Working Session on Digital Divide

The working group defined the digital divide as economic, social or cultural deprivation generated by missing ICT access and skills.

This definition goes beyond conventional definitions and it has a number of practically important characteristics.

First, it explicitly spells out the three different dimensions where digital divides are important and where ICTs make a difference. In the modern knowledge- and information-based world, economic opportunities, such as employability, depend on ICT access and skills. ICTs, however, also play an increasingly important role in all social relationships, ranging from political participation to connecting local communities, friends and the family. Third, in the global and culturally diversified world, ICTs are also increasingly important for access to cultural resources and expression.

To the extent that lack of technology can be associated with economic, social, or cultural deprivation, we can therefore appropriately talk about the "digital divide."

It is important to clearly distinguish these three different dimensions. They generate different types of challenges, and different policy domains and actors are involved in each.

The proposed definition also replaces traditional technology-focused characterizations of digital divide, noting that lack of technology, per se, is not always a problem. It is clear that technology remains inert and useless without necessary human skills and competences. Technologies become real when they are combined with knowledge and capabilities to use them, and when they are embedded in social practices. In discussing digital divides, we therefore have to reject purely technological characterizations, and discuss appropriate combinations of technological and human capabilities.

The traditional technology-focus also misses the point, as lack of technology is not always a problem. For example, it is known that some elderly people actively avoid learning computer skills. The reason is not always that they would be uninterested in these skills, as such. In some cases, elderly people, for example, actively try to have personal relationships with technology-savvy people, such as their grandchildren. Lack of computer skills may be a great reason to invite grandchildren for a visit.

Technology-focused measures of digital divide are also inaccurate measures of deprivation, as people also often prefer to use complementary technologies and social resources. The fact that until a couple of years ago, many CEOs of big corporations did not use a PC, and asked their secretaries to read their email, would not push these CEOs to the other side of the digital divide. To the extent that the lack of access to ICTs does not generate deprivation, there is little point in talking about a "digital divide."

Many existing studies on digital divide, therefore, are rather misleading and have become rapidly outdated. Instead of asking: "Do you have access to a computer with a modem?" we should focus on the real impact. Furthermore, the focus should be on actual deprivation generated by the lack of competent access to ICTs. For example, we should ask: "Are you unable to find a job because you don't have necessary competences and access to ICTs?" Similarly, we can ask whether the lack of access to ICT and ICT skills is, in practice, making it difficult for someone to participate in decision-making, act as a citizen in the society, or learning new useful skills and educating oneself.

By definition, when new technologies emerge and diffuse in the society, there are always early adopters and later-comers. When measured by technology use, user and non-user gaps always exist. This has been the case for the steam engine, the railway, the radio, the car, the telephone, and the computer. From the policy point of view, some of these technologies have been considered so important that they have been provided fully or partially as public services and public goods. This was the case, for example, in public broadcasting. Many innovations, however, have diffused in the society without policy intervention and promotion. The interesting question is whether ICTs are somehow different than earlier technologies, and whether special policies are justified.

It is possible to argue that ICTs, indeed, are historically special and unique. Access to global knowledge and communication networks may well become a pre-condition for effective operation in the knowledge society, and it is possible that ICT, indeed, becomes the entry point for economic, social and developmental opportunities. "Equal opportunities," therefore, could in practice mean access to ICT.

Furthermore, ICTs provide access to resources such as knowledge, which accumulate. It is therefore possible that early adopters move fast, and laggards become increasingly disadvantaged. Such a "trickle-up" developmental dynamic could be socially and economically highly problematic. Although the printing press, in principle, had similar dynamics, we now live in Internet years. The modern innovation economy presents qualitatively new challenges for advancing broad social prosperity.

The working group therefore concluded that beyond all the hype and limitations of early conceptualizations of the digital divide, there is a proper argument for highlighting the importance of the digital divide. We assume that in the future lack of access to ICTs and related skills will generate deprivation, and this will have a profound socio-economic impact. Policy is therefore relevant, and it can be most efficient when problems still are limited. Even when it is clear that, on average, access to ICT is increasing, policy is needed to address emerging challenges.

Specifically, new technologies can both create new divides and reduce existing ones. Policies should, therefore, aim at 1) avoiding the creation of new divides, 2) shrinking the existing divides by actively using ICT for development, and 3) eliminating already generated ICT-related divides, for example, by designing for usability.

An important design principle—both for policies and technologies—is to start from the fact that information and communication technologies are essentially social technologies. ICTs mediate social, economic, and cultural interactions, and ICTs become meaningful only in a social context. The importance of social and cultural dimensions of ICTs is now rapidly becoming visible, and many of the fastest-growing uses of ICTs are explicitly social. This shifts the balance from the purely functional aspects of ICTs towards the social. At present, we are seeing extremely fast integration of technology with social processes across geographic and cultural boundaries. The basic starting point for designing future policies and technologies is to respect social and cultural diversity.

For example, when ICT is used for security and safety, it is important to realize that in the different continents and also in the different EU member states people have different expectations concerning the trustworthiness of governments, policymakers, public servants, and economic and cultural institutions. For instance, the concept of privacy is fundamentally different in Japan, where dense cities and paper walls have existed for centuries, from what it is, for example, in Finland, where 11

persons live per square kilometre, on average, and where the number of lakes roughly equals the number of inhabitants.

Traditionally, engineers have optimized designs from their own cultural and professional perspective. In recent years, human-centric design has given increasing attention to the users' voice and perspective, and engineers are starting to learn that "bad and inefficient designs" sometimes are very good and diffuse fast. In the future, the users will be further understood as social and cultural actors, embedded in a complex field of diversified interests and perspectives.

The digital divide, therefore, can not be understood as a simple "being in or being out." ICTs generate the infrastructure for complex social interactions where multiple perspectives are represented and expressed. Modern societies are based on complex division of labour and diversified social practices. Digital divide therefore does not consist of or align with a single boundary. Instead, ICTs re-structure existing boundaries, erode traditional boundaries and make them visible in new ways.

This increasing visibility of social and cultural factors means that in the future we have to better understand the "soft" dimensions of design. These soft dimensions of design are becoming one of the hard cores of business and technology in the globally connected world. For example, good designers have to understand culturally and historically embedded value systems and how these are expressed in political debates on privacy, access to knowledge, and rights and responsibilities. In general, this means that both policy and technology designers need increasingly sophisticated skills and concepts that facilitate meaningful and productive discussion on ethical and political aspects of ICTs.

The main conclusion of the working group is, therefore, that ICTs are fundamentally social technologies, which have a broad impact of social participation, human development, and economic opportunities. Digital Divides are of critical importance for policymakers, citizens, and the industry.

To address the emerging challenges, the industry needs to strive to shrink existing divides, to avoid creating new ones, and to eliminate already generated ICT-related divides.

For the ICT industry, this opens important opportunities. ICT will be in the core of human, social and economic development in the future. It will be integrated with new products and services, new management methods and production and product development processes, and it will become the infrastructure of society. Those companies that combine information and communication technologies with the advancement of the society will have a mission that is perfectly aligned with future growth opportunities, and they will also have an important competitive advantage in recruiting leading global talent. They will be key participants in creating the emerging globally connected and diversified world.