shows, about policy priorities etc.

The other fifteen women I had the pleasure to talk with are members of different ethnic groups of the Alaska Natives and they are just as proud as Margret of their identity.

To be honest, twelve of them were living in bigger cities as Anchorage or Fairbanks, while just one is living in America's northernmost city called Barrow, which can only be reached by plane or ship and has a population about 4,500 (Smithsonian 2016). Barrow's residents have been known to hunt caribou on snowmobiles, even in summer (Ice Stories 2015). Three of my interviewees and their families are living in Kotzebue. Kotzebue lies on sand spit at the end of the Baldwin Peninsula in the Kotzebue Sound. The site was a trading location for local natives for hundreds of years. A post office was established in 1899. Kotzebue has a population of over 3,000, about 70% Alaska Natives (Iñupiaq) and serves as a supply hub for 10 satellite villages in the Northwest Arctic Borough and one in the North Slope Borough. Nearly all of the women I interviewed are members of the board of directors in their tribal organizations and are deeply involved in the indigenous traditions and lifestyle. They are fully aware of being Alaska Native and proud of their indigenous roots.

Naturally, if persons such as the Alaska Natives inscribe their identities into the landscape as historically constituted, it is from the trans-historical level that these identities are initially derived. Thus each person takes his or her primary identity from a particularly named place, and is

regarded as the incarnation of the ancestor whose activity made that place (Ingold 2000). Throughout a person's life, additional components of identity increase through association with other named places, such as where one was initiated or where one has long resided, so that a person's life eventually becomes a kind of record of where they have come from and where they have been. It follows that the network of places, linked by paths of ancestral travel, is at the same time a network of relations between persons (Ingold 2000). I agree with Bourdieu, for whom central concepts such as homology, field, or habitus imply that behavior is always understood as informed by a person's position, and historical trajectory, in social space (Bourdieu 1989:18), which includes also the virtual social spaces.

My interview partners are influenced by habits of the mainstream society but as Anita said, as long as the basic influence during childhood is shaped by indigenous values and knowledge, this knowledge is not forgotten.

Questions of identity become more and more real in Alaska, as culture and language changes are being influenced by every new information and cultural material arriving from mainstream urban America and the wider world via television and other media by the education system and last but not least by the increasing numbers of outsiders visiting and residing in Native villages. As a result of all these factors, as well as by the discouragement of Native language use by the government and schools for many decades, the indigenous languages have already declined in use, so that less than half of the indigenous population actually speaks their language fluently. Traditional knowledge of language continues to be an important part of identity, though for some people its role seems to be changing as Native language use is decreasing. Nevertheless younger generations of Alaska Natives continue to see themselves as indigenous with or without the language. This identity and its manifestations may continue to be important to them although they become less traditional (Kaplan 2001).

Language is certainly one of the main attributes of human culture and a fundamental aspect for the survival of culture. It is not just a method of communicating information, but also contributes to the protection of memory, contains specific terminologies and the traditional knowledge encoded within, and expresses a world-view. In the Arctic, an area with great linguistic diversity, colonial and assimilatory pressures against Indigenous language use and the small demographic numbers of many Indigenous groups have created difficult situations for many languages. Attention to the awful predictions of Arctic languages has significantly increased in recent years (Schweitzer et al. 2014).

Susan,[vii] who is a member of the board of directors of the Denakkanaaga Organization,[7] told me that 22 years ago she started her career as a Native broadcaster in Alaska. It was a hard way for her as she grew up in small villages with her five older sisters. As a child she was fond of going with her parents to visit the elders, having a cup of tea with them and listening to their stories about the history of the village and all her relatives. She was brought up learning their Athabascan language although she remarked that the attitude persisted that Natives were dumb and less educated. So she decided: *'well, I'll show them'* and she actually graduated a year earlier than the average. She is convinced that the young Native have to learn their indigenous language as the latter is naturally a part of indigenous identity. She maintained that without knowing the original vocabulary for animals, dresses etc. a basic connection to the roots is missing. She sees the courses for several indigenous languages and two bilingual schools that exist today as a solution to bring their own language to the young generation but under development. She is convinced that knowing one's own language strengthens indigenous identity. To support the knowledge of indigenous languages and practice them there are a lot of websites, YouTube and Facebook entries where people interested can learn or improve their capability to speak and write Alaska Native languages.

During these interviews I often heard, particularly from the older women that for many decades Alaska Natives were treated as second class people by politicians and the government. They were supposed to speak the languages the children were taught by white teachers and they were often sent far away to schools albeit acts –like ANSCA and ANCILA - had already been signed. Little attention has been given by policy makers and practitioners to the history of education in Alaska. The absence of precise information or awareness about the history of schooling in the state has contributed to a wide variety of ill-conceived and inappropriate educational policies and practices.
Renata stated in a much exited manner:

> *"In the past our children were usually immersed in the white American culture through appearance changes with haircuts, it was forbidden to speak our native languages, and traditional names were replaced by new American names. We were treated like second class people, as suppliants."*[viii]

[7] Non-profit organization that serves as the voice for Native Elders in the Doyon, Limited and Tanana Chiefs Conference regions of Interior Alaska

As a matter of fact during my search for appropriate literature for my topic I came upon a statement by a School Superintendent (1886):

"Only by complete isolation of the Indian child from his savage antecedents can he be satisfactorily educated." —John B. Riley, Indian School 1886

Fortunately the way of thinking of the National Alaska Department of Education and early Development has changed. Some schools are now teaching besides English also indigenous languages. The standard schools system looks as follows: all communities in Alaska with at least ten students must have schools offering instruction. Teaching stuff in small schools teaches several grades, and personnel turnover is high. In rural village schools, the lion's share of students is Alaska Native. Most schools have a K-12[8] organization and the number of teachers typically ranges from one to ten. Due to small enrollments, students are frequently in multi-graded settings, and instruction in the early years may be in a Native language. Recently several schools integrate Alaska Native issues, perspectives and traditional knowledge in the school or district curriculum. Community members serve as classroom and bilingual teacher aides in nearly all village schools and the majority of the Alaska Native teachers teach in village schools. The high school graduation rate from Alaska's small high schools is far ahead of the urban schools. Also Internet access plus other audiovisual instructional materials are important supplementations to classroom instruction; advanced placement and other courses such as foreign languages are available only online. Postsecondary courses for college credit, training for jobs available in rural Alaska, and continuing education are also offered online. Thus, these services should be regarded as components of digital diversity, as they are a means of providing services for remote indigenous communities that would not otherwise be available, and education and training to enhance the skills of Native residents (Hudson 2011).

Paula explained me the importance use of this program as well as the K-12 opportunity, although not operated by Alaska Natives but by a public company. Since Internet has been installed in nearly every village digital education is an option to improve young people's future perspectives.

[8] K-12 comprises the sum of primary and secondary education in the U.S. It is a shortening of "Kindergarten for 4-6-years olds through twelfth grade for 17-to 19-years old." It provides personalized, online education solutions for students in grades K–12 (www.K-12.com).

Studies concede her arguments as in today's world, new ways of communicating electronically fit the needs of particularly young people (Duggan 2015).

The elementary and secondary schools in larger rural communities such as Barrow, Bethel, Kotzebue, Nome, etc. where the population is 30 to 50 percent non-Native and in the road system or marine highway schools accessible by car or ferry and primarily non-Native, such as Kenai, Ketchikan, Sitka or Tok have characteristics of both the village and the urban schools. Many of these schools are administered by the same REAA[9] district or borough that administers the village schools in that region. The range of special programs for Alaska Native and American Indian students, and curriculum components, varies significantly within this group, depending primarily on the Alaska Native representation in the population.

The three largest cities in Alaska are Anchorage, Fairbanks, and Juneau, and their schools now serve nearly 30% of the state's Native American student population. These communities have school systems that are typical of most in the United States. Student populations are diverse with the largest minority group being Alaska Native. Nearly all urban schools in Alaska include at least one program that is designed specifically for students, who identify themselves as Alaska Native or American Indian. Special programs often include in-school academic tutoring, community cultural events, provision of a "school-within-a-school" or Native-oriented cultural heritage activities. Some districts also have an Alaska Native component in their district-wide curriculum plans (ANKN 2012).

Yasmine[ix] told me:

"Although I'm just in my forties I can remember that it was really hard for us kids growing up in a small village called Holly Cross near the Yukon-Kuskokwim Delta. Almost 200 people were living there. As long as I attend school there everything went fine with me, especially because hardly white people lived there. But when I attended Senior High School in Anchorage – where my parents sent me to – my only friends there were other Natives. We were outsiders living in a boarding school. Most of us only could travel home during the summer vacations because of the lack of money. I think my soul would have tolerated the absence of my community more easily if it had be possible to Skype or call the family with my own cell phone. That's the reason for me today using several social media to encourage Alaska Native teenagers to be proud of being native. In addition I make several YouTube videos where I show how to sing and dance in the old

[9] A Regional Educational Attendance Area (REAA) is an educational area that is established in an unorganized borough of the state.

Yup'ik manner or what sort of tattoos is originally Yup'ik. I must confess I am really happy about all the possibilities information technology offers me to distribute our traditional heritage."

Fortunately during the last 20 years primary and secondary schools were opened where the language of instruction is also in some of the Alaska Native languages in addition to English. Moreover, thanks to the World Wide Web and social media there are many possibilities to learn the indigenous languages via internet, e.g. the Athabascan language: Ya Ne Dah Ah Introductions (Chickaloon Village Council 2016). A more detailed description of the offers to learn tribal languages are written under chapter 4.2.

When I talked with Debbie ,[x] who is working for the Department of Fish and Game, she told me that although she is only a quarter Yup'ik she and her family are very happy to have the privilege to catch salmons during the season for their own "subsistence" use, but besides fishing she has hardly any direct connection any more to her roots. Only when her daughter asked her for Yup'ik cooking recipes she either calls her mother or aunt and sometimes she opens the internet where she can find some websites with focus on this theme. Due to her job she has to know a lot about the rights of the Alaska Natives and she is one of the persons, who publishes the actual information for the Alaska Natives about fishing and hunting quotas. Using modern technology such as the internet facilitates her job tremendously. She does not have to travel as much as her predecessor in the job to reach the communities. Even discussions, meetings and disclaimers can be done via voice over IP or Skype. For business she can hardly imagine life without ICT anymore.

3. Mobile and Social Network Revolution in Alaska

"Alaska is now open to civilization." (Eagle-Fort 2003) In 1900, the northernmost territory finally had a connection with the rest of the country. The telegraph system put in place by the U.S. Army Signal Corps heralded the start of Alaska's communication network. Yet, as hopeful as that message was, Alaska faced decades of infrastructure challenges as remote locations, extreme weather, and massive distances all contributed to less-than-ideal conditions for establishing reliable telecommunications (Hudson 2015). Since 2009, there have been a lot of projects intending to increase broadband access and adoption in rural Alaska, and particularly among Alaska Natives (Hudson 2011:379).

Due to the growing interest in information technology by indigenous people not only in Alaska but around the world, governments have realized the importance of developing the necessary infrastructure for this media. On the other hand, indigenous people have understood that this is a means of preserving their traditional cultures for future generations as well as providing their communities with opportunities for economic and social renewal (Dyson et. al 2007).

In 2010, the U.S. Department of Commerce, National Telecommunications and Information Administration has funded the initiative „Connect Alaska“ in order to find out where broadband service does and where it does not exist in Alaska. Although since the late 1970s all communities with at least 25 permanent residents have had access to telephone service with a sole and very slow dial-up Internet, these villages have no access via broadband, which would speed up their down- and upload facilities.

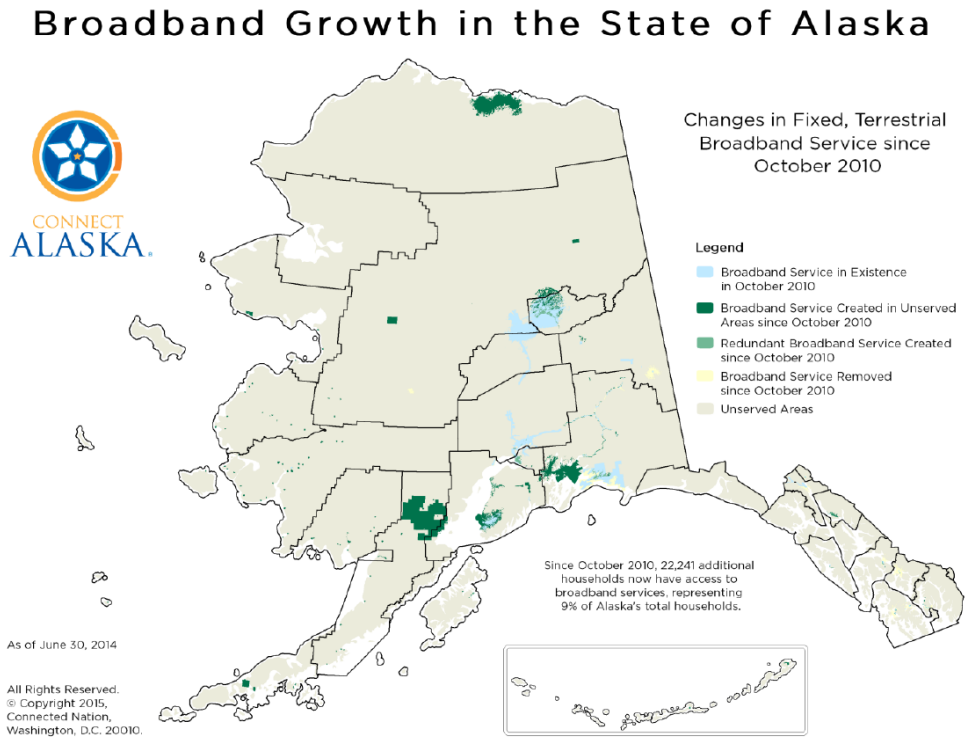

Figure 6: Broadband Growth in Alaska – Connect Alaska Report 2015

The result of the Connect Alaska study shows that at the end of 2014 91.01 % of Alaska households had broadband access at 3 Mbps [10] download/768 Kbps[11] upload, excluding mobile wireless and satellite services (Connect Alaska 2015).

The Internet would not only be a helpful tool for the dissemination of indigenous traditions but also for the employment and economic development of Alaska Natives. In 2011, 34 percent of

[10] Megabits per second
[11] Kilobits per second

Internet users in the U.S. conducted online job searches, but to the extent that tribal residents lacked Internet access, they were excluded from many job opportunities (NTIA 2013). There is also an increasing need for tribal workers to have the technical capabilities to continue the development of telecommunications plans and improvements for their communities, which is a good opportunity to reduce the unemployment rate of Alaska Natives.

Some tribes are addressing the shortage of technically-trained tribal members to plan and implement improvements on tribal lands through mentoring and partnerships with educational institutions. To address their need for more technically-trained tribal members, some tribes are developing their own training centers as well as establishing training relationships with educational institutions. A good offer for rural communities is the distance learning opportunities proposed by tribal colleges and universities. This is a sustainable method of supplying technically interested persons to develop and improve tribal telecommunications (GAO 2006). Having the ability to connect to the World Wide Web also has potential for Alaska Natives to engage in Ecommerce but also for tribal businesses to enter new markets and to promote tourism (Bregendahl and Flora 2002). Due to the fact that there are numerous social media profiles and Alaska Native websites the chance of enhancing the economic situation of people living in Alaska's remote regions is promising. Beyond that there are links to find open jobs on both of the listed indigenous websites of non-profit and profit organizations. ICT does not only preserve indigenous heritage and protect the knowledge of subsistence economy for the future generations but creates additional jobs and income. To increase job prospects for Alaska Natives is a main issue even for the government as Alaska Natives is among the poorest and most under-employed groups in the U.S. society, the poverty rate is over 25%. Some 27% have no health insurance (NANA 2017). To improve the job market for the indigenous people, Congress established the Small Business Administration's 8(a) program to help small disadvantaged businesses compete in the American economy and access the Federal procurement market. The program is aimed at businesses *"owned and controlled by socially and economically disadvantaged individuals."* And in the special case of Alaska also the Alaska Native Corporations (ANC) are supported. One of these groups is the NANA Development Corporation, which makes money that has a direct positive impact on the lives of the more than 12,500 Iñupiat of Northwestern Alaska, who own the company. With a part of the profit they're helping to create training and educational opportunities for NANA villages, preserving an important American culture, investing in NANA communities and ensuring the future of a people (NANA 2017).

Anita, one of my interview partners – an elder Athabascan woman – assured me that

> *"Athabascans are always interested in new technologies and inventions, which can improve their lives and they are fast in integrating these improvements also when they means to adapt slightly their identities or traditions!"*[xi]

My question, how far these cultural adaptations would go, was answered as follows:

> *"It depends how social media and Interne get used. Some people are easily influenced some are not; depending how intensive they are using Facebook or Instagram and which websites they are opening more often plus the influence of the neighborhood. As long as the knowledge about tradition and the belonging to a clan is implanted already in the kids, I'm not afraid about a negative influence from new media. The well instructed person will know where she or he belongs!"*

Anita's positive attitude is awesome but it is a fact that the emergence of new media plus globalization inevitably brings an enormous challenge for the traditional formation and definition of social or cultural identity. In other words, the use of new media is rocking the root of cultural identity by either weakening or strengthening the intensity of the relationship between people and community (Hampton and Wellman 1999). Personal identity as well as cultural identity, involving, amongst others social, national and ethnic identity, is dynamic. The identity of an individual is subject to constant change and adaptation to their own environment, thus the development of identity is almost the same in content to the concept of identity.

The environment affects a person's identity but this person at the same time designs his/her environment. Therefore, identity development is also in constant interaction with the environmental process. Identity development means the active shaping of identity by a person or a team or organization. The dynamic concept of identity is extremely visible in a world of information communication technology (Hall 1995).

The Triple Revolution - Social Network, Internet, and Mobile - shows that people's homes are no longer their secluded castles but rather bases for reaching out and networking - with family members, friends and relatives, community groups, and work (Rainie and Wellman 2012).

As a consequence of this revolution an important shift in the public and private lives of all these individuals' identities is taking place. A further major change has already started before implementation of ICT but was strongly pushed forward by this technology and important for the identity of women the major implications of the use of public.

It is no secret that over the last three decades, women's participation in the labor force has grown sharply, whereas men's participation has fallen over the same period (U.S. Congress Joint Eco-

nomic Committee 2010). In the United States, the number of women in the workforce has increased by 44.2% since 1984, with nearly all growth occurring before 2000 (U.S. Congress Joint Economic Committee 2010). Women are spending much more time out of the home than in the past (Jacobs and Gerson 2001). This trend involves a decline in occupational segregation, an increase in the average age of marriage and child bearing, and the movement away from the segregation of women's activities into "private" spaces and men's activities into public spaces. There is little doubt that the movement of women's activities into places outside the home is one of the most significant social changes of recent decades (Hampton et.al 2014).

Also Alaska Native women have started business careers leaving their homes, their clan and their community. As a corollary, living a subsistence life is becoming difficult and sometimes even impossible. As explained in the previous chapter subsistence and sharing is the part of the life of Alaska Natives, which defines their cultural identity. In all of my interviews each interview partner confessed that there was nothing more important for them than being of the subsistence lifestyle of their families and also being able to participate in sharing. Those, who couldn't do that, confessed that they hoped their children would be able to do that. For this reason they often sent their children to their grandparents or family members still living in a traditional subsistence way, mostly during summertime when the schools were closed, giving them the leisure time and the possibility to learn how to fish, hunt and harvest from the elders. Many children are also attending courses arranged by tribal organizations, where they learn the indigenous way of hunting, fishing, dancing, singing, sewing and sports. Unfortunately there are no actual statistics available about the number of children attending these courses.

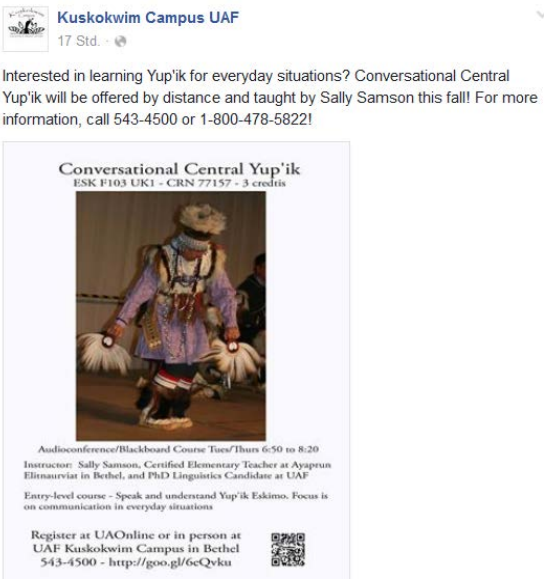

Figure 8: Facebook 4.5.2016 – Dancing Course Announcement

Due to their jobs, which often force the women to migrate temporarily and work far away in the cities with the option to come home only on weekends, they are confronted with influences from non-Native society, which have consequences on their identities. Most of my dialog partners denied this effect, because they hold the opinion that changes always happened and pointed to the stronger impact of colonialism on their lives.

All of the women I interviewed are or were employed, except for the thirteen year old pupil. During my interviews with them and despite the great range of ages, they told me about their experiences with subsistence and its integration with modern life and about how things have changed within the last thirty years, especially with the use of cell phones, internet etc. They also told me that they were instructing their descendants in subsistence. The message I generally got was that ICT facilitated their lives in more than one way.
Due to her age Anita knew a lot about changes in subsistence within the last seven decades. She told me many things, which were important to her as a young girl and woman and how dramatically some parts of subsistence changed due to climate changes and changes within the indigenous societies, mentioning also problems such as alcoholism and suicide by young people. Statistics show that between 2005 and 2014 1,525 persons had committed suicide, which is a rate of 22.3 suicides per 100,000 people compared to the rest of the Unites States where the rate is 12.57 suicides per 100,000 people (Alaska Bureau of Vital Statistics 2017).

She told me that when she was a young girl her family always moved between the winter village and the summer camp. They lived in a simple wooden hut and life wasn't so comfortable as today, particularly during winter season. Therefore she really preferred the summer camp. It was a very happy time for her as a girl playing around, collecting berries and herbs together with her siblings and other children of their clan, a carefree time. She is trying to keep this tradition up and invites her children every year to go to Minto in the North of Fairbanks to start with the summer subsistence work – fishing salmon and picking berries. When I talked to her, she was expecting the participation of all her daughters and her son, although she knows that only few of them will accept her invitation. She said, she never will give up her hope that once all of her children and grand-children will again come together for summer subsistence activities.

She remarked that in particular her oldest daughter was not interested in subsistence. She was married and lived in the city of Fairbanks and had rejected her invitation the last five years. Nevertheless my interview partner always hoped that her daughter would change her mind and final-

ly accept one of her yearly invitations. I remarked that since she was working she maybe couldn't have some days off. Anita answered that she always invited them for the weekend of Memorial Day, when nearly everyone has vacations. Her other children tried to come at least for a weekend to help. At least her son and her granddaughter were really interested in subsistence and supported her with her summer camp activities in Minto.

She confirmed that the invention of cell phones and the messaging system as well as email and other communication technology were a great assistance to her and her family and for the continuation of subsistence. She was enthusiastic when she showed me some Instagram pictures of her grandson dancing in Athabascan dress during a feast on her smartphone and stressed the importance of this *"stuff"* [iii] called Instagram where she could see all her offspring and other relatives and could publish photos from e.g. the summer camp activities or the hunting season. She confessed that her son or granddaughter uploaded the photos for her because she was not so competent with this media. This statement by a woman in her seventies is that it is possible to keep the traditions of the indigenous people alive with ICT by changing physical spaces into virtual ones. She is convinced that her identity as an Athabascan woman hasn't changed much in recent years but she indicated that the identities of all human beings vary depending on where they are and what they are. The important thing was not to forget one's personal roots.

> *"I was working thirty-eight years for the Episcopal Diocese in Fairbanks, first as a deacon than as a priest. I was the first Native female priest. For all that I never forgot that I'm Athabascan. I combined my parochial activities with my indigenous ones. When I had to keep a funeral I helped in parallel the family to organize a potlach to honor the dead person. To be honest the potlach today are not so cost intensive as in the past, where the wealthiest person gives the surplus of food to other members of a clan. Today all members of the funeral bring some food but we celebrate with the same dances and songs as my grandparents had done it."*

She took the said as proof for her stable cultural identity. Although Anita's confirmations of meanings, sounds, relations and logic changed over time she is staying embedded in her socio-economic environments and systems of adaptions to the Athabascan tradition (Schweitzer et al. 2014). Although Anita would disclaim it, long-term socio-economic developments have major effects on cultural identities, not least among indigenous peoples in Alaska.

At the end of our interview she asked me to get in touch with her daughters and her granddaughter to collect data about their attitude towards cultural identity, cultural tradition and the usage of ICT.

I got in touch with Rose and Renata her daughters and finally her granddaughter Anabel. Since my last conversation with Anita the residence of her granddaughter Anabel has changed twice. First she moved from Fairbanks to Juneau as she found a job as a reporter at KTOO and I could only talk with her via Internet. She told me in one of our Skype calls that she ~~is~~ was planning to attend the coming up summer camp in Minto with her grandmother just for the Memorial Day weekend as she did not have more time off. She really regretted this situation but she enjoyed working for a medium where she could broadcast many of her stories about the Athabascan traditions and in general could point to the obvious problems of indigenous people and explain their views and opinions about relevant and often political topics concerning the lives of the Alaska Natives. Now she is back in Fairbanks where she is again working for a broadcasting company. She told me:

> *"My grandmother is a great storyteller and I really enjoy talking with her. I am never getting bored by listening to the old stories and I like to spend time with her camping, shopping, watching movies or berry picking. Nowadays I have often a lot of stress and can rarely visit her."* [xi]

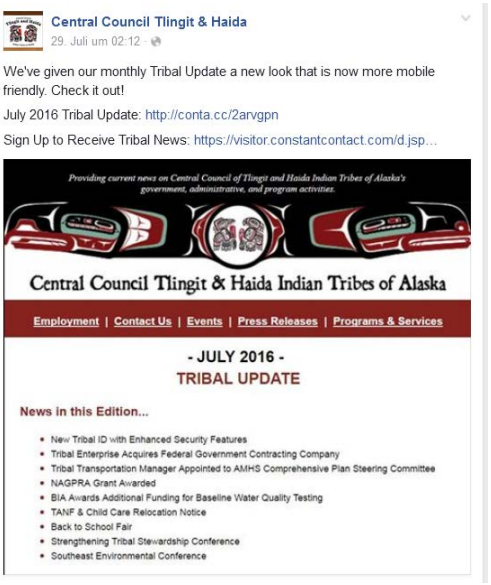

Figure 9: Facebook 4.5.2016 – Tribal updates

Nearly every Alaskan, whether Native or Non-Native, has at least a cell phone or even a smartphone. There are also a lot of Alaskans, who have PCs, Laptops or tablets and are using the WLAN, etc. On the one hand they are all using it in the same way as the rest of global users, viz. to communicate with others or get general information they need but on the other hand the Alaska Natives, no matter to which ethnic group they belong, use the ICT also as an archive for their written records and as a teaching tool for the young generation and for Non-Natives to learn about the subsistence way of life of the ancestors, how to use the traditional tools like the Ulu (indigenous knife) or even to learn their Native languages.

3.1 Alaskan Supply of Communication Technologies

Information and communication technology improves productivity, although the economist Paul Krugman has remarked that productivity is not the most important issue. This is because the key indicator of material well-being, national income per person, is fundamentally determined by the extent of labor productivity. With greater productivity, society can choose to enjoy more leisure, pay lower taxes, increase public spending or redistribute wealth without making a large proportion of people worse off (Triplett 1998). This is opposed to the traditional economic habitus of Alaska Natives, as already mentioned earlier, where the topic of sharing was explained. A further fact is the connection between indigenous people and the nature. Most of Alaska Natives are interested in sustainability concerning subsistence resources and maintaining instead of exploiting these resources.

In the 21st century people are continually discovering and adapting new ways of communicating electronically to fit their needs. The technology gives the users the opportunity to stay connected nearly everywhere.

Despite the misconception that Alaska is still infrastructural underdeveloped compared to the other states of the U.S., it has excellent cell phone coverage in many Alaskan regions and they are getting more. In the state of Alaska there are 28 known broadband providers and 14 cell phone companies, six of the latter being national companies and the other six regional companies. In the past, Alaska was dominated by smaller local providers such as ACS, GCI, and MTA, to name just a few. The larger carriers from the Lower 48[12] had roaming agreements with

[12] "*Lower 48"* describes the continental states of the United States excluding Alaska and Hawaii (Merriam-Webster 2017)

these local carriers. Nevertheless, the users need to accept that the cell phone will not work everywhere. Data service is excellent in towns and varies from good to poor in rural areas. There's a whole other world to Alaska that lives off the road system. Most of these towns and villages have cell phone coverage but Internet connections are often very slow. The villages usually don't have dual coverage but the internet-upload and -download possibilities are slow although a good, stable and fast internet access is important also for people in the outback (GCI 2016).

Several recent studies have examined broadband adoption and reasons cited for non-adoption among U.S. residents, with some data disaggregated by various demographic and ethnic criteria (age, education level, urban/rural, gender, ethnicity, etc.) The Federal Communications Commission (FCC)[13] carried out a study in 2009 to examine broadband adoption and use; the top reason given by non-users for not using the Internet was affordability. The 2010 report *„Exploring the Digital Nation"* by the National Telecommunications and Information Administration (NTIA), states that *"persons with low incomes, seniors, minorities, the less-educated, non-family households, and the non-employed tend to lag behind other groups in home broadband use."* The 2009 October-November report of the Federal Communications Commission shows, that nearly two-thirds (65 percent) of American adults use high-speed Internet connections to go online from home. According to the report 26 % of non-broadband users explained that home broadband Internet was too expensive to adopt. Broadband Internet offers for Alaska users range from a minimum of $ 59.99 for 50 mbps to a maximum of $ 149.99 for 1 mbps, at an average speed of 250 mbps. Usually 63% of Alaskan broadband users have 25 mbps permanently available (Broadbandnow 2016). In Greenland, where the basic circumstances such as remoteness, low density of population and harsh climate are similar, several companies are offering Internet mainly over satellite starting from $ 0.85 for 9 kbps to $ 134.85 for 2 mbps or for broadband ranging between $ 6.00 per 512 kbps to $ 254.85 for 10 Mbps (Satproviders 2016). Compared to Alaska, using broadband is more expensive in Greenland and therefore hardly used.

The FCC report provides further detailed analysis of broadband adoption gaps. 26 percent of non-broadband users complained that their main reason for non-adoption was the too expensive home broadband Internet. Among those, who did not use the Internet at all, price and perceived relevance were mentioned as key considerations. While helpful in rising our understanding of

[13] **The Federal Communications Commission** regulates interstate and international communications by radio, television, wire, satellite and cable in all 50 states, the District of Columbia and U.S. territories. An independent U.S. government agency overseen by Congress, the commission is the United States' primary authority for communications law, regulation and technological innovation (FCC 2016).

barriers to adoption among various groups including minorities, these studies do not have large enough samples of Alaska Natives to provide any valid conclusions (Hudson 2010:3).

A Native Nations Broadband Task Force recently was established by the Federal Communications Commission, as a segment of its implementation process for the National Broadband Plan. Nineteen members were appointed. Two of them were Alaska Natives, one person from KAWERAK Inc.[14], the native association serving Bering Straits Iñupiaq communities based in Nome, and one person from the Tanana Chiefs Conference based in Fairbanks. Since 2014 there has been only a member of the Tanana Chiefs Conference left. The FCC also issued two notices in 2011 on broadband matters specifically addressing native populations and native lands. These notices offer an opportunity for Alaska Natives to comment on their requests for broadband and on demographic and geographical conditions that need to be addressed in implementation of the Connect America Fund and other FCC initiatives or rule-makings. However, to take advantage of these chances, native representatives will probably require training and mentoring about both the specific issues and procedures to participate in FCC proceedings (Hudson 2011). There is a chance of new jobs in the information technology for Alaska Natives. This is a relevant issue as the unemployment rate for Alaska Natives is relatively high compared to white Alaskans (6.2 % to 11.3 % Alaskan Natives/American Indians – 2014 (BLS 2015). Further, most communities do not have individuals trained to meet local information technology needs; if a new user becomes frustrated with the experience there is no one to turn to locally for help.

Alaska Natives are beneficiaries of telecommunications delivered or supported services particularly in health care and education. In remote communities health care is served by native health aides, who rely on telecommunications for consultation with doctors or regional hospitals and for transmission of patient data. The telemedicine facilities are also used for training and continuing education.
As already mentioned under chapter 2.2 at the minimum of 10 students must have schools offering online instruction. Internet access plus other audiovisual instructional materials are important supplements to classroom instruction (Hudson 2011). For these schools a stable broadband internet connection is a must.

An analysis of digital diversity in Alaska should also contain the role of Alaska Natives in developing policies for communications services for Native populations, and in owning and/or op-

[14] **Kawerak** is a regional non-profit corporation (incorporated under State Law in 1973) to provide services for Natives throughout the Bering Straits Region.

erating communications carriers and other service providers. Indigenous media technologies offer Alaska Natives the possibility to make their voices heard, to network and connect, to distribute information, to revive culture and language, and to become politically and socially engaged and active (Budka 2015:3).

In the year 2009, the U.S. American Recovery and Reinvestment Act (Recovery Act or ARRA) assigned $7.2 billion *"to begin the process of significantly expanding the reach and quality of broadband services"* (GAO 2016). The Recovery Act allocated $2.5 billion for rural infrastructure projects to the Rural Utilities Service (RUS), which manages these federal Stimulus funds through the Broadband Infrastructure Program (BIP). Alaska got more than $117 million for BIP rural infrastructure projects. Extra broadband funding for rural Alaska has been provided by the Rural Utilities Service (RUS) through the state regulator, the Regulatory Commission of Alaska. RCA's Rural Alaska Broadband Internet Access Grant Program is proposed to facilitate long-term affordable broadband Internet services in rural Alaska communities where these services do not currently exist. By 2014 the broadband landscape of Alaska demonstrated a strong growth in infrastructure and deployment. From 2010 onwards until 2014 22,241 households gained access to broadband service with a speed of 768 Kbps download and 200 Kbps upload. Besides the usage of mobile wireless and satellite services "Connect Alaska" reported that as of October 2014 91.01 % of Alaska households had broadband access at 3 Mbps download and 768 Kbps uploads in rural surroundings there was an improvement in broadband internet with the capacity above mentioned from 63.76 % in 2011 to 82.53 % in 2014. Despite this impressive progress significant gaps still persist in Alaska, particularly throughout remote regions (Connect Alaska 2015).
The largest ongoing project, TERRA (Terrestrial for Every Region of Rural Alaska), has already linked up 49,000 residents in 72 communities via a system of 79 microwave towers and more than 400 miles of fiber optic cable and will provide further terrestrial connectivity for about 65 native Yupik villages in Bristol Bay and the Yukon-Kuskokwim regions. Another promoted project, SABRE (Southwest Alaska Broadband Rural Expansion), has intended to provide wireless 4th generation (4G) broadband service to southwest Alaska through a partnership between a telecommunications company and a subsidiary of Sea Lion Corporation, the Alaska Native Village Corporation for Hooper Bay and was finished in 2012.A third funded project tenders free satellite equipment and installation plus discounted service to residents, who do not have other possibilities to access broadband. The Broadband Telecommunications Opportunities Program (BTOP), established by NTIA to manage its $4.7 billion allocated under the Recovery Act, has sponsored two Alaska projects (in addition to state broadband mapping). OWL (Online with Li-

braries) started in 2011 and in 2013the OWL Project became State of Alaska funded. This project upgrades connectivity for several rural libraries, which are in indigenous communities (OWL 2016). Services will contain videoconferencing and web-conferencing, so that the libraries can be used as public computing centers. In 2011 another project, 'Bridging the e-Skills Gap' in Alaska, started to offer computer skills and broadband awareness training to encourage broadband adoption, particularly targeting Alaska Native villages. The project brings together 21 partner organizations throughout rural Alaska to increase technology literacy. It plans to generate up to 88,000 new broadband users providing training to more than 84,000 Alaskans, and to create more than 80 new jobs in isolated, primarily indigenous communities (BTOP 2011).

All of these projects are going to increase broadband access and adoption in rural Alaska, and particularly among Alaska Natives. Alaska has come closer to narrowing the digital divide among its residents, bringing a wealth of information and opportunity to its numerous citizens, who live off the road system in remote and rural villages. But it is obvious that a great amount of additional work remains in order to ensure that all Alaska communities and residents, even those living off the road system, are close to using high-speed broadband (Connect Alaska 2015).
It will be important to evaluate the impact of the above mentioned activities in terms of number and demographics of new users, types of usage, and resulting benefits for individuals and their communities (Hudson 2011).

Profit for providers and affordability for consumers are typically addressed through standard service policies. In Alaska, they may be regarded as two sides of the same coin. Without federal subsidies, Alaska's vastness and low population density would make the use of telecommunications prohibitively expensive for rural communities and unattractive for private sector investment, thus severely limiting the capacity for digital diversity (Hudson 2011). Stopping this support would mean that the clients, many of whom are native residents of small, isolated communities, would be harshly disadvantaged (Hudson 2011).
As far as the user is concerned, the following observations can be made:

- ***Gender: Women and men use social media at similar rates –*** *Women were more likely than men to use social networking sites for a number of years, although since 2014 these differences have been modest. Today, 68% of all women use social media, compared with 62% of all men.*
- ***Racial and ethnic similarities:*** *There are no notable differences by racial or ethnic group in using social media today*

- ***Community: More than half of rural residents now use social media –*** *Those, who live in rural areas, are less likely than those in suburban and urban communities to use social media, a pattern consistent over the past decade. Today, 58% of rural residents, 68% of suburban residents, and 64% of urban residents use social media.*

  (Pew Research Center 2015)

While there are dozens of social network sites, participation tends to follow cultural and linguistic lines. Only few sites successfully support groups from different nation-states(boyd 2007).

What follows is an overview of changes over time in the use of social media by various demographic groups. Numerous Pew Research Center studies report on different social media platforms such as Facebook, Twitter, Instagram, Pinterest and LinkedIn as well as about social media usage on mobile devices in general.

The following tables show only data collected in the U.S. The first one reveals that social media is a tool more often used by young people than by older ones in the U.S. If one transfers this finding–to Alaska Natives, where 39 % are under 24 years old (Census 2012), one can state a high usage of social media within this community.

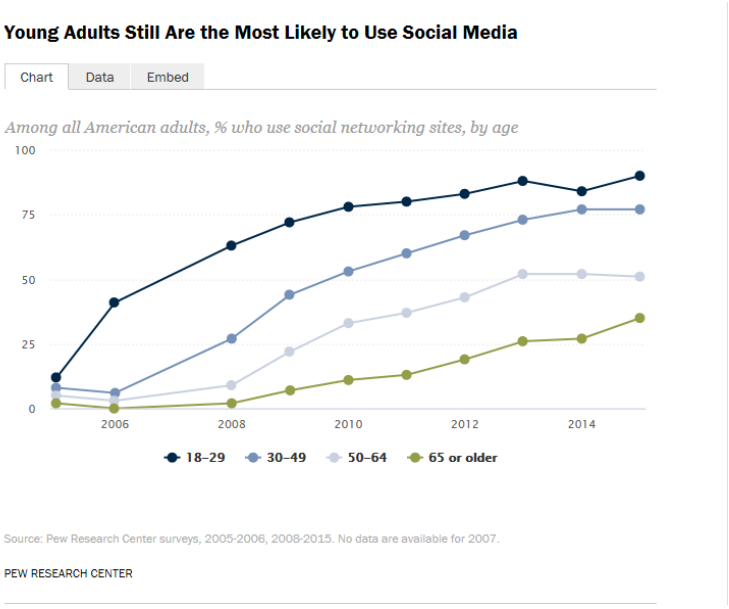

Table 4: Use of Social Media (Pew Research 2015)

While the usage among young adults started to level off as early as 2010, there has been a rise in usership among those 65 and older since then. Starting in 2005, the study shows 2% of seniors used social media, compared with 35% today (Perrin 2015).

Statistics about cell phone activities in the U.S. in 2013 (Duggan 2013) show that

"Fully 91% of American adults own a cell phone and many use the devices for much more than phone calls. In our most recent nationally representative survey, we checked in on some of the most popular activities people perform on their cell phones."

Cell phone activities

The % of cell phone owners who use their cell phone to...

81	send or receive text messages
60	access the internet
52	send or receive email
50	download apps
49	get directions, recommendations, or other location-based information
48	listen to music
21	participate in a video call or video chat
8	"check in" or share your location

Source: Pew Research Center's Internet & American Life Project Spring Tracking Survey, April 17 – May 19, 2013. N=2,076 cell phone owners. Interviews were conducted in English and Spanish and on landline and cell phones. The margin of error for results based on all cell phone owners is +/- 2.4 percentage points.

Table 5: Cell phone activities (Pew Research 2015)

The above table confirms the information I got from the interviewed women. Overall, almost all activities have shown a steady upward growth over time. Due to a research in 2013 younger adults (those aged 18-29), especially the urban and suburban-inhabitants are especially likely to use their phones in a variety of ways (Duggan 2013).

As I already mentioned, about 80% of the Alaska Natives own a cell phone. I interviewed an Athabascan woman in her mid-seventies and another one older than fifty and I also could talk with a young Iñupiaq woman, who just celebrated her 23th birthday. They all had cell phones and used them frequently, but in different ways. These ways will be explained later on under chapter five.

Thus the older Athabascan woman explained to me, as mentioned before, that she enjoys the phone, because she can get in contact with friends and family fast and, easily, read her emails and be up to date with the information sent by their Tanana Chief Organization. She also finds the latest topics concerning fishing salmon or hunting published on the websites from the Bureau of Fish and Game or Land Management. She additionally tries sometimes to send text messages but finds it difficult to type correctly. Not only this woman but also the several other interviewed women assured me that they cannot imagine a life without such technical achievements as ICT anymore. They are convinced that their lives have become easier by these tools. They get in contact with all their clan members whenever they wish, they can send short messages when it is impossible to phone or to have a written proof for the sent messages.

According to a study by Maeve Duggan (2013), which concerned the conclusions of a survey on Americans' use of the internet, text messaging is one of the most prevalent cell phone activities and is especially popular among younger adults. Another result of Duggan's research said that "six in ten" cell phone owners access the internet with their phones but those in rural areas are less likely to do so than urban users or suburbanites as they often have no or bad mobile internet access. . This applies to Alaskans, although the study has no explicit results about Alaska Natives.

"Among those, who use the internet or email on their phones, more than a third (34%) says that they mostly access the internet from their cell phone". (Duggan 2013)

Accessing the internet

% of cell phone owners who access the internet on their phones

All cell phone owners (n=2,076)		**60%**
a	Men (n=967)	62
b	Women (n=1,109)	59
Race/ethnicity		

Table 6: Accessing the Internet (Pew Research 2015)

During my interviews some women said that their cell phone is their primary point of internet access. It is a fact that most cell phone owners use their phones more for surfing the web, checking email, snapping photos, and updating their social media status than actually placing calls. This is because access to cell phones is easier than to the Internet via computer and much cheaper compared to broadband access (see chapter 1.3.2.).

Some other things done by cell phone, which were mentioned by the interviewees, were reading, writing and sending *"Email"*. According to Duggan's report half of the cell phone owners send or receive email from their phone. Furthermore, half of all cell owners download apps to their phone and in addition, nearly half (49%) of the cell owners have used their phones to look up directions, recommendations, and other information related to their location. They are also listening to music (Duggan 2013).

Two-in-ten owners are using their cell phone for video chats.

> *„36% of smartphone owners report using messaging apps such as WhatsApp, Kik or iMessage.*

> *These kinds of apps are particularly popular among young adults. Half (49%) of smartphone owners ages 18 to 29 use messaging apps. These apps are free, and when connected to Wi-Fi, they do not use up SMS (Short Messaging Service) or other data. Furthermore, they offer a more private kind of social interaction than traditional social media platforms such as Facebook or Twitter."* (Duggan 2013)

The results in this report reveal the remarkable and rapid emergence of different kinds of communications tools serving different social needs. These tools add to an already complex and varied terrain of online and mobile interaction (Duggan 2015).

The social media tool „Facebook" remains over all the years since its implementation the most popular social media site – 72% of online adults are Facebook users, amounting to 62% of all American adults including the Alaska Native women. Those on Facebook stay highly engaged with 70% saying they log on daily, including 43% who do so several times a day (Duggan 2015**).**

Broadband users such as those of my interview partner, who are living in the big cities, overwhelmingly view the social aspects of the Internet as very important to them, while watching TV, videos or movies online and playing games were deemed less important (Horrigan 2010):

- 68 percent cited the Internet's capacity to ease communication with family and friends.
- 39 percent said they used the Internet to keep up with community news.
- 35 percent said they used the Internet to share content, such as photos, videos or text.

The service and support for broadband is different to the rest of the U.S. More than $140 million in Stimulus funds has been granted to projects intended to extend broadband and improve Internet and broadband usage in Alaska, primarily in rural indigenous communities as mentioned already earlier. Stimulus projects are typically meant to create jobs quickly – and to support projects that are "shovel ready." Yet, these may be no more than a form of short term construction and installation jobs. Long term employment and economic impact requires a longer time, an understanding of the economic needs and goals of the region, and training to instruct necessary ICT skills. The delivery of this technology presented more difficult problems involving technical and organizational structure. If, after weighing the potential social and cultural effects, village residents elected to acquire television, a delivery system based on low-power transmitters in the villages, local government as the basic organizational and economic unit, and a statewide nonprofit service organization, was the feasible system best suited to village needs (Hills 1981). These low-power transmitters are still used – as reported by Mary– during their summer subsist-

ence activities when they are moving for some days to a hut in the outback then such transmitters are necessary component parts of many electronic devices that communicate such as cell phones, wireless computer networks and Bluetooth enabled devices.

Analysis of the questionnaire shows that all participants have used the Internet. Nearly 80% indicated that they have used the Internet for more than 10 years. In terms of frequency, all but one of them used the Internet daily; the person, who did not report a daily use, admitted a usage on at least a weekly basis. Most of the participants had Internet access in offices and homes. The less popular Internet access locations were libraries, schools, and community centers. In regard to the devices, both desktop computers (75%) and mobile/smart phones (80%) were the most frequently used devices to get into the Internet (Du et al. 2015).
Asking for their reasons of using the Internet, 15 out of 16 internet users (95%) mentioned that the Internet provided a wide range of information. Eight participants believed the Internet was fast and easy to use, which saved their time, energy and cost (e.g. searching for topical information from the tribal organizations or from the Bureau of Land Management).
A major challenge is the price and slowness of Internet connection. As Tina, one participant commented, *"I hope that the Internet upload and download speed in our community could be improved in the nearest future."*

Thanks to the subsidized development of the infrastructure for the information and communication technologies, Alaska has better cell phone coverage in large parts of its territory than similar countries like Greenland, but stopping subsidies would mean that the customers, mainly native residents of small, isolated communities, would be severely disadvantaged.

No statistics for Alaska Natives are currently available but there is recent information about Internet usage in Alaska as well as about the Internet usage of American Indians / Alaska Natives. According to the most recent information in the U.S. Census 92.9 % of Alaskans are living in a household with a computer and 82.6% have already high-speed internet use (Census 2014). A NTIA (2010) study states that 42.6 % of American Indians/Alaska Natives are using broadband at home. Unfortunately there is no explicit breakdown for Alaska Natives. Overall, approximately 86 % of American Indians and Alaska Natives in urban and non-urban areas are cell phone users. However, while there may not be differences in mobile adoption between urban and non-urban areas, there is a clear distinction in the householders' computer and Internet use in urban areas as compared to non-urban areas. Non-urban American Indian and Alaska Native

households (61 %) are less likely than their urban counterparts (75.9 %) to own a computer and are less probably to use the Internet (50.7 % compared to 71.1 %) (Parkhurst et al. 2015).

Within the area of the bigger cities there are a lot of Base Transceiver Stations (BTS) “cell towers“ as they are colloquially referred to. Anchorage has around 80 towers and along the Alaska Highway about 100 towers were ready at the end of 2015 (Cellphone 2016). The Arctic Slope Telephone Association Cooperative Inc. is running several towers in the remote north of Alaska such as in Barrow, Prudhoe Bay, Coldfoot or Kotzebue etc. But the users especially in the rural areas still complain about the poor service. This lack of services in the outback is a disadvantage because it means a discrimination of those persons, who have to live there.

My findings indicate that cell and smart phones are the preferred device for accessing the Internet by indigenous users. They use it for searching for information, online games and logging on to social media. The use of cell phones in calls, text messaging and its capacity to capture and send images is consistent with the strongly oral and visual culture of their communities (Du et al. 2015).
However, mobile Internet has its limitations as Paula pointed out: *“The Internet connection is so costly and unreliable – downloading large files is often limited and terrible slow”*.

3.2 Social Media and Web 2.0 - a Way to keep up Traditions?

Alaskan indigenous knowledge belongs to a body of knowledge and skills that has been developed outside the standard educational system of the U.S. This know-how is embedded in a certain culture and is often linked to a special society. Above all this knowledge has helped communities to survive by making decisions about food distribution, security, health, education and natural resource management. The indigenous cultural oral heritage consisted of traditional stories, songs, dances, rites and ceremonies, e.g. for hunting, gathering and fishing, which reflected their beliefs and livelihood. Besides Alaska Natives other arctic countries like Greenland or Canada are using various media to share their cultural materials as well as to address shared issues such as climate change, ocean resources, and natural resource exploitation (Hudson 2015:254). The difference to Alaska Natives is their way of life. To Alaska Natives subsistence represents the very core of their existence as indigenous people. It is a spiritual, cultural, physical, and economic means to continue their heritage. Subsistence is the essence of their being. Celebrations, stories, songs, dance, and spirituality are derived from subsistence activities. These activities

teach skills that determine the future success of younger tribal members as providers and productive members of the village and ensure the perpetuation of the culture for generations to come. Through subsistence activities, children learn to share, respect, and provide for their elders, care for the land, and coexist with other persons and cultures.

Culture can and will change, and constantly does so through the generations whilst traditions are handed over from generation to generation in order for things to be done in the same way to keep up the oral stories, rites, dance of the ancestors. Tradition is seen as the internal passing on through time of cultural behaviors (Kroeber 1948:613). Accordingly, the transmission of indigenous culture to the younger generation is of considerable interest and importance as it relates to whether or not the culture will survive pressure for assimilation into mainstream society (Harris and Harris 2011).

Cultural forwarding is the process of putting down tradition in order to preserve a culture. It embodies the passing on of culturally relevant knowledge, skills and values from one person to another person or from one culture to another culture. Culture is not handed on biologically or genetically, but rather it is learned by experience, participation and observation within the family and the community. Indigenous communities often strive to retain their traditions and they practice them with pride as a way of retaining their identity. Therefore, cultural heritage plays an important role in retaining the cultural norms of communities. There are many channels by which cultural knowledge and values can be transmitted and increasingly, media channels, including new media, are playing this role (Harris and Harris 2011:3).

One of the most significant developments connected to social media is the growth of social network sites (SNSs), such as Facebook, Twitter, LinkedIn, MySpace, Cyworld, Google Plus and nearly daily new platforms are introduced. Although sites of this nature first emerged around 1997, they rose to cultural significance as a phenomenon in 2003, when Friendster first attracted mass media attention (Ellison and boyd 2013). Less than a decade later, millions of people of all ages across the globe have joined SNSs (Anderson and Bernoff 2010). In the U.S., 65 percent of Internet-using adults report using social network sites such as Facebook, MySpace, or LinkedIn (Madden and Zickuhr 2011).

The use of social media involves a relationship between Internet use and socialization: *"Social networks are large and diversified thanks to the way people use technology,"* because digital devices *"help people manage a larger"* set of ties (Rainie and Wellman 2012:23). Only a small segment of Internet users have *"only virtual friends whom they have only met online"* the major part of users know most of their digital counterparts in real life (Bollen 2011:7).

These virtual social network connections and relationships are comparable to the physical ties of Alaska Natives to their families, clans and communities.

Beginning in2007, the three crucial features of a social network site appeared to be the profile, the connections lists, and the functional ability to traverse those connections. During the following years the profile has shifted from a self-presentational message created by the individual to a portrait of an individual as an expression of action, a node in a series of groups, and a repository of self and other-provided data (Ellison and boyd 2013).
Today's profiles are not simply self-descriptive, static text, but rather a dynamic combination of content provided by the users, who update their status frequently, and give activity reports when they have joined new friends or groups and content provided by others adding virtual gifts such as "tagged" photographs and/or system-provided content such as a subset of one's Friend network and activities on third-party sites (Ellison and boyd 2013:4).

Indigenous people throughout the world have been actively participating in networked information technologies and their forerunners for several decades (Dyson et al. 2007). The same is true for Alaska Natives but in addition the social development in the Arctic has been influenced over the past by forces originating in external cultures undergoing rapid industrialization. The European incursion had three major effects on the Alaska Natives: introduction of fatal diseases, reduction of animal resources, and technological revolution. Together they supported the dependence of the indigenous people on the white people until today. But on the other side it is a fact that due to the introduction of Western technology the lives of Alaska Natives got easier in many cases. One of these positive inventions is communication over vast distances, which plays an important role in bringing the Natives into contact with not only the "*western"* society but with their communities, friends and family members spread over Alaska and further (Dicks 1977). Some authors claim that due to globalization the currently dominant influences of western ideas, products, way of lives etc. may cause consistent changes in the identity and culture of all people worldwide, not only the indigenous ones. This argument is rejected by others, who claim that people will put some „local slices into the global portions". This conglomerate of global and local is called glocal, a term first created by R. Robertson (Robertson 1995:25).

In the most general sense, globalization is a matter of increasing long-distance interconnectedness and has many aspects. It is a fact that people have always found ways of meddling with other people's environments. The keywords, which are more appropriate, would be "flows",

"boundaries", and "hybrids" (Hannerz 1996). Arjun Appadurai (1990) suggested that one could see the "global cultural economy" as implicating the dimensions of ethnoscapes, mediascapes, technoscapes, finanscapes and ideoscapes. Another argument states that civilizations are *"not as static objects but as limited processes of flow in time"* (Kroeber 1952: 404). To keep culture going, people as actors and networks of actors have to create culture, reflect on it, experiment with it, remember it or store it in some other way, debate it, and pass it on (Hannerz 1997:5). Fredrik Barth (1984), was engaged with culture in processual terms as seeing culture as something that people *"inherit, employ, transmute, add to, and transmit"*. But the spatial sense of flow approached by Barth as well, in noting that the separableness, coherence and contents of co-traditions could be investigated in terms of their geographical distribution as well as social organization, history, and prospects (Barth 1984:80-82). Globalization or “flows” will not lead either to less culture or more are culture is a vivid object. The same opinion about influence on culture can be detected in consideration with media. The media in their growing variety have also increased their capacity for handling different symbolic modes, one by one or in combination and hence their influence on individuals.

Already with the introduction of the printed word people realized that there were others much like themselves beyond the face-to-face community. The leap out of the local was made by way of media technology and furthermore was a leap of one human symbolic mode, language, transformed from something heard into something seen. Language may be foremost among the symbolic capacities, which humanity has at its disposal. Language also determines the social affiliation to an ethnic or national group. The printed word has helped give language a head start over other symbolic modes in defining cultural boundaries. In the past language has dominated the thinking about cultural boundaries to nations expressing themselves through other symbolic modes like music, gesture and their combinations, mainly confined to local, fact-to-face settings.

Media technology does not only allow the user to reach out through space but also to bind time by allowing them to record things and thus preserve ever more kinds of ideas and cultural forms. The only problem with recording is that the cultural heritage just grows and grows and that there will soon be a storage problem. Those media, which are more interactive, can begin to achieve some of the efficiency, which face-to-face interaction has through rapid feedback. Communication media is accused of demeaning the quality of culture and exterminating the autonomous places of culture and the diversity of cultures. ICT should homogenize and lead to cultural uniformity. Actually the contrary is the case. Culture has recovered a mechanism of the reproduction of diversity once located in autonomous communities (Baumann 1992). Instancing the Alaska Native oral culture, which had survived several years of threat and colonialization became

stronger, their members more involved in their traditional culture and finally visible for a broader audience than the indigenous groups.

Critics maintain that oral presentations are different to media presentations. Indigenous people show their traditional dances in YouTube videos or on Facebook to allow even the non-Natives to watch them. The question arises whether these shows are really traditional or just made for the promotion of the Natives. Z. Bauman (1992:28) argued: *"We live at present in a habitat of diffuse offers and free choices."* It is not simple to separate fake from the authentic or a touristic production.

As has been said before, the social media are especially qualified to give indigenous people the chance to contact persons, who have the same background and thinking. For some users the internet offers a space to get help for emotional problems (Hardey 2002). Yasmine told me that she sometimes uses the social media to get rid of her frustration or anger about bullheaded persons, who treat her as second class, because of her native roots.

Yasmine several times stressed in the interviews the importance of YouTube and Facebook. She had many problems during her youth caused by mobbing by white schoolmates and later on by other Non-Natives.

> *"I had a major problem in High School. I got pregnant and didn't want to tell it to my parents because I didn't want to disappoint them. I was so desperate that I tried to make suicide. Fortunately my father found me crying with a knife in my hand in our kitchen and he asked me why. I couldn't tell him. So I asked our school health aid to tell my parents about my pregnancy. My father didn't understand why I didn't inform them myself. As a result and because of my suicide attempt he brought me to a psychological council. When I saw this white woman in her business dress with a name card on her jacket the first time, I couldn't get in any emotional relationship with her. After the first sessions I didn't come again because the talking therapy didn't help me. I couldn't listen to her. My emotional problems didn't disappear and so I started drinking. I was drinking at work and at home; I used every situation to get drunk. But since 2011 after a good therapy and a hard long way I'm finally dry. I thought I must help others, who are in the same situation. First I wrote a book "Behind the dark walls" but now I'm using videos and social media entries to reach people in need. I think that is the best way to catch them."*

Often Facebook users employ idiosyncratic and Facebook-specific literacy practices, which gives weight to the larger hypothesis of the software service as an ideological setting designed to

calculate and standardize human behavior. Specifically, text action and automation within Facebook determine how the software service intervenes in the communicative flow between/among profile owners and profile recipients (Eisenlauer 2013).

Technological innovations correlate strongly with changes in the social customs and communicative practices surrounding new technologies. This is especially true of the start of Web 2.0 technology, which has brought a wide range of new software services (amongst others the social network sites). The user has started to accept the Internet as a social space where they can meet other people, chat with friends etc. Furthermore, everyone can now be his own moviemaker, author or journalist, as publishing is becoming more and more a practice of the masses (Eisenlauer 2013). In the last few years ICT have gained tremendously in importance globally including Alaska and the Alaska Native women. As mentioned in the previous chapter the women often are using their cell phones also as their internet access and being members of various social media as Facebook, Twitter, Instagram etc.

All online services offer users powerful means of sharing, organizing, and finding content and contacts. (Prathap et al. 2014:17). In the questionnaire thirteen of my interview partners indicated that they used social network sites daily, mostly Facebook.

Recently two gigantic technologies, the Facebook and the WhatsApp Messenger have gained huge popularity with their distinct features. To enhance user experience and attract more persons to use Facebook, the social network has launched many features that allow a close integration with a lot of other websites and producers of applications that start via Facebook (Prathap et al. 2014:19).

Presently Facebook has more than 600 million followers, who use Facebook through mobile devices. In contrast to SMS WhatsApp Messenger works on different platforms and on a number of devices, but the user must have access to internet to send but can receive messages for free. Also, the messages were not sent to the phone inbox, which has been changed in 2016, where a voice message services starts to be offered. It only works with broadband or WiFi (Prathap et al. 2014:19). a

WhatsApp is an application that offers numerous benefits to the customer. It provides the best features that an internet messaging application can provide to the users. Facebook too provides communication features and social feeds that are found useful by many users. The timeline likes and leftovers are the standout features of Facebook (Prathap et al. 2014:24).

Four of the interviewees explained to me the advantages of WhatsApp and, respectively, Facebook's Messenger. They can send messages directly to a special person and can add pictures

and/or emojis. If the receiver is online, the message can be seen and read within seconds. In addition, the sender can see whether the message has been read or not. WhatsApp and Facebook can also be used for business promotions but their personal Facebook entries are only confined to friends and family.

In a long term U.S. social media usage study between 2005-2015 (Perrin 2015) it was discovered, that the old adage, which says “Birds of a feather flock together”, occurs in a network when it disproportionally favors connections between vertices with similar characteristics. Recent results indicate that beyond demographic features such as age, sex and race, even psychological states such as “loneliness” can be assortative in a social network (Pescosolido 2006). My dialog partners agreed with the already mentioned with the constraint to accept persons as “friends” concerning business connections.

Another older form of disseminating traditional heritage is broadcasting. Native American Public Telecommunications (NAPT), originally founded as the Native American Public Broadcasting Consortium in 1976, has gained notable influence over the way indigenous peoples in North America are represented. Funded largely by the Corporation for Public Broadcasting, this nonprofit organization’s headquarters are at the Nebraska Educational TV and Radio Center in Lincoln. With a majority-Indian board, it aims to be “the authoritative national resource for authentic, culturally educational and entertaining programing by and about Native Americans” (Ginsburg et al. 2002:63).
Also, NAPT has provided support for five national Public Broadcasting Service (PBS) pro-gram series and commissioned several dozen independent films and videos for public television. Moreover, it has created its own indigenous media company, Vision Maker Video, which claims to have the largest collection of “culturally authentic Native American videos” in the United States, most of them produced, coproduced, or written by Indians.
Whatever the technological means of cross-cultural communication are, and however great the measure of media control will be, tribal groups and media-makers must confront a vexing question. What is “culturally authentic” in contemporary indigenous communities (Ginsburg et al. 2002:63)?

Sharing is the constitutive activity of Web 2.0 (John 2013a), and is the expression that describes the mode of participation in SNSs and digital communication more generally. But it is a term with a powerful set of associations: “*Sharing is, by definition, good (hence, for example, the*

struggle over the framing of the piracy/file sharing debate)". However, if sharing is a type of communication characteristic of the users' participation in contemporary ICTs, it is also a type of economic activity, as connoted by the term 'sharing economies', which can be of production or consumption. Sharing economies of production are typified by searching machines as Wikipedia (John 2013b:3).

The sharing feature of the above mentioned software tools can stimulate cultural transmission and the process of passing down tradition in order to preserve a culture. Indigenous communities often strive to retain their traditions and they practice them with pride as a way of retaining their identity (Harris and Harris 2011:3). The oral tradition is the means by which Alaskan indigenous cultures as well as other oral indigenous cultures have historically passed on their values between generations. The research reports have recorded in great detail how the increase of social media has affected such things as identity and culture.

4. Staying Connected - Data Analysis

> *"It is often said that [media have] altered our world. In the same way, people often speak of a new world, a new society, a new phase of history, being created—"brought about"—by this or that new technology: the steam engine, the automobile, the atomic bomb. Most of us know what is generally implied when such things are said. But this may be the central difficulty: that we have got so used to statements of this general kind, in our most ordinary discussions, that we fail to realize their specific meanings . . . "* (Williams 1975)

Williams wrote these words over forty years and their topicality has not changed. His statement is still valid and relevant today. Some of the interviewees confirmed William's argument. They told me that these days they are receiving needed information about subsistence economy faster thanks to the assistance of ICT. This did not automatically imply that the outcome or productivity of their harvesting, hunting or fishing is more profitable or better. Only the information flow has speeded up. Knowing that they are allowed to fish a certain quota of fish per person doesn't mean that they can actually catch this quantity. Subsistence economy strongly depends on various circumstances such as the weather, existing resources or the financial potential of a person, clan or community. All the digital technology facilitating their lives is useless when this technology is not affordable or other circumstances make it impossible to do so.

In the following chapters the results of the analyzed interviews are described, showing the opinions of my dialog partners on the impact of the information and communication tools on their lifestyle, culture and identity with cross references to literature concerning this topic and my own observations.

At the beginning analyzing the different data types for my thesis seems to be a little bit massy. I started with transcribing my personal interviews completely, which I did last year in Alaska. Then I added my transcripts from the Skype interviews and encoded them. As my original research questions were a bit different to my final master thesis questions I had to find a way to filter the existing data so that they fit to my new research field.

Under chapter 4.2 the listed websites, which are most frequently used by the interviewees, are investigated and interpreted with focus on traditional culture and its presentation there. Finally under 4.3 several YouTube videos are mentioned and I discuss their authorship and audience. I also sent the questionnaire mentioned – attached at the end of this paper – to the women I interviewed via e-mail to be able to make a small statistical abstract about the use of different social media, YouTube videos, indigenous websites and cell phones. In the following chapter the analysis should show the dimension of impact of ICT on the interviewed women and as they see this influence themselves.

The evaluation of the questionnaire will be compared with the analyzed interviews.

4.1 Sixteen Women and their Individual Use of Social Media

Some scholars (Savard 1998; Dicks 1977) looked at the impact of ICTs when they were first introduced in the Arctic, arguing that they would bring problems to indigenous culture given that Aborigines were not culturally attuned to adapting these technologies. This argument is related to those studies, which suggest information and communication technology is a new form of colonialization for the indigenous people. Such an assertion is paternalistic and not comparable with the old form of colonialization, which subdued people against their will. New technology, however, can be adopted voluntarily, as already mentioned in the first part of this paper.

There is evidence for this claim in some examples of entries in the social media and responses from my interviews. These involved not only the interviewees but also comments and “Like” statements by additional Alaskan people.

Social network sites are based generally around *Profiles*, a form of individual or less frequently of a group home page, which offers a description of each member. In addition to text, images, and video shaped by the profile owner, the social network site profile also contains comments

from other members, and a public list of the people that one identifies as "*Friends"* within the network (boyd 2007).

It is striking that the selected women communicated in English in 90 percent of their dialogs. To be honest, I expected just the opposite. Asking them why they did so, the answers were quite similar.

I will start with Mary. In this research she was the top user of social media not alone as a private person, but also as a representative of Inupiaq women. She uses English in her Facebook, Instagram, Twitter, and Pinterest entries and in the past in her blog, but she often mixed in Inupiaq words. In reply to my question why she is mostly using English in her social network entries she said that the family of her husband had no indigenous background and did not understand her native language and many of her friends and followers – such as me for example – were not perfect in Inupiaq or did not know a word at all. So she used English out of courtesy and to share her experiences. With her mother, sister or other native relatives her communication is in Inupiaq. I emphasized the use of the language as this is one of the points, which stands for the membership of an indigenous group. Anita and Doris, my oldest interview partners, admitted that they talked and wrote in English most of the time, arguing that they grew up in the area of white men '*imperialism'*. It was the time when no pupil was allowed to speak his/her own native language in school. Native children were sent to boarding schools out of Alaska in one of the Lower 48 states to cut off their roots and force them to assimilate the habitus of the mainstream society.

In the late eighteenth century, the U.S. government desired to acculturate and assimilate American Indians including Alaska Natives as opposed to instituting reservations, and promoted the practice of education Indian children in the ways of white people. To aid this, the Civilization Fund Act of 1819 provided funding to societies, who worked on educating Indians, often at schools. When they arrived at school, students were given English names, short haircuts, and uniforms. They were not allowed to speak their own languages, often facing punishment for doing so, and were forced to take on Christianity (Adams 1995). It needs more than 150 years that this educational system has changed. Anita told me:

"I was about four years old, both my mother and my father spoke Athabascan language ***Denakk'e****, but my mother also could speak English. So my siblings and I became bilingual. My mother made sure that we understood English because she knew what was coming in school—that we would be forced to speak in English".*

Doris confessed to the strong influence on her of her time in school and later at the University when it was forbidden to speak a tribal language. In order to avoid punishment she got used talking and writing in English.

Doris remarked: *"But mentally I'm thinking in Denakk'e and I'm often dreaming in Denakk'e."*

So both women confessed, to speak mostly in English and write instant messages or entries in social media in English. They added the same argument as Mary, that they had many friends, who were not native and did not speak or understand their native language. All the other interviewees confessed to mix English and their indigenous languages both in social media and in real talks or discussions within their families or indigenous communities. Sometimes they are using English with tribal words sometimes their tribal languages are mixed with English words. The youngest of my interviewees, the thirteen year old girl Karo[xii], who has just a *"standard"* cell phone for calling and sending SMS, has nevertheless no Facebook account and is allowed to use the family computer where her mother can control her in- and outputs. Karo the youngster explained how she is merging the languages:

"First of all I really don't miss social media. I only can write and send emails and use the Internet for school. It's ok for me, because my older brother had been treated in the same way. But writing emails to my best friends I prefer Inupiaq. Now when the meaning of an Inupiaq word is similar to but not exactly that of an English word, I sometimes took the English word. Most of the time I talk in English because of my dad, until my mom asked me to talk with her in Inupiaq".

Asking her mother Mary why she had explained me the relevance of social media in her life during our interview but she did not allow her children to use these tools before their fourteenth birthday? She continued:

> *"I confess I'm fond of social media and all the possibilities given by WWW. But for me and my family the physical contact and interaction is as important as the virtual one. I know that there are many webpages concerning Inupiaq traditions such as songs or dances, but I prefer the one-to-one introduction to an Inupiaq subsistence life. I take special care to ensure that my children have the same relationship to nature and our tribal land. They have to learn all the subsistence activities taught from me, my parents and elders. That they know the traditional cultural ways of life is important to me and gives me peace: My children are all very*

experienced in shooting guns, throwing knives, shooting bows. They can gather and live off the land and are fairly knowledgeable in edible plants. They can make a snare out of their clothing, and know how to find water. I'm not to worry about them starving or anything. To learn these skills is more important for our children than sitting around playing with their smart phones."

Only Debbie stated that she was only competent in English. The only Yup'ik words she knows are words for food and cooking such as *'curaq'*, which means blueberries or *,ikiituq'*, which stands for wild celery. She remembered these words because as a child she spent her summer vacations with her grandmother and helped her harvest the berries as well as cook food. But she never learned Yup'ik because her father was not an Alaska Native and she grew up in Anchorage and studied in Seattle. Even her indigenous grandparents talked with her in English so she never had the need to learn the tribal language. Nevertheless she invites her daughter to search for her indigenous roots and to get informed about Yup'ik traditions besides the yearly family salmon fishing, which is the only cultural leftover of her subsistence rights. She regretted being the last one in her family, who had enough indigenous blood to qualify for subsistence economy. She was a quarter Yup'ik and because of her marriage with a non-Native her children had ~~a~~ too low a percentage of Native blood to be accepted as indigenous.

Generally the answers of my interview partners are astonishing as the knowledge of their own indigenous language should be a symbol for Alaska Native cultural identity. The status of native languages is recognized by the fact that a native language map first produced at the University of Alaska Fairbanks in the 1970s has now been updated to include traditional and modern place names, with links to a GIS database. The map data will be available online so that users may add demographic, scientific, or historical information about locations on the map (Hudson 2011). The recognition of indigenous languages is also shown by the renaming of the highest mountain of North America, Mount McKinley, into Mount Denali, its old Athabascan name, which means "The Tall".

The recognition of native languages demonstrated by activities as the ones described above is also corroborated by Facebook sites where followers can learn indigenous languages such as "Speak Inupiatun to me" or "Speak Yup'ik". On these sites everyone interested can learn some indigenous vocabulary.

Twitter, a tool also mentioned by some of the dialog partners, was created for mobility The 140 character limit of Tweets was based on text messaging or SMS constraints. That means this plat-

form was actually designed to allow anyone, anywhere to read, write and share Tweets. Today, the cell phone is often the primary way people around the globe experience Twitter.

Twitter is best known for its microblogging service. These updates, known as 'tweets', are distributed to a limited group of 'followers', i.e. Twitter users, who have elected to 'follow' the 'tweeter's' statements (tweets). These follower relations are of a fundamentally different nature than their off-line counterparts; they are neither necessarily reciprocated, nor modulated and are mostly focused on the exchange of information. In effect, a Twitter Follower relation simply represents the fact that one individual is interested in the content produced by another, without the requirement that the interest be reciprocated (Blog.Twitter 2013). As mobile users go about their daily routines, Twitter is a major part of nearly every aspect of their lives (Pescosolido 2011).

Two of my interview partners stated that they used Twitter several times a day. I asked them what the differences were for them when they published news in Facebook, Instagram or Twitter. For me as a neutral or maybe ignorant observer there was no difference in the basic information. I could see the same pictures on the platforms named; only the text messages were longer in Facebook than in the two others. One of them told me that when she was in a hurry she just used Twitter to inform her friends. Later she wrote the same entry on Facebook and Instagram if it was worth keeping. Two other women said they never used Twitter and Pinterest but they did use Facebook and Instagram to read and watch family news and pictures and to get information from their native organizations.

Linda[xiii] confirmed that without Twitter, Instagram, Facebook and Skype she hardly could have completed her medical training as a nurse in Anchorage. She has two children, who had to stay with her sister in Kotzebue during the training period. She could see them only during vacations at Christmas, Thanksgiving, Easter and in the summer holidays. Due to the photos and videos and her sister's comments on social media as well as her daily phone call via Skype she felt less separated and not being a bad mum.

"Without Twitter and Facebook I would have stopped the training".

Nearly half of the women I interviewed use Instagram, putting their pictures together with comments both on Facebook and/or Twitter and on this platform. Pinterest, similar to Instagram, is used to collect interesting patterns for sewing, pictures of food together with cooking recipes or the annual native events.

Figure 7: Pinterest – 12.01.2016

The Alaska Native women I interviewed use, Pinterest' quite frequently. This is a web and mobile application service, which operates an eponymous photo sharing website. Registration is required for use. Users can upload, save, sort, and manage images known as pins and other media content (e.g. videos) through collections known as pin boards. Pinterest acts as a personalized media platform. Users can browse the content of others in their feed. Users can then save individual pins to one of their own boards using the "Pin It" button, with pin boards typically organized by a central topic or theme. Users can personalize their experience with Pinterest by pinning items, creating boards, and interacting with other members. By doing so, the users "pin feed" displays unique, personalized results. When a user re-posts or re-pins an image to their own board, they have the option of notifying their Facebook and Twitter followers; this feature can be managed on the settings page (Carlson 2012). Mary, Linda, Doris and Yasmine have a profile in Pinterest. They use this tool as modern photo album, which they can take everywhere, the only accessory needed to show the uploaded pictures is a smartphone, tablet or similar with Internet access. They use Pinterest not only for their family and vacation pictures but also for pictures from congresses of indigenous organizations. They like the possibility to put pictures uploaded by others to their own pin board. Mary told me that she first published her Inupiaq cooking recipes on Pinterest and was encouraged by the applause of friends or followers on her site to publish a book with all the information needed to create a perfect Inupiaq meal. Mary joked:

"It's not so easy to bring the phone or tablet to the kitchen board and use the recipes. First often the fingers of the cook are smeared with dough or are oily and blur the surface or second – the

worst case – the tool drops into the pot. An expensive meal! This can happen with a book too, but with less expense."

Some of the interviewed women are also using the social media to represent their culture and history.

Mary, Debbie, Doris, Yasmine showed me their entries with a socio-cultural purpose. Mary, who had written a blog about Inupiaq subsistence, gave advice how to prepare salmon or moose with a special knife called the Ulu. Now she has closed the blog because she has no time for updating it and answering questions and comments.
Doris, Mary and Anita gave another reason why they liked social media, saying that the platform itself reflected the concept of "sharing" in the virtual interface of online social networks. When they upload e.g. pictures with comments of a successful hunt, others can respond to these entries and can "like / dislike" the inputs.

Besides social media platforms the women I interviewed are using WhatsApp, which is an application that offers various benefits to the customer. It provides the best features that an internet messaging application can provide to us. With this application users can easily send unrestricted messages to WhatsApp friends. Facebook too provides excellent communication features and social feeds. The timeline likes and remainders are the standout features of Facebook (Prathap et al. 2014). Margret is using it to exchange information fast without paying as SMS (Short Messaging Services) have to be paid depending on the cell phone contracts.

4.2 Alaska Native Websites and Internet Usage

It is extremely important to know, who or what exactly is responsible for choices and how these different choices combine to deliver intended and unintended effects. The cultural website analysis, as with any type of media research, may take just a snapshot approach and is focusing on a static slice of a dynamic medium at a certain point in time (Pauwels 2012).

The internet is, apart from a remarkable technological achievement, also a vast cultural accomplishment, a set of practices and options that reflect the culture of its production and that continues to exert an impact on subsequent uses by and within different cultures. The internet is not considered here simply as a data repository that merely reflects diverse offline cultures or a venue that embodies a limited world of experiences and expressions. It is a highly hybrid multi-authored cultural meeting place, connecting off line and online practices of different cultures in

transition. To some extent it can be considered a cultural agent in its own right, representing processes of globalization and glocalization in a unique manner (Pauwels 2012). It is undeniable that the concreteness of place has its own mode of abstractness, which is in its relationality as there is never a single place existing in total isolation and in its regionality (Casey 1996).

Analyzing the indigenous websites, which were used or recommended by the selected sixteen women, was a challenge. They were numerous because the interviewees named the non-profit tribal organizations in general and there are nearly countless tribal organizations. Since the beginning of the 1950s there has been a tremendous growth in Alaska Native organizations because of new laws, federal self-determination policies and the start of a compelling will to sustain their cultural traditions and lands (Hays 2015). I decided to divide the websites into different groups and selected just some of them. There are two different web realities depending on the focus of the websites. One sort is directed to an external audience and reinforces "stereotypes" the other is directed to the internal community and is more or less real native (Rhonda 2000). By means of websites indigenous people can bring their main problems and interests to the whole world and they can use the WWW for their special interests. The main problem is that for such a project the language used is English, the language of cyber-technology as well as the language of western society, which is again a form of colonialization (Pauwels 2012).

First I had to explore the content of these websites, for whom these sites are produced and if possible, why they are read by my interviewees. This information is essential for my paper as the Web phenomena, and websites in particular, are exclusive expressions of contemporary culture, and as such establish a huge repository of potential data about contemporary ways of doing things and thinking. Websites focusing on "cultural effectiveness" can inform those, which focus on "cultural expressiveness" to some extent, as designing and decoding are flip sides of the same coin (Pauwels 2012).
The focus on cultural expressiveness involves a broader sociological/anthropological view on society through analyzing human behavior and material culture and consequently a more including conception of culture that contains both inter- and intra-cultural differences and expressions of norms and values, expectations, roles, goals etc. (Pauwels 2012).

The following websites produced by and for indigenous Alaskans were also used by the women I interviewed. I start with websites of non-profit organizations followed by websites for a wider audience. I finish my discussion by focusing on business websites.

The **Alaska Federation of Natives** (AFN) is the largest statewide Native organization in Alaska. Its membership includes 185 federally recognized tribes, 153 village corporations, 12 regional corporations, and 12 regional nonprofit and tribal consortiums that contract and compact to run federal and state programs (AFN 2016). AFN's mission is to enhance and promote the cultural, economic and political voice of the entire Alaska Native community. From this website there are links to the regional organizations like Arctic Slope Native Association, Aleut Corporation, Cook Inlet Tribal Council, Tanana Chiefs Conference etc. but also to the Alaska Native Medical centers, to the congressional delegation, state government and national organizations as e.g. the Tribal Court Clearinghouse etc. On this website there are all resolutions since 2006 by the AFN-Council as well as the reports with information about rural determination, Indian child welfare act etc. Also some new changes of Native rights are published there plus publications about subsistence like the Food security and management of subsistence resources from 2012.
AFN also inform about changes within the board of directors, political changes, legal changes, the date of the annual convention and former convention reports.
As an example of the AFN's political focus I will mention the first page of their website, where the entrée-sentence says that Alaska Natives have a powerful voice in Alaska. This declaration is to be found on nearly all tribal websites of the indigenous groups in Alaska, supporting the self-respect of people, who were kept down for more than a hundred years and treated as subalterns by the "white" people. Yasmine emphasized that with ICT the non-Natives can get information "straight from us", not filtered through industry or the media.

There are several main non-profit Alaska Native Corporations some are listed at the end of this paper, and a lot of smaller community corporations. Their official websites give a short over-view of their missions and programs, their history, list the board of directors, the staff, when there are conferences and where and they often have job offers either within the organization or in well-known companies connected with them. The website of these non-profit organizations informs users where they can donate money for the organization and list the donators. Naturally all websites offer the possibility to contact them.
Margret told me that she values the website of her native group because it shows that

"We talk with one strong voice!"

The website of the **First Alaskans Institute** was designed to advance Alaska Natives through community engagement, information and research, collaboration and leadership development on

a statewide and regional level. This organization aims to reach especially younger Natives, who are interested in a future leadership. The website encourages young people but also older users to pursue the important task of maintaining traditional Native values and practices and combine them with the modern world. Various programs are offered such as summer internships or public policy fellowship (First 2016).

The **Denakkanaaga organization** is a non-profit organization that serves as the voice for Native Elders in the Doyon, Limited and Tanana Chiefs Conference regions of Interior Alaska. Denakkanaaga is a Koyukon-Athabascan word meaning "Our People Speak." Denakkanaaga acts on the Elders' behalf, working to ensure that their concerns are addressed regarding such things as Native cultures, traditions and languages, subsistence and social issues (Denakkanaaga 2016).

At the end of my interview with Anita, she showed me the written rules of her ethnic Athabascan group. They were hanging on a framed poster on a wall near the entrance of Denakkanaaga Organization office concerning treating others with respect, share, be patient, care for others and honor elders.

When I asked her whether these recommendations are part of Athabascan traditional culture she agreed and stated that they were passed on from generation to generation within the Athabascan families. *"Although my ancestors hadn't been Christians they had similar regulations. But I could imagine that they were valid only within our own community."*

The universal Alaska Native Values (ANHC 2013) can be found on several indigenous websites. They are to be passed on from one generation to the next. The Iñupiaq values give guidance to those involved in the active management of their businesses, lands, resources, and business relationships. Their core values are similar to the above mentioned:

> *Sharing, Family, Knowledge of Language, Hunting Traditions, Respect for Nature, Humility, Compassion, Resolution of Conflict, Respect for our elders and one another, Cooperation, Spirituality, and Humor*

Rose[xiv] reported to me that she was proud of her job working for a non-profit organization called **Fairbanks Native organization,** which is open for all Alaska Natives and American Indians, who have minimum of one-quarter indigenous blood. In the past without ICT the organization was already powerful in changing public opinion and policy, which discriminated against Alaska Natives but since the organization has had its own website and has been using social media they have been able to help much more people receive education, find jobs, maintain sobriety and

take pride in their culture. The aim of this organization is to promote spirituality, cultural identity, self-reliance, physical and mental health, by improving the quality of life of the community through professional quality services (Fairbanks Native 2016).

The **Inuit CircumpolarCouncil-Alaska** (ICC) reports of conferences attended by the Inuit of Alaska, the Canadian Arctic, and Siberia, and use a variety of media to share cultural materials and to organize its membership to address shared issues such as climate change, ocean resources, and natural resource exploitation. The mission statement on the "welcome" page of their website reads as following:
Inuit Circumpolar Council-Alaska (ICC-Alaska) exists to be the unified voice and collective spirit of Alaskan Inuit, to promote, protect and advance Inuit culture and society. (ICC 2017)
The mission of this website is not only to unify this ethnic group but also to connect them with other Alaska Native groups. It also publishes monthly newsletters and has given information for Inuit/Inupiaq communities about Arctic policy, main declarations and various reports and documents.

The tribal corporations such as Aleut Corporation (Aleut 2016) are more economic organizations providing professional services and products in several areas and these websites offer jobs within the corporation. Within Alaska thirteen regional Native corporations were established in 1972 under the terms of the Alaska Native Claims Settlement Act. Operations of these organizations and subsidiaries include Government Contracting, Telecommunications, Environmental Remediation, Fuel Sales, and Real Estate Management. The company mentioned above also participates in various partnerships, joint ventures and other business activities. All these items are influencing the subsistence life of the Natives.

Bering Straits Native Corporation, another profit organization, which has its headquarter in Nome, represents Yup'ik and Inupiaq groups and is a business organization with about 7300 Alaska Native shareholders. **Nana Organization** is a 100 percent Iñupiaq-owned corporation with more than 14,000 shareholders. **The Arctic Slope Regional Corporation** (ASRC) is owned by and represents the business interests of its approximately 11,000 Iñupiaq shareholders, who primarily reside in the eight villages within the region: Point Hope, Point Lay, Wainwright, Atqasuk, Barrow, Nuiqsut, Kaktovik, and Anaktuvuk Pass. According to the website, the corporation owns title to nearly 5 million acres of land on Alaska's North Slope, which contain a high potential for oil, gas, coal and base metal sulfides. Balancing management of cultural resources with natural resources is important to ASRC. Sport hunting and fishing are not allowed on

ASRC lands. However, ASRC lands are open for subsistence activities for shareholders and other qualified subsistence users that are residents of the Native communities of the North Slope.

On the website of the **Native American Contractors Association** (NACA) a group of native leaders and volunteers is sharing materials about the Alaska Native Claims Settlement Act (ANCSA). The objectives of this organization are to preserve and enhance the rights of Native enterprises in government contracting to build strong alliances between members and with other minority and non-minority organizations with similar goals; and implement a strong communications strategy that supports policy priorities. This website is a trade organization to advocate on behalf of business owned by Tribes, Alaska Native Corporations, and Native Hawaiian Organizations in federal contracting (NACA 2017).

The above mentioned websites are generally from Natives to Natives. But there are also website concerning Alaska Native Health support, which are made partly from Natives and non-Natives and the audience includes non-Natives.

The telemedicine network, founded as **Alaska Federal Health Care Access Network** (AFHCAN), is now the most extensive network in the world, with more than 250 sites including158 village health centers. The telemedicine facilities are also used for training and continuing education (AFHCAN 2004). Telecommunications has been an essential component of health care delivery for Alaska natives since the days of HF[15] radio. In the 1970's, NASA's ATS-1experimental satellite showed that reliable voice communications between village health aides and regional doctors as opposed to the often unreliable links via HF could improve diagnosis and treatment of Alaska natives in isolated villages, and could also be used for continuing education. Today, AFHCAN (the Alaska Federal Health Care Access Network) connects about 250 sites including links between more than 150 village clinics and regional hospitals. AFHCAN handles about 22,000 cases per year, and has documented significant benefits in terms of reduced wait times for consultations and patients. This page was recommended from some of my interview partners as improvement for medical help used by physicians, nurses and medical trained persons (Hudson 2011).

A further indigenous website often selected by the interviewed women was **Alaska Native Tribal Health Consortium** (ANTHC), which provides the highest quality health services for

[15] HF means high frequency, which is used for first-line communications over long distances, mainly in remote regions. (HF RADIO 2017).

Alaska Native people at the Alaska Native Medical Center and across Alaska. The website offers online- training, and gives advice on health, disease and injury prevention, and rural water and sewer construction.
Medical emergency cases are supported by the social media or messaging tools. This is a consequence of the lack of medical doctors in Alaska. Alaska ranks 48th out of the 50 U.S. states in the "doctors to residents" ratio, and 65 percent of physicians are located in Anchorage. Some 59 percent of Alaskans live in "medically underserved areas," and many of these are indigenous residents. Only approximately 20 physicians serving rural indigenous communities are located at regional hospitals. Health care in remote communities is provided by Native health aides, typically women from the community with only a high school education and six weeks of training. They rely on telecommunications for consultation with doctors at regional hospitals and for the transmission of patient data (Hudson 2011).

Tina[xv], one of my interview partners, remarked that fast internet connections are not only useful for them to keep in touch with their family, community etc. but supports the small villages and people, who are living in the outback to get a better medical treatment especially as there is an ongoing shortage of medical specialists. She is working as a nurse in Barrow and looking back at her childhood she recollected incidents when someone was seriously wounded while hunting caribou.

"Bringing back the wounded was manageable by cars or sleds but the old hospital in Barrows built in 1963 was not well equipped. So the medical staff had to call for a plane to fly the patient then to hospitals in Fairbanks or Anchorage for further treatment, which often took a fatal end for the patient due to the deferred treatment. Today the new hospital opened in 2013 has a lot of new medical equipment and is linked via Internet with other big hospitals in the main cities not only in Alaska but also in the Lower 48. And one can also get in touch with specialists to get an optimal treatment for the patients. I have no statistic to prove my arguments that in the past more people have died than today because of lacking necessary medical treatment. It's just a feeling."

The following websites are partly Native-designed and for every user (not specifically native) interested in Alaska Aborigines history and tradition.

The **Alaska Native Heritage Center** is a renowned cultural center and museum in Anchorage, which provides historical and cultural materials on its website. On the first page of this website their focus is stated: *"People can expand their understanding of Alaska's Indigenous people"* (ANHC 2017). From this website there are links to several native organizations, besides information about events and education programs. Yasmine, who is working there, is proud to give visitors of the center valuable insights into Alaska Native traditional culture. By means of the website people are motivated to come to the center to learn about the different indigenous groups living in Alaska for centuries before the Russian colonialization and the purchase by the U.S. government. This website tries to avoid using "stereotypes" for the Alaska Natives on their website.

Doris, who is working for the **Morris Thompson cultural and visitor center** in Fairbanks, uses the website of this museum to promote her cooking seminars with focus on original Athabascan food. This center tries to attract non-Native visitors to get to know the people, land and culture of Interior Alaska. The materials, however, include stereotypical folk music shows with typical "Gwich'in Athabascan Fiddlers" or advertise the possibility to get photographed in traditional Athabascan clothing. The center was created by an Athabascan, who became a prominent and ~~a~~ successful businessman.

Another often named website is: **Cultural Survival**. When opening the site, the first words attracting attention are "Because knowledge is POWER". This is not a special Alaska Native website but it aims to present all indigenous people worldwide. The user can click on "advocacy", "community media", "indigenous rights radio" and "Bazaar". "Advocacy" supports indigenous movements to ensure the rights of their communities. "Community Media" promotes indigenous voices through community-controlled media. "Indigenous rights radio" gives users the latest information on Indigenous Peoples' rights and how they are being implemented around the world. "Bazaar" gives space to artists where they can sell Native arts direct and thus contributes to cultural survival.

During the interviews some of the women mentioned the use of ICT for online-education. Very little has been written about traditional methods to teaching and learning among Alaska Native people prior to contact with non-Natives. Examples appear in the writing of Alaska Native people like Angayuqaq Oscar Kawagley in 1995, when he provides descriptions of traditional Yup'ik learning styles by weaving stories of the elders into his book, *'A Yupiaq Worldview'* and

in his discussion of traditional Yupiaq lives. Earlier in 1986 Edna Ahgeak MacLean has written about Inupiaq traditional community houses and describes these '*qargit*' as entities that *"served as political, social, ceremonial and educational institutions . . . . [until] the coming of the missionaries marked the end of these qargit."*

To a large extent, knowledge about traditional Alaska Native education continues to be transmitted from the memories of the elders (Barnhardt 2001).

Today in the rural village schools of Alaska, the large majority of students are Alaska Native. Most schools have a K-12 organization and the number of teachers typically ranges from one to ten. Due to small enrollments, students are frequently in multi-graded settings, and instruction in the early years may be in a Native language. This option is available in some Alutiiq, Cup'ik, Gwit'chin, Inupiat, Siberian Yup'ik, Tlingit, or Central Yup'ik communities. Several schools now incorporate Alaska Native issues, perspectives and traditional knowledge in the school or district curriculum.

Several websites deal with entrepreneurial activities that benefit the indigenous economy such as ecotourism or the Iditarod dogsled race from Anchorage to Nome. Others that offer native handicrafts have used their web presence to extend their extent beyond tourists, who visit their shops in Anchorage or Juneau. One such website is the **Oomingmak Musk Ox Producers'Co-operative** owned by approximately 250 Native Alaskan women from remote coastal villages of Alaska, who knit each item by hand from muskox wool, which is much warmer than sheep's wool. Thanks to the website they have generated significant online sales. The members of the co-operative, who live in the remote villages of Alaska, where few jobs are available, appreciate the possibility to earn money by knitting.

Another website often opened by the women I interviewed is **ETSY**. There some of my interviewees are offering their native articles such as beaded jewelry, traditional clothing and various furs. They also use Facebook or Pinterest entries to offer self-made products.

A modification of using the Internet is TV via Internet. One such TV station is KTUU. Anabel, who is working for KTUU, is using her job to explore the indigenous mind, explaining their views on current problems of subsistence, the political situation or social problems such as alcoholism and suicide to the audience. She said:

> *" I use TV and Online-TV for our Native problems to publish them and to explain them to non-Natives."*

The Internet and social media have become a primary tool for political groups representing indigenous peoples the world over to connect, share resources, and raise the users' awareness of important issues. The direct-to-audience nature of social media makes it very appealing for indigenous people and organizations (Krebs 2011).
When investigating websites it is not only important to identify the most significant cultural indicators, but furthermore to identify the cultural actors such as software producers, community of users, peer group or sub cultures, personal preferences, and to find out how this all merges in extremely complex multi-authored cultural expressions (Pauwels 2012).

Debbie and Kathy, who both work for governmental offices, explained to me that ICT really facilitated their jobs. Kathy[xvi] told me that thanks to the Internet all stories and all new information could be shared with millions of people, who were interested. The National Park Service, where she is working, finds volunteers more easily than without digital help.

4.3 YouTube – the Modern Storyteller

Yasmine told me that besides the social media she discovered YouTube as a medium to reach many young indigenous people. Here she can upload videos easily and can quickly see whether the topic has been accepted or not thanks to the evaluations of and comments on the video clips and consequently either delete the video or improve the content. She is creating YouTube videos to explain Yup'ik traditions to Alaska Natives and Non-Natives. One of these video clips is on the "Importance of Subsistence Foods". It showed an interview with her on a traditional subsistence diet, the importance of subsistence foods and how they spiritually feed Alaska Native people. Another one is the "Self-healing techniques by Masingka" where she explained spiritual traditional healing used by the Yup'ik ancestors.

There are various YouTube videos dealing with Inuit history: *"Explore: Arctic Culture"*, is produced by a non-Native. There is also a documentary called *Alaskan Eskimos: Between Past and Future"* by Rachel D. Lincoln, another non-Native, who lived in Alaska for several years. Another video is "I am an Alaska Native Dancer | INDIE ALASKA" produced by Haliehana Stepetin, who is a master Alaska Native dancer born in Akutan, AK. Stepetin has made it her life goal to promote and teach the many styles of dance found throughout the diverse Alaska Native cultures.

There are various videos where elders of different Alaska Native groups tell traditional stories such as *„Yup'ik storytellers"*. There are also videos about indigenous dancing performances or as already mentioned, there are also indigenous language lessons available on video clips.
A very witty video is called *'Dear Ellen'*, where a young Inupiaq girl is talking to young people on the topic of seal hunting.

In the reference list 6.2 there are more videos named by my dialog partners. Their recommendation was based on the fact that they are recommending these short films in their communities. Checking these videos I found that there are very interesting and zealous to meet requirements of their oral traditions. It is not possible to detect whether the viewers are mostly Natives or non-Natives.

4.4 Evaluation of the Questionnaire

In order to complete the information I collected I sent a questionnaire to all of my interviewees. This helped me to summarize their usage of ICT and to create a small statistical survey.

According to the questionnaire my interview partners besides of the youngest interviewee are using their smartphones not only for phoning but also for mobile messaging and social media several times a day.

Before evaluating the short questionnaire I checked the statistic information published by the U.S. Census. According to this, *"women started using social media at slightly higher rates than men, although this balance has shrunk yet again in recent years. Today, 68% of women and 62% of men report social media usage, a difference that is not statistically significant."* (Census 2015)

Social media usage by gender shows a shifting balance over time with parity today. When social networking started in 2005 there were more male users than female but as shown on the following table the situation has changed since 2008 and now there are more female users.

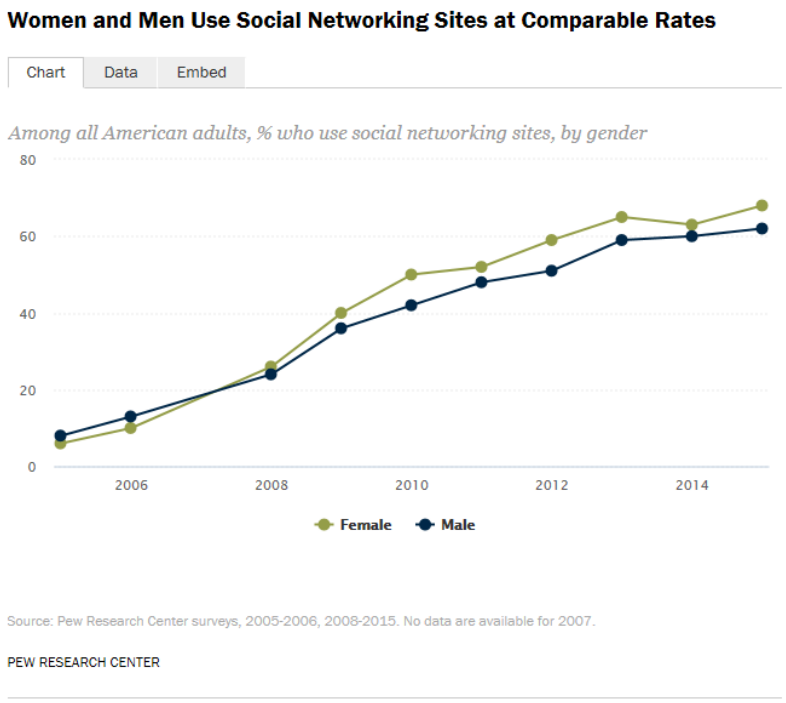

Table 7: Gender using social networking (Pew Research 2015)

There is also a difference between users living in rural communities, who have historically been the least likely to use social media. In 2005, 5% of rural residents, 7% of suburban residents and 9% of urban residents reported social media usage. Today, 58% of rural residents, 68% of suburban residents and 64% of urban residents use social networking (Duggan 2015).

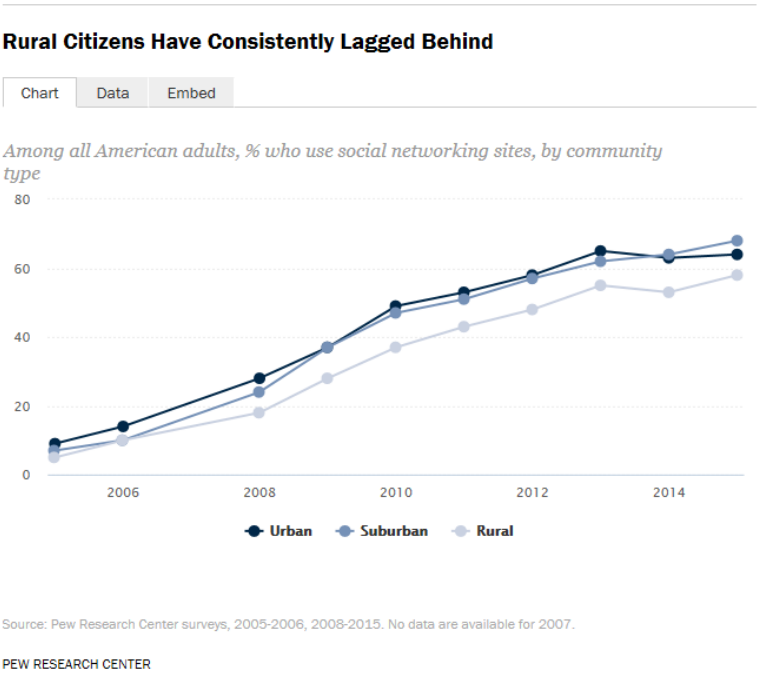

Table 8: Rural Citizens (Pew Research 2015)

Accessibility of telecommunications from the providers' perspective can be described in terms of houses passed - for wireline technologies such as optical fiber, coaxial cable, and copper - and coverage for wireless equipment (Hudson 2011). Availability from the users' perspective requires a different lens. FCC data are related to households: percentage of households with telephones, with broadband subscriptions, etc. An important indicator of the availability of telecommunications for Alaska is the attainability at local sites such as libraries, community centers, and schools is also, especially for broadband. And as cell phones and increasingly smartphones and portable devices spread out, individual or personal access to these must also be considered. Today social media usage by community type shows that more than half of rural residents use social media.

Table 9 shows that most of the women have had cell phones for more than ten years. They have been using Internet since 2008 and social media since 2010. Due to the fact that Karo, the youngest was not allowed to have a cell phone or use social media earlier, she is the freak value in the table below.

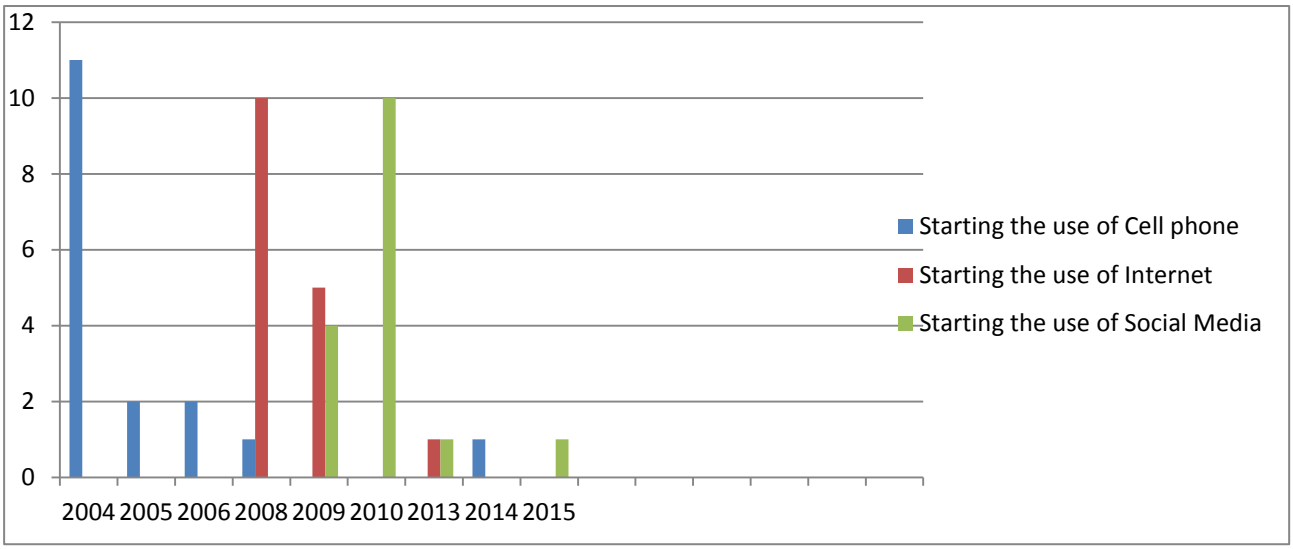

Table 9: Starting with ICT tools

In answer to the question how they use the Internet fifteen of the interviewees report that they search for the latest information concerning subsistence activities.

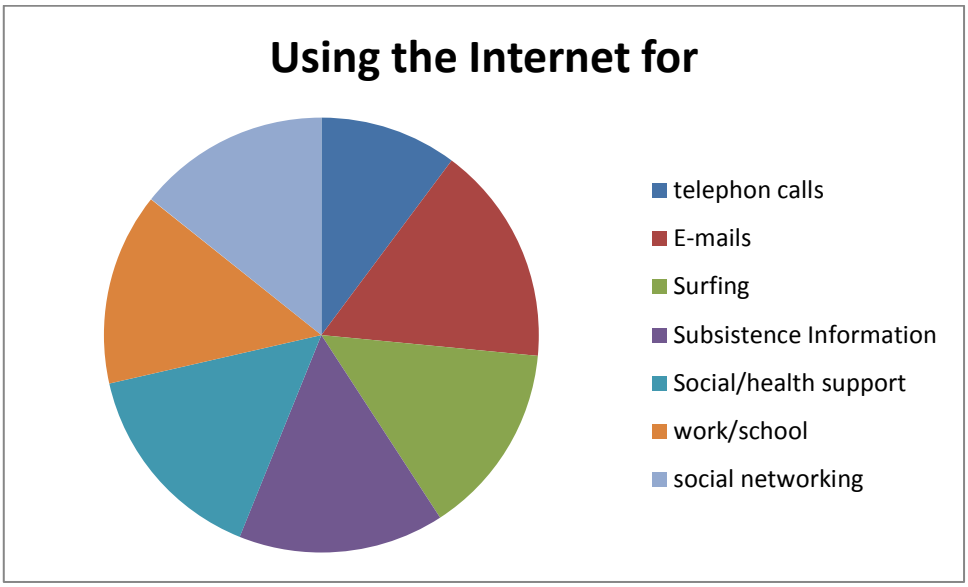

Table 10: Using the Internet

Most of them are using ICT at home from their PC or cell phone, fourteen women are using WWW at work or school and only two of them make use of this tool in public centers.
The answers concerning the advantage or disadvantage of ICT for subsistence economy and for their culture showed that all of the interviewees except Karo, who ignored the relevant questions, are convinced of the positive influences of this technology.

5. Summary and Conclusion – from Oral to Virtual Tradition

On the basis of various data in secondary literature, interviews, social media entries, indigenous websites and a questionnaire I summarize my findings as follows:

5.1 Summary of the Research Data

Transcribing the interviews I started to work out the interplay between culture and indigenous identity, and the changes as a result of communication technologies.

Working on my thesis I made use of literature, which indicates that indigenous peoples have been using ICTs for their own purposes, including cultural revitalization, transmission and political activism, and which supports to find responses to the questions listed in the introduction.

According to the interviews, Alaska Native women are convinced that information and communication technology have brought a lot of advantages to their lives as individuals and as indige-

nous persons by facilitating access to and storing knowledge of subsistence economy. But also some disadvantages are mentioned. One of these disadvantages is the reduction of physical social contacts to other people. Traditions, uploaded in the network, must not encourage in the same way as a face-to-face introduction by an elder. Watching YouTube videos is a passive action where the user is not an active part of e.g. a dancing event. Tradition and rituals will not survive, if they are merely preserved, they must be lived. On the other hand, the women I interviewed assured me that their indigenous identity was strengthened by the fact that indigenous people can be connected and united in social networks and are represented on various websites. They underlined the accessibility of virtual traditional culture records to the young Natives. Their lifestyle has changed not only by the influence of ICT but by several other elements as well as better education and a greater percentage of working indigenous women. There is hardly an Alaska Native, who does not consume ‚western' products or use western technologies to improve their living conditions. The women told me that they believe cars and snowmobiles had a greater impact on the lives of Natives than ICT.

Alaska Natives have become aware of the chance to use communication tools for storing their history and traditional records. This way they can save the relevant information for the descendants and they can reach the young people, who are using their smartphones and PCs permanently. They even created a virtual game to mediate a traditional story as described in chapter 1.2.1.

All of my interview partners are still publishing items connected with their traditional subsistence lifestyle in the form of pictures, videos or descriptions of subsistence activities and are using ICT to promote indigenous culture. It is clear that ICTs, particularly cell phones, are now part of everyday life for Alaska Natives. The change from exceedingly low rates of ownership and use to very high rates has occurred within a very short timeframe. The current young generation will use such technologies on a daily basis to communicate, learn the traditional culture and to be ‘connected' to the global world.

5.2 Conclusion

“The Web poses a number of challenges for Indigenous people, ...” (Dyson & Underwood 2006)

There are and were some differences among the ethnic groups of my interview partners and accordingly differences in their resources as well as their kinships and cultural traditions. There-

fore, I selected four main ethnic groups for my research and tried to find out, which changes happened to the women's lives within their communities as a result of using ICT.

In this thesis I argued that social media, WWW and YouTube videos establish new shapes of social networks for Alaska Natives in which information, traditions, knowledge, pictures, stories and comments, are shared virtually, and provide virtual cultural references. This argument is in line with what previous research has shown about the cultural uses of communication technologies by indigenous peoples. The digital media are enabling them to transmit, negotiate, and manage their own culture and representations (Ginsburg 1994; Budka 2009a; Dyson and Underwood 2006; Dyson et al. 2007; Landzelius 2001, 2003a, 2006; Scobie and Wachowich 2010).
Information and communication technology bring new communication dynamics. Looking at how indigenous peoples have engaged with the media, from the more "traditional" forms of mass-media such as TV to the recent ones such as social media, Internet or YouTube the concepts of cultural hegemony must be revisited.

Early communication, networks, and interfaces of Alaskan indigenous cultures included frequent traveling, exchanges of goods and experiences, trade, sharing, marriages, migration, and reciprocal visits within the circumpolar north. Today many of these actions can be transferred to or facilitated by the information and communication technologies.

The internet has been interpreted as leading to the rise of a distinction between the embodied self, and disembodied, multiple cyberselves. These concepts suggest that on-line identities are *'disengaged from gender, ethnicity and other problematic constructions' and 'float free of biological and sociocultural determinant'* (Dery 1993: 560–1).

Critics of Information Communication Technology speculate whether relationships between people, who hardly see each other, can touch each other or sometimes even hear each other can be the basis for true friendship, business connections or communities. Ultimately, they argue, the use of ICT could lead to a transformation of communities (Levinson and Christensen 2003).

Comments of the elders in this study showed that the benefits of digital technology far outweighed these risks.
Many of the everyday activities in people's lives - including those of Alaska Natives - are information activities. Information is gathered from many sources and in many ways such as through major purchases, local sports events, community activities, political information and information

about e.g. Native heritage and genealogy but also from government sources about a diverse range of topics including subsistence regulations, health care, social services, taxes, government forms etc. In these and many other ways, the everyday life of us all is filled with information activity. There is a strong belief, that the Internet has either made life more information-rich or changed the rules of information-seeking behavior (Aspray and Hayes 2011:2). As far as I'm concerned both views are true. All persons, who have access to Internet and the WWW can get huge amounts of information just by clicking on the "Enter" button. In the remote and sparsely populated regions ~~as~~ of Alaska libraries are rare and so is the next neighbor. ICT stands for an improvement with regard to information search. It is true that with digital search engines such as Google or Wikipedia etc. the tendency towards "asking the Internet" as opposed to seeking information from books or other media has intensified.

During the fieldwork I found out that most Alaska Native women, with whom I spoke, are integrating in their lives their indigenous traditions and the western world. They are commuting between both worlds, trying to define and establish the boundaries of what it means to be indigenous today. But, regardless of the 'Western' influence they are still convinced that they are indigenous even if they do not speak their tribal language.

In each chapter of my study, technological practice has emerged as an integrated and targeted strategy, one that engages material and immaterial realms. It is recognized as a way of living in the Arctic that continually captures new synergies, exposes productive tensions, and engages a broad range of social relationships between people living as families in households and communities (Wachowich 2010:11).

While there are dozens of social network sites, participation tends to follow cultural and linguistic lines. Information communication technology has great influence on the lifestyle and identity of the women I interviewed but does not affect Alaska Native women more than other female users of the worldwide web. The impact is just different and I don't believe that only ICT has changed their traditional culture. On the contrary, due to the social network they are better united than in the past and can show the non-Alaskan user what being indigenous means. Margret, one of my interview partners, emphasized:

"Thanks to the Internet and the social media we – the various Alaska Natives – can finally be linked in the digital and virtual space. This fact makes us stronger and gives us political power.

Although we are a minority in our own country we won't be ignored anymore. We now can speak with one strong voice."

As mentioned above, these women don't use ICT just to communicate but also as a strong common voice, an archive for the descendants and a medium for their businesses especially in remote areas. Life was hard for Alaska Native women as well as men in an era without social media, Internet, PCs etc. But, today, they have the opportunity to work at home and keep in contact with the office or the clients or they can make business trips and stay in contact with home. ICT gives them the chance to become more self-reliant and get more self-confidence. Their identities are changed but not only because of the technology but because identity is changing permanently. I do not agree with people regretting that "traditions" are disappearing because of ICT. Without the social media and tribal websites I believe that the oral stories, rites and events would be forgotten faster and eventually be totally lost. Also tradition is dynamic and can be adapted. For example, the annual Idarod trail sled dog race, which has a long tradition not only for the Alaska Natives, today has sleds, which are technically highly equipped with a perfect relation between the weights of the sled, the musher and the dogs. For this traditional event even the dogs are different breeds today. Traditional clothing today is sewed with sewing machines but in the same style as in the past centuries. These examples show the positive influence of technology on Alaska Natives.

One of the problems of my master thesis was the dynamic quality of ICT. Nearly every day new software tools and new technological communication equipment are invented, like Spark or similar. But my interviews convinced me of the vibrant nature of the virtual life and imagined neighborhoods of Alaska Natives. It became apparent that these women approach ICT partially like all global users but in many cases their approach was different.

As I mentioned in the thesis cultural identities are not endorsed in isolation but modified in correspondence with the global world, sometimes only partly sometimes totally (Christensen 2003). Identities find their way across boundaries of space and touch every aspect of life. There are dynamics between social relations and cultural statements, which are recursive (Howard 2000). In the past, Alaska Natives were nomads, following the migration of the caribou or changing their camps depending on the seasons. Today, there are still many indigenous, who move into summer camps for picking berries and herbs or fishing their quota of salmon, although they are resident in a village, town or city.

My research problem was how to investigate the usage of all or part of the technical communication tools available. Studying all of them is nearly impossible, because there is a lot of technology and nearly daily new tools are invented and published. Therefore I decided just to watch "my" sample of Alaska Native women by following them on Facebook, Instagram and Twitter In addition I used the interviews made during my Alaskan trip and the one done via Skype and checked some of the Alaska Native webpages and some YouTube videos listed in the appendix. Cultural identity is as mobile as the minds of the people.

What are the "real" benefits of the ICT and who gains the most benefit from them?
There are many potential benefits that indigenous peoples can enjoy from information technology including e-commerce and employment opportunities, better education and service delivery and enhanced communication (Dyson et. al 2007).
I am convinced that these tools bring more advantage to the people and in my case to the Alaska Native women than disadvantage. All the women, I interviewed, are active members of their ethnic group organizations, even the older women. They use social media naturally in the same way as millions of other users but for them Facebook, Instagram etc. are also a means to show the young Natives and non-Natives the traditional. There are a lot of YouTube videos where Alaska Native women tell typical indigenous legends and stories, sometimes in English with subtitles in their native language or vice-versa. The websites of the tribal organizations always contain statements encouraging the native users to be proud of being Native.

Figure 5: Facebook – 12.01.2016

In the past Alaska Natives from remote villages had few occasions to see personally other triable members from far away villages and towns except visiting great events as a potlach. Now they have the possibility to reach their clan members by phone, Twitter or Skype prompt and as often as they want. Also the business information as well as the publications of the government relat-

ing to subsistence life concerning hunting and fishing is easier to get than before the digital century. Another advantage is the handover of traditions to the next generation and to keep this knowledge in the virtual cloud accessible.

Alaska Natives have begun to use broadband and online tools for cultural preservation, access to health and education services, and economic development. Also, as outlined above, there are new opportunities for Alaska natives to participate in broadband and other communications policy and planning activities for Alaska. Proposed universal service reforms could significantly affect the availability and affordability of communications services including broadband in rural Alaska. They will be needed to enable a new generation of native leaders to help shaping Alaska's communications future and to keep the subsistence alive (Hudson 2011).
Although indigenous people committed the cultural survival have increasingly staked claims on their rights not only of self-determination but also of self-representation, those, who have acquired modern media to produce their own visual documents have rarely controlled the means to distribute the information beyond their own communities. This has changed, because of being wrapped together with fiber-optic cables, radar, and communication satellites. Even some of the most remote tribal communities are becoming now interconnected (Ginsburg et al. 1997).
Many governments and international organizations demand ICT to reach the status of an information society, which will result in economic and social benefits. Indigenous social media, especially as articulated in the virtual space, play an important role in the propagation of their community formation.

Indigenous people are using screen media not to cover but to recover their own collective stories and histories - some of them traumatic - which have been removed in the national narratives of the dominant culture and are in danger of being forgotten within local worlds as well. Of course, retelling stories for the media of film, video, and television often forces reshaping them, not only within new aesthetic structures but also in negotiation with the political economy of state-controlled as well as commercial media, as the following case makes clear (Ginsburg 1997).
Rather than destroying indigenous cultures as some pessimists predicted would happen, these technologies of representation - beginning with the satellite television transmission to native communities of their own small-scale video productions - have played a dynamic and even revitalizing role for Alaska Natives, as a self-conscious means of cultural preservation and production and a form of political mobilization (Ginsburg 1997).

Thus, it is not only that the activity of media-making has helped to renew relations between generations and skills that had nearly been abandoned. The fact of their appearance on ICT on Native terms, inverts the usual hierarchy of values attached to the dominant culture's technology, conferring new prestige to indigenous "culture-making" (Ginsburg 1997).

> *"Ultimately, our aim must be to ensure that people everywhere have access to information technology, and can use it to build better lives, for themselves and for their children"* (Annan 2003)

ICT is already being used to say things about the concepts and writers that are used, about teaching, and about institutions. Whatever it is named, it is important that the users at least acknowledge that they are being subject to processes of remediation, and to start to think through how the respond might be (Beer and Burrows 2007:8).

The evidence of the growth and creativity of indigenous digital media over the last two decades, whatever problems may have accompanied it, is nothing short of remarkable. Indigenous use of ICT shows an alternative model of increasingly global relations created by indigenous people about their own lives and cultures (Ginsburg 2008).
The global flow of images, news and opinion now provides part of the engaged cultural and political literacy that persons bring to their spatial neighborhoods. In some ways, these global flows add to the intense, and implosive, force under which spatial neighborhoods are produced. It is a fact that the mass media in the electronic forms are creating new sorts of disjuncture between spatial and virtual neighborhoods. The ICT has created new possibilities for local and also transnational forms of communication (Appadurai 1996).
As many indigenous people live in isolated rural areas, they lack convenient access to development support and to the means of communication that can provide such support. Even when such access is available, the media content often fails to address the specific needs and aspirations of minority cultures, in many cases just because it is broadcast or printed in a language that is not their mother-tongue. The importance of media within indigenous communications is emphasized in the UN Declaration Article 16, which states that indigenous peoples have the right to access media in their own language without discrimination and to use media to reflect on cultural diversity. Indigenous communications and media are services that are run purely by indigenous peoples for themselves. They include radio broadcasting, telecommunications consisting of telephones and Internet connections, print media, film, video, television and other forms of visual

communications. Protecting intellectual property rights Indigenous media offer an opportunity for indigenous people living in remote rural locations to bridge the digital divide that exists between them and their compatriots in urban mainstream society (Harris and Harris 2011).

Elders are concerned that traditional knowledge and stories are being inappropriately published online without elders permission especially those sacred stories (Du et al. 2015).
But Margret stated, *"I hope more and more people can understand our culture. The Elders show and teach us stories. If the stories are taped or recorded, more people can search and listen to the stories."*

Traditional ways have a potential to be adopted to Web-based media but careful caution need to be considered, traditional knowledge needs to be respected and not to be exploited, to interpret the right way, an consent from Elders need to be acquired (Du et al. 2015).

Yes, there are some disadvantages. Due to the global use of social media and World Wide Web, it is hard to find out whether cultural traditions and practices are barely possible because of the influences from outside, furthermore as the dominant internet language is English and not in indigenous languages. Although there are various websites in tribal languages and on social media and blogs, English is by now widespread. For marginalized cultures the internet can be used for reinforcement of communities, building barriers to protect against the mainstream society and for improvement of the economic situations of many indigenous even in English.

Another problem is the under-supply of internet services in the rural environment. But due to an information on Facebook from 16th June 2016 by KTUU-TV – the Quintillion company publish that some "*Arctic communities prepare for new high speed fiber optic internet*".
Six communities namely Prudhoe Bay, Barrow, Wainwright, Point Hope, Kotzebue and Nome will get better connection points for telecommunication. When this project "Quintillion Sub-Sea Cable System" will be finished in the mid-2017 these new wires will finally speed up the internet connection between the Arctic boroughs and the "Lower 48" and the follow up projects will connect the Arctic users to Japan and London via a log wire through the arctic. This investment will significantly bring improvements to the health, education and economic development in this area and there is also a main issue, which shouldn't be forgotten the internet bills for the residents will minimize. But talking about this good news with Mary from Kotzebue, one of these above mentioned communities, she said:

> *"Yes, that's great for all of us and will facilitate our lives in many ways, but we also should show our children that besides all these technological improvements our cultural past is not forgotten."*

There is the danger that using the communication technics can lead to dependency and even to a sort of addiction. Also cyberbullying, several forms of harassment and identity theft may also happen to the Alaska Natives (Claywell 2012). A problem can be created by the sole using of ICT instead of interacting physically with others. Mankind isn't born with full social awareness. When we are losing a physical object we have to search it, when we lose a virtual object we can start a searching machine or just turn off and start new (Konnikova 2014).

However people will adhere to technology, technology per se isn't good or bad, but it depends only on the usage in particular by digital media.

For my part, I hope that beside the technical boom the Alaska Natives won't forget to transmit their culture and vision personally from generation to generation too. In future Alaska Native people should be respected and valued and they will preserve and strengthen their traditions, languages, and art through statewide collaboration, celebration, and education with the support of information communication technology.

The study of the potential role of ICT in Alaska Native cultural heritage preservation and sharing uncovered a significant amount of useful data. There is no doubt that ICTs hold noteworthy potential for supporting the recording, management, dissemination and long term preservation of indigenous knowledge. But significant challenges are remaining, which will need to be negotiated to ensure that such projects bring real benefits to both the indigenous communities, who own the knowledge and the wider community at large. Though some of the tasks are technological, the most problematic concerns are social, political or economic and surmounting these will require significant time, patience, funding, resources, support, training and a collaborative effort by indigenous communities, multidisciplinary scholars, staff from cultural institutions and software engineers and designers to establish mutual trust, respect and a common understanding of: what the costumers want; the issues involved; and the options that both current and future technologies hold (Hunter 2005).

Traditional culture does not exist in a vacuum but operates within a field of practices. As already mentioned in chapter 1.2, Bourdieu observed, although he never saw the tremendous impact the Internet will have, as his career ended before the Internet boom, his arguments that history is

immanent to the functioning of this dynamic system, can also be transferred to the ICT communities. Within contemporary cultural practice virtuality is determined provisionally by the productive capacities of its social space. This is not limited to the technical capacity of surface and positionality in relation to the production of forms of illusionism but also is dependent upon protocols of viewing and institutional rules of engagement. This latter point is developed by Bourdieu and his use of the term "habitus", which is drawn from his sociological critique of the cultural field. Bourdieu (1989) explored the ways in which spaces define individuals, but also the way individuals choose to define themselves within a given space. Following Bourdieu's social space in modern societies can be understand as not being focused around one organizing principle, but as a space with multiple fields of competition, where different forms of capital are at stake especially in connection with the different digital and virtual opportunities to recognize the complexity of the individual position, at least to the extent that individual actions can only be seen by grabbing individuals' different structural positions in, and historical trajectories across, social space. Using Facebook, Instagram or other social media are individual actions. With uploading, giving comments or just with adding "Like/Unlike" social structures can be produced and reproduced, which means a user's available 'habitus' cuts off his/her possibilities for action, by restricting the resources he or she has to act in the situations he/she comes across. There is a 'natural' fit between people's actions and the contexts in which they act and is tied often very closely to the spatial context of everyday life, in homes, villages and towns

Bourdieu's notion of the mutual relationship of structures and actors is enabled through practices. This relationship is the core feature of social systems either in the physical or virtual world. Within digital world there are created similar forms of social systems as in the physical world with similar structures and orders. In many cases ICT is able to strengthen existing structures and helps to disseminate the social order. Even Bourdieu's different forms of capital can be adopted for the WWW. According to Bourdieu (1983:190), the social capital is the possession of a permanent relationship. Reproduction of the social capital requires constant working on relationship, which is achieved by using the Internet and social media consequently. Social capital is especially important in the case of network effects. The more users use a web-platform, the more valuable and interesting for others to follow it becomes. In doing so, the participants take on a large part of the relationship work.

With regard to the cultural capital, Bourdieu (1983:185) differentiated between incorporated, objective and institutionalized cultural capital. Under incorporated cultural capital, the acquisition of education can be understood, which is always linked to a body-internal process of internalization. Everyone has to acquire it himself and cannot delegate it to others. Objectives of cul-

tural capital include those, who bear the cultural capital, for example as indigenous language courses offered at social media or on several websites as well as information about traditional rituals or skills.
Naturally the economic capital (1983) has also to be mentioned, as the Alaska Native women are frequently using Facebook and selected websites as e.g. ETSY to sell their traditionally made products.
To finish this theoretical discourse it should be pointed out that the virtual presentations of the interviewed women are often showing their ‘habitus’ as a mirror of their real physical lives.

Finally, it is clear that this study represents only a starting point for research in this area. There is no evidence right now to determine, which of the literally millions of internet sites are most meaningful to Alaska Natives in general and without longitudinal information on the continued evolution of ICT use in Alaska Native communities, a universally valid conclusion about the reasonable and long-lasting implementation of virtual traditional culture is not possible.

6. References

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6.2 Indigenous Websites and videos selected by the interviewed persons

Non-profit Organizations:

Ahtna: http://ahtnaheritagefoundation.com/

Denakkanaaga: http://www.denakkanaaga.org/

Fairbanks Native: http://www.fairbanksnative.org/

First: http://firstalaskans.org/

Sitka: http://www.sitkatribe.org/

Tanana: https://www.tananachiefs.org/

Museum/Tribal/Native Centers:

AFN: http://www.nativefederation.org/

Alaska Heritage Center: http://www.alaskanative.net

Alaskool: http://www.alaskool.org/

ANKN –Alaska Native Knowledge Network http://www.ankn.uaf.edu/curriculum

IÑUPIAQ Heritage Center: http://www.nps.gov/inup/index.htm

Morris Thompson Center: http://www.morristhompsoncenter.org/

Tinglit Center: http://www.ccthita.org/

Profit Organizations

Afognak: https://www.afognak.com/

Ahtna: http://ahtna-inc.com/

Aleut: http://www.aleutcorp.com/

Beringstrait: http://beringstraits.com/

Bristol Bay: http://www.bbnc.net/

Calista: http://www.calistacorp.com/

Cook Inlet (CIRI): http://www.ciri.com/ or http://citci.org/

Chugach: http://www.chugach-ak.com/

Doyon: http://www.doyon.com/

Koniaq: http://www.koniag.com/

Nana: http://www.nana.com/

NACA: http://nativecontractors.org/

Alaska Native Health websites:

Alaska Native Tribal Health Consortium: www.anthc.org

South: https://www.southcentralfoundation.com/

Village website:

Tyonek: http://www.tyonek.com/

General website:

Cultural Survival: https://www.culturalsurvival.org/

YouTube Videos:

Alaska Natives: https://www.youtube.com/watch?v=YvSV7UYrg_E
Chickaloon Village Council: https://www.youtube.com/watch?v=1oalIGjigM8
Euvaughn and Virgil Athabascan Indian Culture:
https://www.youtube.com/watch?v=e6AmkUH-BGU
K.E.S. Dear Ellen. Published on 23 Mar 2014:
https://www.youtube.com/watch?v=eRPEz57_l_M
King Island Little Diomede Dancers:
https://www.youtube.com/watch?v=PIxYH_ViZFA&list=PL7yuHqpLt1qxFrHcdLq3XLnY81lxynwYp

Walker Yaari: Subsistence food. https://www.youtube.com/watch?v=SWzYGV6cb7I

Yup'ik Alphabet with Jackie: https://www.youtube.com/watch?v=-mr64BuHOUk

Yup'ik dancing: https://www.youtube.com/watch?v=xjE8oTYdYrs

Yup'ik storyteller: https://www.youtube.com/watch?v=Ra8gKEWHEQc

7. Figures and Tables

Figure 1: Yaari Kingeekuk, Instagram – 09/2015

Figure 2: Alaska Native Groups (Alaska Native Heritage Center, 2015)

Figure 3: Facebook 5.8.2016 – preparing salmon

Figure 4: Facebook 4.8.2016 – Walrus hunt

Figure 5: Facebook 6.8.2016/Berries picking in the North Slope

Figure 6: Broadband Growth in Alaska – Connect Alaska Report 2015

Figure 7: Pinterest – 12.01.2016/How to fillet a salmon

Figure 8: Facebook 4.5.2016 – Dancing Course Announcement

Figure 9: Facebook 4.5.2016 – Tribal updates

Table 1: U.S. Alaska Profile (US-Census 2015)

Table 2: Regional Corporations of Alaska (US-Census 2010)

Table 3: Net Migration 2012-2013 (ALW, 2014)

Table 4: Use of Social Media (Pew Research, 2015)

Table 5: Cell Phone Activities (Pew Research, 2015)

Table 6: Accessing the Internet (Pew Research, 2015)

Table 7: Gender using social networking (Pew Research, 2015)

Table 8: Rural Citizens (Pew Research, 2015)

Table 9: Starting with ICT tools/ results of questionnaire

Table 10: Using the Internet / results of questionnaire

8. Questionnaire

1. live in (county, region, community)

2. I started using Internet at:
   Smartphone
   Social Media

3. I use the Internet for
   telephone
   e-mail
   Surfing
   Getting updates about subsistence
   Social support
   Work
   Social networking

4. I connect from
   home
   Work
   Access center
   School
   Other

5. I mostly connect to
   Arctic websites
   Alaskan Native websites
   Social Media
   Skype
   Other

6. I am convinced that using the Internet and Smartphones improves and supports the subsistence lifestyle and make the live easier

   Yes
   No
   I don't know

7. When you answered the question 6 with yes – can you tell me who gains most from using the Internet?
   Individual
   Organizations
   Communities

8. The technical access to the Internet and development of the mobile phone network should be promoted
   Yes
   No
   I don't know

9. Does the Internet facilitate your subsistence life?
   Yes

No
I don’t know

9.1 Can you name the facilitation?

10. The Internet supports the fast distribution of traditions and indigenous culture
    Yes
    No
    I don’t know
11. Cultural and ethnic identities are very essential topics on the indigenous websites
    Yes
    No
    I don’t know

12. The information highway brings development to the Alaskan communities
    Yes
    No
    I don’t know

13. Internet and the social media will bring the kinship and indigenous communities closer together
    Yes
    No
    I don’t know

14. List your often used indigenous websites?

9. Endnotes

[i] Interview with Mary, an Inupiaq woman working as an official in Kotzebue, > ICT helps to keep up the communication with her family, the community and it supports the safety of the communities as well as subsistence economy >, Skype interview, 4 June 2015, 20 March 2016

[ii] Interview with Doris, an Athabascan woman in her fifties, working for the Morris Thompson Cultural & Visitors Center in Fairbanks. > tries to populate via the website of the Center traditional Athabascan food by giving teaching lesson in Athabascan cooking, sewing original Athabascan dresses also for non-Native people>, personal interview, 20 May 2015, Skype interview 10 October 2015

[iii] Interview with Anita, a senior Athabascan woman, > Information about the changes in Athabascans lives since ANCSA and the improvements due to information communication technology and other technology inventions > personal interview Fairbanks, 19 May 2015

[iv] Interview with Dawn, a woman from Tyonek, one of the initiator for a community garden with constructing greenhouses in Tyonek to plant vegetables and fruits. This plan was successful. In 2015 they could harvest 60 pounds of watermelons, besides of 1800 pounds of other products. Within four years their project becomes effective. The main subsistence product of Tyonek is salmon. So for their health they decided to install a garden for the village. Important for the youth to learn gardening for the future. Got information about internet and email contacts with amongst others with the horticulture department of the University of Fairbanks. > personal interview 15 May 2015

[v] Interview with Paula, working for Dekannaaga Organization, born in Bakers, problematic family background, alcohol in her youth, as a teenager was brought to her aunt in Fairbanks to get

away from alcoholism. She is working with a PC and is therefore connected with all members of the Denakkanaaga Organization.> personal interview 20 May 2015

[vi] Interview with Margret, staff member of the Alaska Federation of Natives. She is Athabascan, Yup'ik and Alutiiq. She helped me directly at the start of my research with the names and contacts to several other Alaska Natives for my interviews. > She is convinced that knowing the own tribal languages is a "must" for every Alaska Native. She and her husband are teaching their children in Yup'ik and Denakk'e language. The possibility to get support via Internet is a great help to keep up the interest of her kids. >, Skype interview, 12 May 2015, 4 June 2015

[vii] Interview with Susan, a Native broadcaster, she told me about her childhood in a small village, where she was fond of visiting the elders and listen to their stories, learning the history of her village and her family. She is supporting the self-confidence of their Native listeners by talking about important Native topics such as land management, subsistence not only with Natives, but also with politicians, economics and business men to show all sides of a theme.>personal interview 14 May 2015, Skype interview 8 June 2016

[viii] Interview with Renata, an Athabascan woman, working for Tanana's Chief Conference and shaman what she learned from her mother. She is using YouTube videos to inform Athabascans who can't attend the tribal conferences what happened there. >, Skype interview, 16 May 2015, 10 January 2016

[ix] Interview with Yasmine, a Yup'ik woman working in the Alaska Native Heritage Center, > Historical discrimination of Alaska Natives at schools and everyday life, benefits of social media to encourage the youth to be proud of their indigenous roots > personal interview Anchorage, 14 May 2015, Skype interview 10 October 2015

[x] Interview with Debbie, an employee at the department of Fish&Game, > The Facilitation of publishing the newest regulations for hunting and fishing, storing the oral history and traditions for the descendants > personal interview Anchorage, 26 May 2015

[xi] Interview with Anabel, a young Athabascan woman, during my interviews she has been working for KTUU in Juneau. > Using the TV for talking about indigenous problems to help non-Native to understand their point of view>. Skype interview 22 May 2015, 4 November 2015

[xii] Karo pupil, living in Kotzebue. Until her 14th birthday she has no smartphone, because of the wish of her parents and accepted this decision. > Skype interview 3 June 2015

[xiii] Linda, living in Kotzebue, working as a nurse. During her training in Alaska her children were living with her sister. Without keeping in contact with her kids with Skype, WhatsApp etc. she couldn't bear the separation from her family. > Skype interview 2 June 2015.

[xiv] Interview with Rose, a Athabascan woman working for the Fairbanks Native Association, > The importance of tribal websites >, Skype interview, 16 May 2015

[xv] Interview with Tina, a young Inupiaq woman working as nurse in the medical center of Barrows, > Difficulties in the past for medical treatment in the remote villages and communities because of lack of doctors and nurses. Due to ICT virtual assistance by an experienced doctor is now possible >, Skype Interview, 6 June 2015

[xvi] Interview with Kathy, who is working for the Lake Clark National Park Services, described me traditions from the Dena'ina people which is an Alaskan Athabascan group and that she is presenting on Conferences and tries to inform the interested ones via Alaska Public media about the traditional was of Athabascan living and habits. > Skype interview 14 May 2015, 10 January 2016