RISK SENSEMAKING, BROADBAND TECHNOLOGY AND IDENTITIES: A CRITICAL PERSPECTIVE

by Robert P. Gephart, Jr., Eleanor Cohen & Cagri Topal
University of Alberta, Canada

ABSTRACT

This paper investigates sensemaking by rural community residents concerning a large scale, broad band computer network - the Alberta SuperNet. Our goal is to understand the impacts of this broad band network on rural communities and to use critical theory to understand these impacts. Data were collected during 9 town hall meetings held in rural communities. Discussions during the meetings were recorded, transcribed and digitized. We identified key themes in the discussions and focused on opportunities and risks rural residents conceived as emerging from SuperNet. We investigate the personal and collective identities constructed during the town hall meetings. We then interpret the data in terms of Habermasian critical theory and the risk society thesis of Ulrich Beck.

INTRODUCTION

The emergence of computer technologies including networks has created new potential opportunities and risks in contemporary society. One area of concern is the impact of broad band technology on social relationships related to community and work life (Wellman, Salaff, Dimitrova, Garton, Gulia and Haythornthwaite, 1996). There has been debate in the scholarly literature on the question of whether computer networks attenuate or reinforce human relationships (DiMaggio, Hargittai, Newman and Robinson, 2001, p. 314). One important question is whether, or how, networks strengthen social ties within communities and organizations. Against this the question is whether or how social bonds are weakened in communities. This weakening of community ties can emerge because people may spend time on-line and thus emphasize distant relationships mediated by computer technologies including new communication media while decreasing local, face to face interactions (DiMaggio, et.al., 2001:314; Gephart, 2004).

Further, many rural communities are conceived by public policy makers to be in decline, and as a result, computer technologies and networks are often suggested to be potential means to maintain rural communities by for example providing local employment opportunities that are made possible by e-business that can locate in rural areas (Government of Alberta SuperNet, 2002). Computer technologies thus offer the potential for businesses to locate in small communities in rural areas to gain cost advantages such as lower cost labor and to provide goods and services to larger areas by electronically mediated communications and business practices. But these same computer technologies can also be used by businesses to relocate to urban areas, or to remain there, and to distribute products and services electronically to more remote communities.

This paper investigates the sense-making undertaken by rural community members to understand the social and community impacts of a large scale computer network that uses broad band technology to connect rural and urban communities. Our interest is to understand the opportunities and risks that rural community members anticipate or experience, and the general implications they expect from the broad band network. We focus on how these opportunities and risks relate to multiple levels of identities - personal, organizational and community. And we interpret the results of our investigation

using a framework based in Habermasian critical theory (Habermas, 1975, 1979) and the risk society perspective of Ulrich Beck (1992).

The paper is structured as follows. First, we discuss the key concepts and issues in the paper - risk sensemaking, broadband technologies, identity and critical theory. Second, we outline the research methodologies used to collect data on community members' conceptions of broad band technology and the sensemaking they undertake in this regard. Third, we report the results of our investigation concerning the opportunities and risks as conceived by rural community members, and the implications these opportunities have for identities. Fourth, we discuss these findings in terms of the crisis cycle of advanced capitalism and Beck's theorization of social change and the emergence of the sub-political sphere.

RISK SENSEMAKING AND IDENTITY

Risk has become an important topic and concern in contemporary society (Beck, 1992). It is generally conceived as negative or undesirable consequences of some event, generally refering to a threat, danger, or harm (Lupton, 1999). Risk sensemaking involves the cognitive and verbal processes through which events are noticed, given meaning and interpreted as risks (e.g. Gephart, 1993, 1997; Weick, 2001). We hypothesize that an important aspect of risk sensemaking is that it is related and addressed to issues of identity. That is, in making sense of risks, people seek to understand not only what the risk is, but also what it means or implies for individuals and collective entities, particularly their identities. We define identity as the general characteristics imputed to an individual or collective entity.

Identity can be conceptualized at two levels - the individual person and the collective entity (Gephart, 1979; 1991). At the level of the individual, identity can be conceived as the statements people make about themselves or others. Four selves have been found to be important to conceptions of individual identity. The first is the professional self, which refers to the features of the person related to his/her profession, occupation, or work. The second

self is the social-psychological self, which is constituted when people discuss or refer to psychological traits, features and motivations that are personal in nature. The third self is the financial-economic self and this self is constructed when people depict particular financial statuses and features to a person such as their wealth or investment preferences. The fourth self is the physiological self. This last type is constructed when people address the health, physical features, and medical aspects of a person.

There are also several collective entities that are addressed as having identities. These include organizations (Gephart, 1979; 1991), cultural or ethnic groups (Wilson and Peterson, 2002), communities (Wilson and Peterson, 2002), and societies or nationalities (Wilson and Peterson, 2002). Collective entities are discussed and described by members in terms of three recurrent themes (Gephart, 1979; 1991). The model of style is produced when members depict entities as having a proper style or form that is acceptable, tasteful or morally appropriate. Collective entities can also be constructed as a model of compliance - a set of rules that constitute the entity and require compliance. A third theme is the model of functional integrity that specifies fundamental needs that must be met for the entity to survive. Individuals and their identities - as well as risks, opportunities and other socially constructed features of the world - are often interpreted or assessed in terms of how they impact or influence collective entities, and how well they 'fit' the three idealized forms in which entities are constructed.

BROADBAND TECHNOLOGY

Broadband technology is defined herein as "A high capacity two way link between an end user and access network suppliers capable of supporting full motion, interactive video applications" (Industry Canada Broadband Task Force, 2005). Broadband network technology allows transmission of a high volume of information. Network technology is often considered to be broadband only when it allows for 1.5 to 2.0 mega bits per second of data transmission, a significant increase in capacity over conventional dialup connections that operate at 56 kilobytes per second or ADSL connections that allow 640 kbps. The Alberta SuperNet that is the topic of this paper will

provide connections to communities that allow for either 20 megabytes per second or 100 megabytes per second of information transfer (Government of Alberta SuperNet, 2002).

Broadband enables enhanced use of many new communication media. New communication media utilize computer processing of content to structure participation in communication; they use telecommunication networks for access and connectivity; they include information resources; and they involve digitization of content (Rice and Gattiker, 2001). Examples include e-mail, computer conferencing, and chat. New media allow people to overcome time and space when communicating, and to reprocess and combine information. They offer decreased communication costs (Fulk and Desanctis, 1995). New communication media have been used in personal, organizational and community life. Here, we are arguing that broadband increases the potential for use of more sophisticated new communication media, leading to new risks from this technology. We also argue that these new communication media have implications for individual and collective identities.

CRITICAL THEORY AND BROAD BAND TECHNOLOGY

Critical theory is a perspective that can potentially provide insights into how and why broadband is adopted and how it is relevant to identities and risks. We address two aspects of critical theory here: Habermas' macro level theory of legitimation crises (1975) and Beck's (1992) risk society thesis that addresses individualism and the sub-politics of legitimation.

Habermas and Beck can be read in a complementary way. As we will show below, Habermas outlines the crisis tendencies in the advanced capitalist or the late-industrial society. Yet, these tendencies have not resulted in a crisis cycle as implied by Habermas. Economy and society have been transformed in response to the possibilities or partial realizations of the system and identity crises. We believe that Beck provides strong explanations about this transformation. The developments of the (reflexive) individualization and the sub-political spheres, which we will elaborate in this section, can be evaluated as the systemic solutions to the crisis tendencies in the late-industrial

society. In other words, Beck's risk society is a result of and response to Habermas's legitimation crises. Risk society unfolds as legitimation crises emerge, normalizing and stabilizing the crisis condition. It overcomes crises by establishing new bases for legitimation beyond the traditional mechanisms of politics. It is the very nature of this society -generalized and, ironically, individualized risk- that makes it possible to devise new legitimation criteria. Risk may be regarded as inherent in the nature of capitalism because of the crisis-ridden growth and the economic crises of the previous decades. We will now briefly look at the two theories and show their points of articulation.

In his legitimation theory (1975), Habermas argues that the basic organizing principle of capitalism creates a fundamental contradiction where the desire for profit exceeds the economic rationality available to produce the desired amount of profit (Gephart and Pitter, 240). This contradiction produces "steering problems" that the state needs to manage to maintain its legitimacy. Economic crises arise because the exploitation of nature necessitates continual increases in technical rationality to offset increasing competition in the market and limits of the ecosystem. Thus there is a tendency for profit to fall. The state then intervenes in the economy to preserve profits and this leads to political crises because the state has failed to fulfill the economic imperatives it has adopted. Motivational crises emerge when workers or managers (or others) find a discrepancy between the motives needed by the state and key institutions such as education, and the motivations supplied by the socio-cultural system. Habermas states that the erosion in the civil and familial-vocational privatism, and traditional (indeed feudal) values, which are triggered by the economic and political crises, are behind the motivational crises (Habermas, 1975). The first type of privatism refers to "an interest in the steering and maintaining performances of the administrative system but little participation in the legitimation process" while the second "consists in a family orientation with developed interests in consumption and leisure on the one hand, and in a career orientation suitable to status competition on the other" (Habermas, 1975, p. 75). To put it differently, formal democracy and family-based reproduction are motivational aspects of the social-cultural structure of advanced capitalism. People may

lack the "proper" motivation for work, career orientation, and family-based consumption or proper attitudes toward authority and formal political institutions if the socio-cultural system is unable to function effectively due to economic and political crises or constraints. Motivational crises in turn can lead to legitimacy crises when members of society fail to value, uphold and pursue meaningful roles required by the capitalist system. And legitimation crises can result in failure of societal members to support the state and engender risks including disintegration of the state, changes in the nature of the state, or the use of authoritarian repression to maintain state control.

Beck's risk society thesis (1992) argues that contemporary society can be characterized as risk society because the production of wealth has produced risks that have now come to dominate attention and policy making. Beck (1992) offers two useful additions to critical theory that are based in the mutation of capitalism into reflexive modernism. The first supplement is Beck's insight that there has been a "social surge of individualization" (1992:87). That is, society is becoming increasingly individualized. The distinction between individual and society loses its meaning. The individual is now the society on his/her own behalf, without industrial (e.g. class) or half-feudal (e.g. family/community) ties. The individual, not the group or class, has become the reproduction unit of the social (Beck, 1992: 90). A "classless" social inequality emerges as classes dissipate but inequality remains. Individuals place themselves at the center of their own planning and life conduct (1992: 98) and avoid collective or standardized action consistent with class-based behavior. They are responsible for the success or failure of their biography. This is a kind of individualization to the degree that fairness in the market is not a social concern but a biographical problem. The individualized society is thus highly competitive, with much competition directed at similar others rather than toward those in different classes. A second consequence of individualization is that families have become the scene of continuous juggling of occupational necessities, constraints on education, duties of parenting, and the needs of housework. This produces the "negotiated family" (Beck, 1992: 89-90). Families matter to the extent that they contribute to or dissipate the individual biography and its pros and cons for the

individual should be 'negotiated' beforehand. The last consequence is market-dependency. Individuals are highly dependent on the market and other institutions like education, fashion, and administration organized around the market. In fact, "Individualization means market-dependency in all dimensions of living" (Beck, 1992: 132). While it seems to be the individual that freely chooses his/her path of biography, in reality it is the market institutions and the institutional network that shape and standardize individual lives through all impersonal and uniform ties (Beck, 1994).

Beck's (1992) second insight relates to two contradictory processes of social change. The first process is political, traditionally realized through parliamentary democracy and the second is non-democratic social change legitimated by "progress" and "rationalization" and driven by technology. The non-political sphere has been transformed as it blurred with the political sphere and has become a third sphere - the sub-political. Sub-political action involves economically guided action in the pursuit of self-interest that is neither political nor non-political. Driven by self-interest, the potential for structuring society has migrated into this sub-political system of scientific, technological and economic modernization. Political authority thus administers a development it has not planned and cannot structure, and scientific and business decisions have political content for which agents lack legitimacy. This leads to a moralization of industrial production (Beck, 1992: 222) where legitimacy is based in external moral pressure and opposing interests. It depends on the skill key agents and agencies have in presenting their views to the public, on the market significance of risk definitions, and on competition between parties or groups.

Sub-politics is a kind of politics beyond right or left, beyond traditional conceptions like class, and traditional mechanisms like parliament (Beck, 1994). Individuals pursue their own cause whether through individual means or in groups, questioning the legitimacy of the techno-scientific and economic decisions. Beck (1992) suggests that the outlines of late modernist society can no longer be seen in parliament but in the application of microelectronics where 'more rural' and 'more urban' variants are locked into competition. Legitimation is thus produced by non-economic

discursive justification of the measures and programs of modernization.

The two insights of Beck, individualization and sub-politicization, characterizing the society of risk, seem to emerge when the two important characteristics, family-based reproduction and formal democracy (Habermas, 1975: 75), of the society of advanced capitalism are in question. These are no longer strong enough to make people participate in the social-cultural and economic systems. Instead, as Beck puts it, risk society has substantive democracy (decentralized politics or sub-political fields) and individuals as the center of the reproduction. There is no need to motivate the individual of risk society since s/he is already deeply depends on the operation of the market and key institutions (education, fashion, traffic regulations, etc.). The burden of legitimation, as any other aspect of life, is now on the individual as a free agent, not on the state apparatus. Not being legitimate is not a social problem but a psychological trauma, with which s/he has to cope individually. Being so deeply market oriented and dependent, individuals have to find their legitimation tools in the market or market-based institutions and investments. This is a kind of society, in which the middle-class individualistic consciousness is generalized while its material basis (industrial society with welfare institutions) is lost.

Sub-politics is where this individualistic consciousness can be turned into a politics of self. It captures almost all societal spheres affecting every aspect of an individual's life. It pushes the boundaries of politics out from traditional mechanisms and lets individuals participate just at the point the formal political democracy is obsolete and obscene with its bourgeois identity due to legitimation crises. The separation of the legitimation system and the administration, which is vital for the so-called state autonomy over and above social classes (Habermas, 1975: 36), is achieved by the development of the sub-political spheres. As these spheres, into which individuals turn their attention when pursing their interests, expand, the state apparatus is freed from the legitimation function. The individual burden for legitimation is reflected on the techno-scientific actors including scientists, technocrats, and businessmen. Legitimation is restored, at the level of individual -the only socio-cultural level of risk society- and by the sub-political, yet

substantive, politics of individuals and interest groups.

Then, we can read Beck's risk society as a tentative solution to the crises of advanced capitalism as theorized by Habermas. The crises fail to erupt because risk society develops new legitimation mechanisms from within. Individualization and sub-politics can be considered as such. But, risk society doesn't simply solve the problems of the former (industrial) society. As its name implies, risk is its main-product. Indeed, the sub-political struggle between citizens and businessmen, lay people and scientists, and individuals and organizations (of all sort) is a direct confrontation as to which definition of risk is adopted and used as the organizing principle in particular cases. Then, the state can be expected to take on mediatory functions between sub-political actors and individuals, which endanger its legitimacy again. It is also the case that the transformation from late-industrial to risk society is not complete. Many institutions (for e.g. family, political parties, and the state itself) of the former have still a stronghold in the latter. Industrial society is never all industrial, but half-feudal (Beck, 1992). Cultural traditions are always effective in its legitimation (Habermas, 1975). In other words, the remnants of industrial society are in abundance in risk society, necessitating the old means of legitimation, that is, the state. For example, we may possibly observe welfare performances for citizens as well as steering performances for business by the state though they may somewhat reflect the new characteristics, like individualization, of risk society. In fact, this simultaneity of different socio-cultural systems is another reason why we should use both theories in a complementary way. While Habermas provides us with the tool to evaluate the political remnants of welfare state, Beck gives a new perspective to understand the socio-cultural currents in the post-welfare state era.

To reflect on our theoretical discussion, critical theory as outlined above can thus be used to understand the implementation of large scale infrastructures such as province-wide telecommunication networks supported by the state. In brief, the state reacts to decreases in profit, or less than desired profit levels, by intervening into the economy with political programs such as infrastructure projects funded

by the state. These projects provide a means to improve the profit level of private corporations, and also offer a way to enhance the capabilities of the socio-cultural system to produce people with the skills and knowledge needed by private firms and key institutions of capitalism. A double provision of welfare and steering performances can be the goal of such projects. However, the value of these programs may be questioned given they may involve transfer of state resources to capitalist institutions and to key institutions that support the capitalist state and that are necessary for its reproduction and maintenance e.g. educational systems, health care, and entertainment. The transfer to business (in terms of infrastructure contracts and operating licenses) during and after the project may be so huge, as opposed to (direct or indirect) welfare transfers to individuals and communities, that the program may not be justified. The state thus relies on ideology and communicative practices to demonstrate (or manufacture) the consent of societal members for such large scale infrastructures. Individuals are "substantively" involved in the sub-political sphere of the project, expressing their concerns and demands.   At the same time, the perspectives of the state and other sub-political parties, in this case, business people and techno-scientists are communicated to individuals. In individualistic late capitalism, this is often accomplished, following suggestions by Beck (1992) and Smith (2001), by ideological work that claims workers and citizens will receive needed benefits that make them or their organizations and community more viable and competitive in the global economy.

RESEARCH QUESTIONS

The discussion above indicates a connection among several important concepts and ideas: risk, sensemaking, broadband technology, identities and critical theory. The paper explores these connections related to three important research questions. First, how do people make sense of large scale telecommunications infrastructures, particularly broadband computer networks? Second, in this sensemaking, what risks and other features of the technology are important to people? Third, how do risks and related aspects of broadband technology relate to individual and collective identities? That is, what does the technology mean to residents and their personal and collective identities?

METHOD

Research Setting. This research investigates sensemaking about the Alberta SuperNet. The Alberta SuperNet is a broad bandwidth electronic network project intended to provide high speed electronic access to 95% of Alberta's rural communities.   The basic network is being funded by the Government of Alberta at a cost of $295 million.   429 communities will be connected to the network when the entire system is 'lit up', an event scheduled to occur by September 2005 (Government of Alberta SuperNet, 2002). The purpose of the SuperNet is multi-fold.   It is intended to connect government facilities and institutions and to enable distance applications of government and social services throughout the province. It will provide competitive internet rates to rural Albertans. The project is unique in that the Province of Alberta is the first jurisdiction to construct a public network on such a scale. When the SuperNet is complete it will consist of 11,000 kilometers of fibrenet and 2,000 kilometers of wireless microwave. The technical guarantees of the SuperNet's network in relation to scalability, latency, packet loss, and availability will place SuperNet linked rural communities at a level on par with the services that can be provided by a typical urban internet service provider.

Data. Data used in this research were collected as part of the research program of the Alberta SuperNet Research Alliance (ASRA). The Alberta SuperNet Research Alliance, funded by the Social Sciences and Humanities Research Council of Canada, was formed to investigate the impact of implementation of the Alberta SuperNet on Alberta communities in relation to health, distance education, home and community, and business practices. The Alliance conducted nine town hall meetings in rural communities in Alberta during which community members were invited to present their interests, concerns, and needs related to the Alberta SuperNet. The nine communities involved are identified with pseudonyms. The format of all of the town hall meetings was similar. A presentation on the SuperNet and the Alliance introduced the SuperNet and the SuperNet Research Alliance to the participants. This was followed by a question and answer period. The meetings took place over a period

of several months at the end of 2003 and beginning of 2004. They were attended by community members and ASRA researchers, both live and via digital video linkup. In some cases, representatives from the two sub-contracting communications companies undertaking the project - Bell West and Axia IP SuperNet - were present to answer questions and participate in the discussion period.

The detailed transcripts that were prepared from these 9 town hall meetings provide the data for the paper. These transcripts for the question and answer sessions were, on average, seventeen pages in length.

Data Analysis. The transcript information was prepared in electronic and printed formats. These data were read carefully and key themes and issues evident in the data were noted using pen and paper techniques. We found that many of the statements made during the town hall meetings addressed opportunities the SuperNet was thought to provide, and risks it could engender. Opportunities were defined as benefits or positive features that the SuperNet was thought to bring to the local community or its residents, or to Alberta in general. Risk was defined as a phenomenon that constituted a threat, danger, or harm, including potential harms that could impact individuals, organizations or communities.

We then focused on statements that addressed the two themes. We wrote summary themes directly based on the actual statements as a means of representing the general themes we found, and we sought to aggregate very similar themes and data strips into similar categories. We used NVivo software to facilitate this process. These themes and the statements they summarize are depicted below in Tables 1 and 2. Each data strip in Table 2 is numbered, with O referring to opportunity and R to risk. There were 69 data strips identified that addressed opportunities and 45 data strips addressing risk. For purposes of limiting the length of this paper we include in Table 2 only a small, yet key, sample of the data strips that are actually discussed in this paper. The complete table can be obtained from the first author.

Once the thematic analysis was completed, we reviewed the themes, noting those directly related to one another. The results for the paper are the themes that were uncovered and the relationship the themes have with key concepts. An interpretation of the themes was then developed. The interpretation summarizes key elements in the themes and integrates the substantive issues that the actual statements raise. This interpretation is presented along with the themes and the data strips on which the themes were based. Next, we reviewed the results and interpretations and discerned the features of identity that were evidenced in the themes and the original data. Finally, we reviewed the general points of analysis and interpreted these points using a critical perspective based in the works of Habermas (1975, 1979) and Beck (1992).

RESULTS AND FINDINGS

Opportunities. The opportunities claimed to be possible from SuperNet (see Table One) address a range of issues and many specifically relate to keeping a community viable, i.e. its functional integrity. The themes reflecting points made by participants can be grouped into 5 areas: 1) attracting people to the community and retaining them as residents by providing them with access to broad band electronic networks, 2) economic development made possible by increasing home businesses, providing benefits to the traditional rural economy, keeping professionals in communities, and taking actions to prevent rural economic decline, 3) providing support to families, 4) increasing social connections and 5) providing emergency contacts and support.

Attracting people to communities. Participants stated that SuperNet will attract people to rural communities (O1-O11): "I want to be able to attract those people and having the internet and the SuperNet and being able to access that information quickly and reliably will be important to communities" (O1). " If someone's looking into our community, to say 'we do have SuperNet here and this is what you can do with it.' It may entice them along with a lot of other factors" (O5). SuperNet is seen to allow people to access information quickly from rural communities (O1). It allows people to "move their business" into their home and "they can justify their home cost with the business cost, it makes it affordable for them in this community" (O2). It thus is seen to allow people

to develop "the home-based industry, where children and families worked and studied together" (O3). SuperNet will help attract younger people "back to the land" and allow them to "supplement their incomes" (O4). These people "expect access to the same services and opportunities that broadband access presently provides to urbanites" (O4).

Residents want to change the image of their communities. For one community, "It wanted to see itself as more than a bedroom community, and see itself as self sufficient, self standing. It wanted to encourage people to spend their whole day there..." (O7). People could live in a rural area and still participate in interactions with people "from any community, from Calgary, Edmonton, and enjoy what we're doing locally, with a high speed connection. It's limitless, what's possible" (O8). For example, "From my home in Claresholm I was connected to York University... and gave a presentation. (09)." Attracting people to rural communities is thus perceived to be based in part on the ability to access information while living in a rural community (O15). There is also an emergent concern to "ensure that knowledge stays in the community" (O16).

Residents also state that SuperNet will improve rural access to services. These services include libraries (O35) and educational institutions that could provide distance learning (O36). In addition, SuperNet is considered capable of potentially allowing mental health services where "we could have teleconferencing for counseling sessions" (O37) and such services would mean "patients can be maintained in the rural communities by the mental health resources that reside there" (O38). Theatre could also be provided by SuperNet (O43) for "people who don't have the chance to see live theatre because they don't want to drive to Calgary or Edmonton...we're actually talking about doing a live broadcast from Calgary" (O44). Remote computer services could also be provided or accessed: "By using MSN messenger, we can remotely control computers, so if someone's having problems with their computer...I was able to assist someone at home with their operation of their computer" (O46). Further, SuperNet provides medical services for example "we could have a surgeon" operate remotely (O45). And videoconferencing "helps" assist with trauma cases (O46), and diagnostic services (O47).

Legal services could also be provided by videoconferencing (O47), as could information from experts on fossils (O48).

Economic development. Rural economic development is another area that participants thought would benefit from the opportunities provided by SuperNet. SuperNet could help "get these small businesses located in our industrial park, in our homes or wherever" (O17) because "the real estate prices are less" (O18). SuperNet thus provides "potential for strategic advantages for communities" that are proactive in programs seeking to attract businesses (O19). Oil companies could communicate with the parent company from rural areas "to have distance meetings" (O21: see O22 as well). SuperNet also "gives communities the opportunity to chase the manufacturing companies in rural settings" (O23). It can benefit farms (O24). And SuperNet can help rural computer stores to sell more computers because "he could hardly sell computers without high speed... So when that came in, he started selling computers" (O25). Indeed, as intended by the government, SuperNet is perceived to encourage the development of internet service providers in rural areas. "Within 90 days of SuperNet, we've had a wireless service provider partner with the cable company" to provide internet services. These services are seen to be provided in rural areas, once SuperNet is available as a 'backbone'. "We should see an explosion in rural Alberta because there is far less competition there, there's access to more communities that want to have the service" (O29).

Some residents expect a shift in commercial operations to home based businesses: "home is where a lot of our commercial sector will be situated" (O30). This will influence both the nature of these businesses and the nature of home life by (re)-creating "the home-based industry, where children and families worked and studied together" (O31). "So there are opportunities to having entire businesses... right in your basement" (O32). The integration of home and business is considered to be attractive to professionals: "I think this will make a difference to the professionals" (O55). Professionals "won't have to leave town because you have all the resources on our end" (O56).

Family support.   SuperNet is also expected to help rural communities remain viable by allowing "connectivity between families, we won't have elder parents living off by themselves, never hearing or seeing their grandchildren, so this technology will put families back together again" (O12). Lower cost of connectivity versus long distance telephone charges is provided as one reason for this benefit (O14).

Increased social connections. SuperNet is seen by many participants as a means for increasing social contacts with families (above). It is also seen as a way to encourage parents to interact with one another (O52) and to "get a real sense of community through the groups they connect with" (O53).

Emergency services.   Participants also conceived ways that the SuperNet could benefit emergency planning and response efforts. "The ability with the SuperNet would be the ability to have our residents informed and up-to-date" (O66). One community had the goal of using the internet to facilitate disaster recovery (O64) but communities have found that "the networks aren't scaled for use during emergencies" (O65). The problem that arose was "the very same technologies that emergency services were using to coordinate activities were the ones the public were competing for access and at the height of evacuations we had a congestion problem... we can still send e-mail messages back and forth for coordinating activities between communities" (O65). Another problem is that in some locales the telephone system and the internet/SuperNet system use the same fiber optic cables: "If our phone system goes down... that means our internet goes down" (O69).

Risks.   The risks that participants discussed generally relate to challenges involved in getting access to the SuperNet and using the technology effectively to develop the community.

The first potential risk is that rural areas will receive inferior services, and this is related to decrease in services, use of distance professionals to provide services, lack of access for outlying areas, and access problems within the community. Participants noted the benefits of SuperNet could be undermined by unreliable technology or lack of fulfilment of the potential

for this technology. They also stated a concern with the possibility that urbanization would increase. And they stated a concern for the possibility that SuperNet will increase, not decrease, social isolation in rural communities.

Inferior services for smaller centres. Participants acknowledged the claim that SuperNet will provide rural communities with network services equivalent to those of urban areas (R2).   But they were sceptical: "we're kidding if we think we have the same service as someone in a large community in downtown Edmonton" (R1). One concern was that "rather than a two way exchange there'll be more of a broadcast" from urban to rural communities (R3). Participants thus exhibited a concern for fairness in service provision: "I think there's an obligation there to ensure that the services are going to benefit everyone equally" (R3). Decreased services could result where professionals remain in urban centres (R6) and one participant notes, regarding SuperNet, that "I don't know if this is going to be the solution to it" (R5).

A concern for the loss of professionals in the community also emerges (R8-R12). One basis for this anticipated loss is that SuperNet will allow teleconferencing (R9) and thus distance education to substitute for local schools, giving "the government an incentive to say, 'well you don't need a school here, your population isn't big enough'" (R12), "If we start eliminating potential teaching jobs, they're going to be cutting the throats of the people who do want to live here and love this community" (R8). Loss of health professionals could also occur if health services are provided by the SuperNet (R11).

More remote areas outside rural communities are said to experience even greater problems (R13-R14) due to limited access. Further, the mere provision of SuperNet to a community, e.g. by connecting a government office, does not ensure residents will gain access (R28-R36).   The problem of connecting homes and small businesses is left to "private sectors, ISPs" (R28) or internet service providers and without adequate profit potential ("no viable economy" R28), the extension of services may not occur.

The extension of services by private sector organizations thus relies on the potential

profitability of providing internet services to small businesses and homes raising the question that "What happens if there's no private sector firm that sees it as viable to come in...the whole experiment may die still-born" (R31). The government is seen to have failed to address the economic feasibility of the SuperNet and to have selected the technology for internal uses (R33).

The need for services to be extended to all homes and businesses is considered as important (R32-R35), e.g. to allow for emergency responses (R32).

Unfulfilled potential. SuperNet was seen by some participants as establishing "a high expectation" (R27) with "lots of promises, lots of hype ... where the sun, moon and stars are promised but generally don't deliver" (R15). This "gap" (R27) is due to the fact that SuperNet is a "big experiment" (R15). Local communities have been required to "invest in getting ready for SuperNet" and forced "to buy all the same equipment ... to get a standard" (R16) when the government has failed to specify "any credible time line" for implementation and "should have had all these standards in place long before they announced the deadlines" (R16). Bandwidth needs have been "grossly underestimated" (R17) and the video conferencing "doesn't add value" (R19; see also R21), "I don't think it helps much, I mean we got to watch somebody fall asleep in the audience and that was a joke" (R20).

Residents considered the government's understanding of needs to be problematic: "what rural communities need is not promises of potential it's commitments to protect the industries that are actually sustaining the small communities" (R23). Thus residents seek "commitment" of resources by the government (R23-R25). Further, the "potential" of SuperNet is limited by the high cost of access: "It's still very expensive" (R27).

Social Isolation. Despite the many promises or potential benefits of SuperNet, there is a concern that SuperNet will "accelerate the trend of urbanization" (R45). Further, it could also increase social isolation in small communities (R37-R44), *i.e.* isolate "people even more as the need for using the computer suddenly increases" (R37), rather than

"connecting them to the outer world because we will never need well we will need to leave our computers less and less" (R38). SuperNet could thereby become "destructive- and isolating experience and the so-called communities themselves wouldn't be real, the connection between people and the internet wouldn't be real" (R42). As one resident states, "I still think, in the end, we're still going to need that one-on-one contact. This will be great in certain areas, but there's still going to be a social impact" (R43). "We can't lose all personal contact" (R44).

Identities. The thematic analysis of opportunities and risks shows the features of identities that were constructed by town hall participants. At the level of individuals, the key identity constructed was the professional self of community members and prospective members. An important impact of the SuperNet is its potential to allow work and business activities to be done in the home. This allows people to live and work in a rural community while "tele-commuting" to distant places, particularly urban centers. The home based worker qua tele-commuter identity was particularly relevant to professionals but it was also seen as relevant to farmers, ranchers, and oil industry personnel among others. The anticipated computerization of work activities thus implies people are expected to be doing more work at computer terminals, and that they will engage in more computer mediated interactions in this work than in traditional work. The distance and their (re)location as home based workers would make them more isolated but it would also integrate professional life into home life.

The social psychological self is impacted primarily by the implication that people will need to be more skilled at use of computer and network technologies for many aspects of their work and professional lives and that people will enjoy this experience. However, people will also have to deal with social isolation and the loss of face-to-face personal contact. The physiological self will be impacted by access to electronic health and medical services. The financial self is expected to be impacted by opportunities to reduce the costs of living and working by locating the workplace in the home. As well, the SuperNet is seen to offer new ways to earn money.

Collective identities are also impacted.

As work is integrated into the home, family and work activities may overlap and conflict, although participants tended to conceive advantages rather than problems with such integration. Thus families are expected to have stable and ongoing identities since they can stay in contact, via computer network connections and new media, even if family members are geographically distant from one another.

Organizational identities will be impacted because identity will be linked less to urban places and more to rural features. As well, organizations are expected to have greater flexibility in where they are located. Moving work out of homes may also lead to identity management issues where family and work issues need to be addressed in the same physical setting, perhaps using the same computer network technology.

Communities are the key collective entity being described in the town hall meetings. A strong contrast emerges between urban areas that are seen to have many desirable features that make them attractive, and rural communities that are seen to experience challenges in remaining viable - retaining businesses, offering services, and retaining residents especially young people. Residents want rural communities to become attractive places - places that attract urbanites, retirees, and new industries as well as retain younger members, key social services, and institutions. At present, rural communities are seen as desirable places due to the strength of community ties and physical aspects of communities such as the beauty of the landscape and the quality of land for farming and ranching. However, rural places are viewed as un-attractive because limited services and job opportunities lead people to leave the community. Thus residents want rural communities to shift their identities from bedroom communities or isolated places to fully faceted living places that can compete - for jobs, people, and even entertainments - with urban spaces. For residents, SuperNet is expected to have the potential to create more equal conditions among rural and urban communities.

DISCUSSION AND CONCLUSIONS: A CRITICAL THEORY BASED INTERPRETATION

The crisis model suggests that the state reacts to an under supply of profit among capitalist firms by taking action to maintain support and legitimacy. One important action is to encourage and support the adoption of new computer technologies that are seen to increase profit or reduce costs for capitalist firms, and for the government itself. Computer technology including networks has been widely adopted in urban settings thus strengthening the economic capabilities of urban areas and leaving rural areas technologically disadvantaged. A general crisis in rural economies in Alberta appears to have emerged due to a number of factors and this economic crisis has led rural residents to conceive themselves as being treated unfairly relative to urban residents. Rural residents claim to experience more limited access to government services and fewer employment opportunities than urban residents. This thus created a political crisis or at least crisis potential and the government sought to retain citizen loyalty by developing programs to address rural needs.

The rural economic crisis was accompanied by a social crisis involving distribution inequities between the "have" urban areas and the "have not" rural communities, a geographically based form of the digital divide. This crisis was related to conflicts between urban and rural, and increasing competition for government subsidies and resources. In addition to this social crisis, a motivational crisis emerged in rural areas where key social institutions are seen to fail to provide the education, medical and information services rural residents needed to compete in the global information economy. This is further heightened because local residents, especially young people, often move to urban areas to seek education and work as well as to engage in recreational activities and entertainment. These crises create the potential for legitimation crises wherein rural areas could potentially become less supportive of the current political administration.

The emergence of political, economic, social and potential legitimation crises in rural areas thus seems germane to the creation of large scale technological systems and infrastructures such as SuperNet. The SuperNet was proposed initially as a means to reduce operating costs of government and to increase rural access to services. It quickly

became seen as a means of providing economic, social and leisure opportunities to rural areas through electronic network connectivity. From a Habermasian perspective, the government's commitment of $295 million to the SuperNet that is designed to connect rural and urban areas addresses political issues and interests by showing the government is concerned to support rural communities. Economically, SuperNet seeks to create a 'level playing field' by providing opportunities in the global digital economy to rural areas and making the costs of such access equivalent to access costs in urban areas. It also encourages rural economic development by providing opportunities for internet service providers to operate in rural communities. These trends seek to lower the costs of network connectivity and to increase job opportunities. SuperNet also addresses deficits in socio-cultural rationality by allowing and even encouraging rural areas to develop technological means to access education, medical and health services, and recreational opportunities. Further, it is offered as a means of keeping families 'together' through computer mediated communication modes and home based businesses. Essentially, SuperNet will enable the 'negotiated family' (Beck, 1992) that characterizes the risk society even though it is justified on the basis of the traditional family. Thus SuperNet is a program that can reduce the potential for legitimation crises.

The SuperNet is also a sub-political program, one that was initiated by the government but implemented by private enterprise, important social institutions such as libraries and schools, rural communities, and even the Alberta SuperNet Research Alliance. The legitimacy of the SuperNet and by implication the government is being produced not by parliamentary act, but by the discursive actions of agents and agencies involved in the construction of the SuperNet. The data suggest that this sub-political discourse is being produced by skilled agents who can communicate relatively effectively with rural community residents to explain the potential of the SuperNet and encourage its use. In addition, it integrated the views of rural residents into its body of arguments, resulting in a sort of substantive political participation. It would not be possible to legitimize the project without that integration. In the town hall meetings we observed and participated in, the

market significance of risk was also communicated. In particular, community residents sought cost effective means to work and live in rural areas, and they conceived SuperNet as a means to achieve such ends. SuperNet was seen to offer potential for home based businesses and to allow professionals to live in rural areas and still access key resources and services. Further, the discourse reflected competition among different groups, in particular urban versus rural, and revealed that the government sought to provide costly resources to rural areas to make them more competitive with urban areas.

The discourse about SuperNet also reveals two further important aspects of the risk society thesis. First, it is noteworthy that the focus of much discourse is the professional self, and that home based businesses run by individuals and families are seen by residents as a key benefit of the SuperNet. This suggests that it is the individual and the family, and not the community, which are becoming the basis for social reproduction. At the same time, the potential unemployment in the form of underemployment due to flexible work arrangements (Beck, 1992) made possible by the project was discursively overshadowed by the opportunity of home-based work. Further, the double-address to individual and family indicates the simultaneous existence of the elements that are typical in late-industrial and risk societies. Family is still important in rural areas, as a reproduction unit and a gradual transformation towards more individualization may be one goal of the project. In this sense, broadband technology and internet may push market into all aspects of rural life, which still retains a good deal of feudal elements. Second, SuperNet can be seen as a program designed to transform and allocate risks from one sector of society to another. As a discursive strategy, it pretends to engage mainly in wealth distribution. This image is achieved partly by the illusion of calculability of risks, which is in no way possible in risk society (Beck, 1992), as well as opportunities by the project. The illusion of calculability may lead to an illusion of control over risks, which in turn can be perceived as a by-product (since they can be controlled) rather than as the main-product (systemic and determinant beyond control) of the project. Risk distribution appears to be of secondary as opposed to wealth (opportunity) distribution. In fact, the project reflects trends in

risk society whereby past wealth generation that led to large urban areas is now being challenged due to the harms that this brought to small, rural communities and the allocation of risks become a major issue. The discourse about SuperNet is thus a reflection of the broader discourses of contemporary risk society.

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TABLE 1: Nvivo coding themes

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_____

_____
OPPORTUNITIES
_____
_____
_____
o attract people to community
o increase family connections
o increased information flow to community
o economic development
o increase in home business
o benefit traditional rural economy
o improved access to services
o increase social connections
o keep professionals in community
o prevent rural economic decline
o general benefit to rural community
o prevent rural decline
o contact community for emergencies

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━━

RISKS
_____
_____

o inferior services for smaller centres
o decrease in services
o benefit compromised by unreliable technology
o professionals will provide remote services
o lack of access for outlying areas
o potential not fulfilled
o access not extended into community
o increase social isolation
o increase urbanization

TABLE 2: Nvivo data sets for Opportunities and Risks nodes
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OPPORTUNITIES
_____
_____

Attract people to community
O1 I want to be able to attract those people and having the internet and the SuperNet and being able to access that information quickly and reliably will be important to communities trying to attract people to their rural settings and we would like to attract as many of those people to our rural setting. *Participant, TH meeting 'A'*

O4 Attracting younger people back to the land

will become an increasing priority, and it is primarily for this reason that I recommend our provincial government and its partners in the SuperNet project thoughtfully commit to making broadband Internet access available and affordable for remote rural areas, as well as the rural towns they presently intend to serve. If people are to return to the land, this amenity must be available to them at reasonable cost. They will expect access to the same services and opportunities that broadband access presently provides to urbanites, to supplement their incomes and ensure that their children get the maximum educational benefit of the Internet. *Participant, TH meeting 'F'*

O7 It wanted to see itself as more than a bedroom community, and see itself as self sufficient, self-standing. It wanted to encourage people to spend their whole day there, their whole week there, not just the evening hours. That's not just an economic thing, it's a cultural thing. *Participant, TH meeting 'G'*

O8 We could all come together as a group to do something like that, but with a high speed connection or any type of broadband we can offer, where people could come from any community, from Calgary, Edmonton and enjoy what we're doing locally, with a high speed connection. It's limitless, what's possible. *Participant, TH meeting 'I'*

O9 My wife and I bought a house in Claresholm in March of last year. Part of the reason we felt we could make that work for us is that there is a DSL connection. Telus was able to hook us up in three days. What it allows me to do is spend four to five days of the week, over the weekend I'm usually working from my home office in Claresholm, I'm in contact with these folks who still work together closely. I'm building my business around really trying to raise awareness around the potential of such things as videoconferencing. From my home office in Claresholm, I was connected to York University, Waterloo, Ontario for five hours and gave a presentation and participated in a full afternoon's activities. We were having a symposium there, without a hiccup. It was actually a better connection than what we have here today. As you heard, the benefits that have come, I think it is really crucial to happen outside of the major cities because the cities are forging ahead. You hear about the internet

economy and e-commerce and so on.
Participant, TH meeting 'I'

Increase family connections
O12 the advantage of the SuperNet will provide for that, we will create connectivity between families, we won't have elderly parents living off by themselves, never hearing or seeing their grandchildren, so this technology will put families back together again without them having to traveling great distances to see each other.
Participant, TH meeting 'C'

O14 For example, you might have a small town situation where the children are leaving to the bigger communities for education or what not and this gives them a way of communicating with their community- talking with their parents and friends in a way that's much more inexpensive than long distance, right?
Participant, TH meeting 'F'

Increase information flow to community
O15 But myself as economic development officer, I could probably list a few dozen advantages. One I see is accessing information on the community. *Participant, TH meeting 'C'*

O16 that's right and I think there's this cultural aspect that there's a lot of knowledge in small communities that people are concerned to ensure that knowledge stays in the community that that has uh the opportunity to develop it
Participant, TH meeting 'H'

Economic development
O17 What Bob, who's our Economic Development Officer, and I for years, have always heard that because the world is getting smaller, businesses don't have to be out in Calgary or Edmonton because of the technology, so why can't it be in 'C'? Certainly, a major part of our economic development platform is from the point of view of trying to get these small businesses located in our industrial park, in our homes or wherever and take advantage of some of the things we have going for us. *Participant, TH meeting 'C'*

O19 I think that there are a number of opportunities to be explored particularly to do with emergency preparedness and also looking at business continuity programs for new businesses coming into communities. I think

there is potential for strategic advantages for communities who appear to be proactive in those areas. *Participant, TH meeting 'C'*

O21 One of the things that we're wondering about is if oil company A wants to talk to its parent company would they be able to have that connection, to have distance meetings.
Participant, TH meeting 'G'

O25 One of the guys at the meeting owns a computer store so he could hardly sell computers without high speed, so once again you can't update programs. So when that came in, he started selling computers. *Participant, TH meeting 'G'*

O29 From a personal point of view, and again I mean only time will tell if I'm right or not, but I believe we'll find a lot of these providers will now take their capital and invest it in the local communities where before they were spending it on the transport side of the house. We should see an explosion in rural Alberta because there is far less competition there, there's access to more communities that want to have the service and so we've had eight communities to date in Olds that have formed their own institute as to, What do we do about SuperNet? Do we partner with neighboring communities around us? Is this just an Olds initiative? How might we learn from them? How might we get a service provider excited about coming in and competing?
Participant, TH meeting 'I'

Increase in home business
O30 I think for 'B' as a community, when we talk about home, home is where a lot of our commercial sector will be situated and for a lot of communities, I think that will be true and that will be a social change that I think [participant] you will be interested in terms of, we will certainly see that movement and that has implications in terms of our tax structures and all those by-products that come with moving from a commercially-based business to a home-based business, the move to that and the reorganization for that those sorts of things.
Participant, TH meeting 'B'

O31 Perhaps now we have the potential to develop the best parts of the cottage industry, the home-based industry, where children and families worked and studied together.
Participant, TH meeting 'B'

Improved access to services

O36 For example, we're talking about education and I see that this service could be a real benefit for individuals in the community who would like to access post-secondary education especially because it's just cost prohibitive for a lot of people, especially if you have family commitments or farm commitments to output yourself and [high-octa] your post-secondary degree. It's also cost prohibitive for most of the institutions to provide classes for one individual in a small town, whereas it could be the answer to the problem, albeit 'A''s provided not a bad service in that regard. But possibly, this could be a real benefit and it could also benefit our upgrading students because we have a very large First Nations community here who again for cultural and financial situations don't want to uproot themselves when they're in the 20s and then realize that they really should have finished their high school and they want to do so. So they're already making use of the adult education services we have here in 'F', but I think we could expand that a lot more. . *Participant, TH meeting 'F'*

O38 Mental health is interesting in terms of community because depending on what type of mental health, but if we're talking about chronic disease in mental health, what we've been doing is building remote capacity in the rural remote communities so that patients can be maintained in the rural communities by the mental health resources that reside there, rather than coming into the larger centres for their care and et cetera. *Participant, TH meeting 'F'*

O44 We're probably about 12-18 months away, but we're doing the planning right now because I think that there's so many people who don't have the chance to see live theatre because they don't want to drive to Calgary or Edmonton, but we're actually talking about doing a live broadcast from Calgary to probably the schools or a school in every community. *Participant, TH meeting 'G'*

O47 The doctors, it's not safe for doctors to practice in a place where they can't get access to the diagnostic they can in the city. They're running too many risks. But if you've got [ ] you can just zip back to Edmonton on real time <muffled' I'm a lawyer, so I know that lawyers can use certain [ ] through videoconference,

you know to go in and talk to the judge in the chambers. If you could do that through videoconferencing that's good, you could never do it before. *Participant, TH meeting 'G'*

Increase social connections
O52 On the one hand, we've been able to distinguish the way people can use, for example, like a small town like 'F', they can actually use the internet to enhance connections between people in that place, and we talk about communities of place there. For example, parents talking with other parents in groups- it might be about the school situation, it might be an issue about public governance. *Participant, TH meeting 'F'*

O53 At the same time the internet has made it possible for some people to get a real sense of community through the groups they connect with. *Participant, TH meeting 'F'*

Keep professionals in community
O55 I think this will make a difference to the professionals [ ] They see it as being viable for small and medium sized enterprises, but for professionals who are also moving, nesting back into their homes. *Participant, TH meeting 'E'*

O56 You had mention how this would probably spawn other providers and already the town and county are becoming partners in this [ ] The possibilities of internet, of what your posing right now, is videoconferencing in a meeting, maybe with engineers or lawyers just incredible.[Participants]'s whole joke about that will allow you not to have to leave the office sooner on wintry, cold, snowy days is true. It's true and that's just a side advantage that you won't have to leave town because you have all the resources on our end. *Participant, TH meeting 'I'*

Contact community for emergency purposes
O65 I think it's, let us to look at other solutions such as use of cellular phones and the more ubiquitous systems that are most cost effective. However, the networks aren't scaled for use during emergencies. Our experiences this summer during the evacuations were that the very same technologies that emergency services were using to coordinate activities were the ones the public were competing for access and at the height of evacuations we had a congestion problem. The internet can play a

role but not necessarily for that type of communication, but what we have found is that where phone networks may be congested, we can still send e-mail messages back and forth for coordinating activities between communities. *Participant, TH meeting 'C'*

O66 The ability with the SuperNet in the end would be the ability to have our residents informed and up-to-date. Especially in the event of an emergency, you would want to be able to provide timely information to all of your community. *Participant, TH meeting 'B'*

O69 Disaster Planning. If our phone system goes down, because our phone system from here to Hinton is run through fibre optics, that means our internet goes down. What thoughts do you have to allow us to get around that otherwise we would lose everything in one sweep. If we lose the fibre optics, then everything is dead. *Participant, TH meeting 'D'*
_____
RISKS
_____
Inferior services for smaller centers
R1 Absolutely. For us to be, we're kidding ourselves if we think we have the same service as someone in a large community in downtown Edmonton … they're getting themselves because they don't have the same service. So the answer is, we need it as badly as someone in Inuvik...   *Participant, TH meeting 'E'*

R2 I'd like to wrap this line of questioning up by focusing it more on the remote rural communities. The potential impacts of not having access, the level of access that's available to the urbanized communities- there's a trend for young people to leave to urbanized communities, for a number of reasons, mostly economic. Are there assurances in the plan for developing this infrastructure that the accessibility from those remote rural communities would be equal to that in the urban communities, that it provides the same level of opportunity to those living on the land as it does to those living in urbanized communities? *Participant, TH meeting 'F'*

R3 That's wonderful, I'm really just concerned with the taxpayer dollars. Whether its 30% or 2% really doesn't make a difference to me, it's all coming from the taxpayers of Alberta and the services that are going, I don't care what percentage. I realize business cases have to be

legitimate, but if the province is going to invest to the extent it has, I think there's an obligation there to ensure that the services are going to benefit everyone equally. *Participant, TH meeting 'F'*

Decrease in services in rural communities
R5 I mean, we're talking about some potential here for improving access to local position, but there are some pitfalls and risks as well. I don't know if this is going to be the solution to it. *Participant, TH meeting 'E'*

R6 a worry still comes to me that,' oh, if we can do it all through teleconferencing, why do we have to hire local health professionals. They could all be radioed in from Calgary.@ That just worries me and I know that we could have a very vibrant community here if we could have a good mix of the all classes of people. If we segregate all the professionals to the urban centres, we take a big chunk out of this community *Participant, TH meeting 'F'*

Benefit compromised by unreliable technology
R7 Connectivity again is an issue when it takes forever to download… By the time you've got it, it's gone already, it doesn't download at all. *Participant, TH meeting 'E'*

Professionals will provide remote services only
R9 a worry still comes to me that,' oh, if we can do it all through teleconferencing, why do we have to hire local health professionals. They could all be radioed in from Calgary.@ If we segregate all the professionals to the urban centers, we take a big chunk out of this community. *Participant, TH meeting 'F'*

R11 By having the ability to provide professional services (mental health, education) via SuperNet, we could overtime erode the need for these professionals to be located in the rural communities. How can we guarantee that we can keep professional jobs in the rural areas? *Participant, TH meeting 'F'*

R12 From [community], we heard that the technology would pull live teachers away from the community and would actually give the government an incentive to say, 'well you don't need a school here, your population isn't big enough.' *Participant, TH meeting 'G'*

Lack of access for outlying areas

R13 I mean, a lot of our tourism is outside the area, outside of 'G', and ADSL and cable is in our community for what they need. Like what [participant] and [participant] have said, it's the outer community that needs it the most. I think that Ferrier they're out wireless on that 5 mile corner. *Participant, TH meeting 'G'*

R14 We have a small community that's trying to get active on the e-learning side and currently they don't have the bandwidth in Susa Creek school to accommodate any sort of e-learning there and they're running out of the office here in town. *Participant, TH meeting 'D'*

Potential not fulfilled

R15 This is the big experiment, nobody else has done this. There's lots of promises, lots of hype. Is this going to be the classic technology case where the sun, moon and stars are promised, but generally don't deliver, at least not in the first phase. *Participant, TH meeting 'C'*

R16 One of the biggest concerns up to this point has been the lack of any credible timeline. We're trying to put manpower to invest in getting ready for SuperNet, buying new equipment and just recently for example last week, we had to complete a survey which seemed to say was one of the options that they're going to force people to buy all the same equipment for example, they're going to get a standard. Well, they should have had all these standards in place long before they announced these deadlines, which have come and gone and we're now part way towards being ready to implement the SuperNet. *Participant, TH meeting 'B'*

R23 Can I respond to that? I heard the word potential a lot there. Bringing it back to the issue here, what rural communities need is not promises of potential it's commitments to protect the industries that are actually sustaining the small communities. *Participant, TH meeting 'F'*

R26 I guess I see this as a double edged sword. I see that we have some immediate real needs in this community, such as what I was talking about before, the mental health and education, that this could be a really great benefit, but I am very concerned with the long term impact on the community overall. *Participant, TH meeting 'F'*

R27 There's a lot of very well qualified professionals living outside of town who telecommute to Edmonton and Calgary supporting websites or corporations. The problem people seem to have a high expectation of what the SuperNet is going to bring and there really is a gap to get connected to SuperNet. It's still very expensive, they want the connection, they want affordable access, however the actual cost to send data over the SuperNet is quite high. *Participant, TH meeting 'G'*

Access not extended into community

R29 Just that there's the issue of when the SuperNet gets to the community, how does it get from there to homes and so on, has come up repeatedly in our discussions and it was one of the first questions I had myself. We were reassured that what's going on in the communities so far, particularly those (west?) of the Rockies, that private enterprise moves pretty quickly when it sees an opportunity. *Participant, TH meeting 'B'*

R31 Now we're in a sense going to see it as in the case of what [participant] said, if in the First Nations communities, and this is certainly in comparison to Australian Aboriginal communities, if the only connection is in one place and it's within the school, then what happens to the rest? What happens to the governance structure at the Band Councils if they are not connected? What happens if the health clinics aren't connected, and indeed what happens if there's no private sector firms that see it as viable to come in and provide the dispersal and extension of services to all those individuals and families within a larger reservation territory. I mean, the whole experiment may die still-born quite so. *Participant, TH meeting 'B'*

R32 As far as the delivery of SuperNet as an emergency response mechanism, we need to ensure the ability to deliver, to encompass the whole community. I think that's going to be the challenge. *Participant, TH meeting 'B'*

R36 That's what my concern is. It will be here and it will be wonderful. But if we can't be open to the public to offer that, then where are we

going to go? It's only as good as the access to people that have the knowledge to run it. *Participant, TH meeting 'I'*

Increase social isolation
R38 Will you be surveying or researching whether or not the broadband experience, if it is to be as widely used as indicated, would you be asking the question of whether that [experience] is actually isolating rural people more than connecting them to the outer world because we will never need well, we will need to leave our computers less and less. *Participant, TH meeting 'A'*

R42 But the data, the studies that have been undertaken, particularly over the past 10 years have really come up with mixed results in a sense, we've had some people approaching the question that it would be essentially destructive- an isolating experience and the so called communities themselves wouldn't be real, the connection between the people over the internet wouldn't be real. *Participant, TH meeting 'F'*

R43 I just have one comment; that's all fine and wonderful that no one ever has to leave their offices but what about the social impact of no interaction, no personal, one-to-one interaction. Now I know that might sound…. You cannot get

the same thing as one-on-one. I think it's something we don't want to lose in our society right now because in small communities, we're losing the population, and I still think, in the end, we're still going to need that one-on-one contact. This will be great in certain areas, but there's still going to be a social impact. *Participant, TH meeting 'I'*

R44 It was just from the social comment we can't lose all personal contact. *Participant, TH meeting 'I'*

Increase urbanization
R45 I have a pretty serious concern that this is just going to accelerate the trend of urbanization. That's in a nutshell what I think could happen, unless some very clear decisions are made, clear commitments are made as to how this can actually reverse the trend, because that's what needs to happen- the reversal of the urbanization trend. Unless it's brought out far enough in advance and the right things are going to happen in conjunction with the development of these resources the infrastructure, it's more likely to accelerate the trend of urbanization. *Participant, TH meeting 'F'*