

## **Defining the digital divide: the role of e-readiness indicators**

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### **Abstract**

**Purpose:** To show how e-readiness indicators, specifically the Networked Readiness Index, participate in the work of defining policy problems.

**Methodology/Approach:** The article critically examines the Networked Readiness Index in terms of its presentation and its underlying model. It relies on an approach to policy analysis that views policy problems as socially constructed.

**Findings:** E-readiness assessment tools purport to show how ready the nations of the world are to exploit the potential of new information and communication technologies. Yet they do more than that; being actively engaged in constructing policy problems. In the case of the NRI, the problem of the international digital divide is defined in a particular way that privileges certain interests while at the same time legitimatising its inclusion on the agenda of international organizations as a problem worthy of sustained attention.

**Practical Implications:** The findings of the article suggest a need for alternative indicators that register the voices of a wider range of groups and could therefore create a more inclusive digital divide policy problem.

**Originality/value:** Little critical (as opposed to technical) analysis of e-readiness indicators exists in the literature. By focusing on these tools, the article contributes to the debate surrounding the issue of the digital divide.

**Keywords** Digital divide, E-readiness, Social indicators, Economic indicators, Information technology policy, Policy-making

**Paper type** Research paper

### **The international digital divide as a growing policy concern and the development of "e-readiness" assessment tools**

Recently much attention has been paid to the notion of the digital divide. While most of the focus is on the developed world, the developing world or South has not escaped notice either. The World Bank, for example, starting from the early 1990s, published a number of reports suggesting that information technology in general, and the Internet in particular, was an area of urgent concern for developing countries (Hanna, 1991; Talero and Gaudette, 1996; World Bank, 2000; Kenny *et al.*, 2001). Other aid agencies have followed suit (CIDA, 2002; ADB, 2001). In 2000, the G8 Summit in Okinawa, Japan, discussed the need for international inclusion within a global information society. The Summit produced the Okinawa Charter on the Global Information Society and established the Digital Opportunity Taskforce to lead further discussions. More recently, the World Summit on the Information Society (WSIS) met in Geneva in 2003 and in Tunis in 2005. At both of these events the disparity in access to information technology was a key part of the discussions.

Parallel to the rise of the international digital divide as an object of international

concern has been the development of what are known as e-readiness assessment tools. Starting in the late 1990s, a number of organizations began developing these survey frameworks in order to provide quantitative snapshots of how thoroughly a particular community, region, or country could take advantage of information technology for development activities. National e-readiness surveys are very popular. Bridges.org, a non-governmental organisation working in the field of information technology for development, notes in a recent report that a total of 1,506 e-readiness surveys have been conducted, sixty-eight countries have been surveyed at least ten times, and that only four countries (North Korea, Nauru, Monaco, and Tuvalu) have yet to be surveyed at all (Bridges.org, 2005, p. 2). The designers of these tools claim that they aim to provide decision-makers with empirical data on how well their own country is doing compared to others. The author's argument is that e-readiness indicators do more than provide data; they work to actively construct the digital divide as an international policy problem.

Theoretically, this argument is grounded in the tradition of social constructionism, as exemplified by the pioneering sociological work of Spectre and Kitsuse (2001). Using the insights of Deborah Stone (2002) and Frederick Wherry (2004) on the political role of numbers, I critically examine the presentation and model underlying one very successful example of the e-readiness genre, the Networked Readiness Index (NRI). The value of social constructionism as an approach is that it helps us to see both policies and policy-making tools as part of wider social and political contexts. In this case, examining the NRI from such a perspective demonstrates how this e-readiness indicator creates a picture of the digital divide that defines the problem in ways favourable to a particular set of interests, identified by the sociologist Leslie Sklair (2001), as the transnational capitalist class. The point here is not to champion the abolition of e-readiness indicators, which I feel are a necessary part of the policy-making process, but to suggest instead the need for more voices to be reflected in e-readiness measures. The social constructionist approach adopted here allows us to clearly appreciate the need for this kind of reform.

## **The constructed nature of policy problems and the role of "e-readiness"**

### *Assessment*

Looking at the progression of events from World Bank reports in the 1990s to the full-blown summits held on the issue of the international digital divide today suggests a natural, evolutionary process of policy development. A problem existed, namely that countless millions did not have access to technologies that could substantially improve their lives and, over a period of time, political and economic leaders discovered that this was so and decided to do something about it. However, such a view discounts the complexity of the policy world, failing to address the question of priorities. International gaps exist around a host of issues: drinking water, medical care, safe working conditions, and dignified employment, among many others. What makes the gap between those with access to ICTs and those without so important that summits and charters are produced to ostensibly reduce them? Of course, the interest of powerful groups help set agendas: information capital, the governments of developing countries, the development community, and an increasingly organized and self-confident civil society all see their interests served by the propagation of policies designed to deal with the digital divide (Luyt, 2004). However, this is not the end of

the matter. Work needs to be done to turn interests and conditions into problems, as the literature on the construction of social problems demonstrates.

Two of the first scholars to look at social or policy problems as something created, rather than just being ready at hand for decision-makers to act on, were Malcolm Spector and John Kitsuse. Criticizing much previous literature, they argued that social problems were not self-evident. Conditions existed in society and some of these attained social problem status while others did not. Furthermore, in their view "no simple, mechanical, causal relationship between a condition, the experiences of dissatisfaction with the condition, and the activation of responses to complaints" existed (Spector and Kitsuse, 2001, p. 84). The first goal of social problem research therefore had to be an understanding of the unique path taken as a condition was transformed into a problem. This transformation was best studied by focusing on the claims-making activity of concerned groups with "the central problem for a theory of social problems" becoming the study of "the emergence, nature, and maintenance of claims-making and responding activities" (Spector and Kitsuse, 2001, p. 78). To illustrate their approach, Spector and Kitsuse narrate how interested groups and individuals went about creating a social problem out of certain practices tolerated, if not condoned, by the Soviet psychiatric establishment in the 1960s and 1970s. Although awareness of such abuse had been known in the West since the early 1960s, the issue was only taken up a decade later, illustrating Spector and Kitsuse's point that social problems are not universally recognized naturally existing conditions. In the case of Soviet psychiatric abuse, sustained interest in the issue only crystallized after acceptable evidence in the form of smuggled medical records encouraged interested individuals and groups (individual psychiatrists, human rights groups, and later a prominent journalist and judge) to move the issue onto the agenda of national and international psychiatric organizations. These groups generated publicity for their issue by writing articles for both the scientific and popular press, hoping in this way to force organized psychiatry to pay attention to their claims. And to a certain extent they were successful. Spector and Kitsuse tell us that the American Psychiatric Association, for example, went so far as to establish an Ad Hoc Committee on the misuse of psychiatric facilities in the USSR to investigate and recommend policy action (Spector and Kitsuse, 2001).

However, the work of claims-making is not just about new or old groups stirring the pot of public opinion to reveal a particular issue that previously was hidden from view and thereby getting it moved onto the agendas of the appropriate decision-makers. It involves an active attempt to define the condition, its underlying causes, and potential solutions in ways that reflect claims-makers' own understanding of the issues so that problems essentially become "reinforcements of ideologies" (Edelman, 1988, p. 12). Those making claims about a condition have interests that they feel are best served through a particular definition of the condition, its cause, and its solution (Gusfield, 1981, pp. 10-11). Continuing with the example provided by Spector and Kitsuse, creating a social problem out of Soviet psychiatric abuse soon ran into definitional debate, principally between the Ad Hoc Committee which wanted to remove the Soviet geographical qualifier from the emerging problem and the Board of Trustees of the APA which did not particularly relish the idea of finding skeletons in its own closet (Spector and Kitsuse, 2001).

Since Spector and Kitsuse's seminal work, numerous studies have employed their

approach to the study of social problems in areas as diverse as drunk driving (Gusfield, 1981), the nature of the US state in the 1960s (Warren, 1993), missing children (Best, 1987), and movie piracy (Yar, 2005). From the social constructionist perspective, the international digital divide is not naturally a social or policy problem, but one technological condition among many in the world today. What makes the lack of access to ICT a policy problem is the work of claim-makers who have generated much publicity about the condition and the negative consequences for those experiencing it. The numerous e-readiness initiatives that have been launched over the past decade are part of these efforts at generating publicity. At the most basic level they create new procedures designed to quantitatively express the digital divide in ways easy for the public and decision-makers to understand, usually through the use of a single numerical ranking of countries. Yet their role goes beyond making the public and policy-makers aware of an issue, it represents an attempt to define the issue and its solution.

### *Numbers and policy*

Numbers such as e-readiness indicators are an important part of the process of defining policy. They help reduce the complexity of an issue to an understandable level for non-specialists, thereby helping to focus attention, with "a single number" being "the ultimate step in the reduction of complexity" (Starr, 1987, p. 52). Frederick Wherry, in an article on the development of the UNDP's Human Development Index (HDI), tells us that complexity reduction was precisely the reason why Mahbub ul Haq, one of the HDI's creators argued for a single composite index value to represent this project to the world at large. Wherry quotes from Amartya Sen's (another member of the HDI team) recollection of their discussion:

'We need a measure,' he once explained to me, 'of the same level of vulgarity as the GNP - just one number - but a measure that is not as blind to the social aspect of human lives as the GNP is' ... Haq hoped that the HDI ... would serve to broaden public interest in the other variables that are plentifully analyzed in the Human Development Reports" (Sen and Dalyell, quoted in Wherry, 2004, p. 165).

However, as well as simplifying the world, numbers convey a sense of precision and accuracy regarding a phenomenon that words do not. This has been the case, in European culture at least, from the time of Pythagoras to the present day. We have only to reflect a little on medieval statesman and philosopher Nicholas of Cusa's statement, "The number in our mind is the image of the number in God's mind" to realize this point (Crosby, 1997). Such a view of numbers as intrinsically accurate is not confined to the ancient and medieval worlds. Patricia Cline Cohen notes in her pioneering historical study of numeracy in the United States that 19th century enthusiasts for quantification considered "statistical knowledge ... deeply gratifying because it was presumed to be objective, unimpeachable truth" that met "an inner need for certainty" (Cline-Cohen, 1999, p. 206). This reliance on quantification to achieve at least the appearance of certainty has not disappeared. One of the first tasks in creating policy problems is to remove them from the realm of speculation and anecdote through processes of quantification: "the most common way to define a policy problem is to measure it" (Stone, 2002, p. 127).

Numbers also have the politically useful ability of rendering invisible moral and ethical questions. This ability to be political and yet appear neutral or apolitical has

long captivated students and participants of politics. Cline-Cohen, for example, tells us that the rise of statistical thinking in the United States at the end of the 18th century was a response to the desire among many to "bury the doctrinal disputes of the 1780s and 1790s and to create consensus on the principles of public happiness and the means of pursuing it" (1999, p. 156). The collection of statistical facts was seen as the means by which political parties, then rapidly developing in the post-revolutionary climate, could be made to yield to an older conception of politics revolving around the common good, rather than party interests. Yet despite the appearance of neutrality, quantification has much in common with the political process as a whole, as Deborah Stone points out:

It is impossible to describe counting without talking about inclusion and exclusion (terms that in themselves suggest community, boundaries, allies, and enemies); selection (a term that implies privilege and discrimination); and important characteristics (a term that suggests value judgments and hierarchy) (Stone, 2002, p. 164).

The ability to simplify complexity, convey precision, and hide political decisions, all general characteristics of quantification, suggest that e-readiness indicators are politically valuable for the task of policy problem definition and in need of critical analysis as a result. E-readiness indicators provide more than just "facts" that describe the lack of access to ICT around the world; if interrogated, the index and its presentation necessarily tell a story, one that would otherwise be left in peace to define the divide and how to bridge it in ways that reflect a particular understanding and perspective on the world. The rest of this paper will focus on a reading of one particular assessment tool to show how it defines in different ways both the digital divide and the range of possible solutions to that divide.

### **E-readiness indicators and the Networked Readiness Index (NRI)**

E-readiness surveys may be broadly classified into two groups: those that focus strictly on e-economy (APEC's e-Commerce Readiness Assessment Guide (2000) and the World Information Technology and Services Alliance's (WITSA) International Survey of E-Commerce (2000) are examples) and those that look more widely at the role of ICT in society (examples include the World Bank's Knowledge Assessment Methodology (2006) and Orbicom's Monitoring the Digital Divide(2002)). Not all e-readiness assessment tools have fared equally well however, and a few appear dormant, if not dead. Among these are the Global Technology Index produced in 2002 by Metricnet.com and the Negotiating the Digital Divide project sponsored by the University of Maryland's Center for International Development and Conflict Management. Table I provides a list of some of the major on-going e-readiness projects and their sponsoring organizations.

#### **Take in Table I** Selected e-readiness assessment surveys

One of the most popular e-readiness indicators is the NRI. The NRI has received much publicity over the years, as well as attracting the sponsorship and institutional affiliations necessary to guarantee not only its continued existence as an academic

project, but also the annual publication of its results as a widely available reference work. For that reason alone it is worthy of study.

Its origins lie in the *Readiness Guide for Living in the Networked World* produced by the Computer Systems Policy Project (an advocacy group consisting of executives from major US IT firms) (1998). Designed to be used by communities of any size, the *Guide* provided a series of questions meant to measure technological capabilities according to a four level scale. The Information Technologies Group, Centre for International Development at Harvard University used the *Guide* as the basis for developing the Networked Readiness Index (NRI). In conjunction with the World Economic Forum (WEF), the NRI was used to survey seventy-five countries in 2001. Afterwards, responsibility for the project was handed over to INSEAD (a business school with locations in France and Singapore). INSEAD proceeded to slightly modify the inherited framework and, again with the help of the World Economic Forum (WEF), now publishes its annual results, along with a selection of commentaries from various authors, in the *Global Information Technology Report* (2006)[1].

Sixty-four variables, divided into three component indexes, are used to calculate the NRI. The indexes measure enabling conditions (market, political, and infrastructural), ICT readiness (for three sets of stakeholders: individuals, businesses, and governments), and ICT usage (for the same stakeholders). Each of the component indexes is given the same weight in the derivation of the NRI, which is ultimately reduced to a number between one and six, six being the best possible score[2]. Figure 1 illustrates the NRI model.

### **Take in Figure 1** The networked readiness index model

In the report these scores are used to rank nations in a table from first to last and are presented to an accuracy of two decimal places. In 2001, the first year the NRI was calculated, the United States stood at the head of the seventy-five countries surveyed with a score of 6.05. Nigeria, with a score of 2.10 was at the bottom. Seven more countries were added to the 2002 survey in which the United States slipped in the rankings from first to second. That year, Finland scored highest with 5.92 and Haiti lowest at 2.07. The most recent report puts the US back in the lead with Finland in third position. Chad, one of 20 newly included countries, scored even lower than Haiti, being listed at 2.09. Table II gives an example of this format.

### **Presenting networked readiness: the equality of nations**

The NRI values are meant to be compared. Calculated at the level of the nation-state, they appear as an undifferentiated list arranged from highest to lowest. Sweden and the Philippines, for example, are both included, the only distinguishing trait being the NRI value itself. This is not the only way the NRI values could have been presented. Equally valid would have been to group national states according to region, or perhaps even by income (the World Bank has fixed definitions for low, medium, and high income nations that could easily have been used). The list as presented clearly assumes that nation states can fruitfully be compared (being viewed as essentially the

same kind of object), completely ignoring current and historical social contexts.

But if alternative methods of presenting the NRI exist that might address the conceptual short-coming of assuming equality between nation-states and hence their comparability, presenting NRI values as if nation-states are indeed comparable does have consequences. The first of these is the suggestion of a rough equality of opportunity in terms of reaping ICT rewards. The high rank of Finland offers hope that Haiti can improve its lot in the future. The NRI therefore reinforces the paradigm of development through modernization.

Modernization theory traces its origins back to the immediate post-war world. At that time, the United States faced a number of challenges to its rising global hegemony. Nationalist sentiment was making increasingly untenable the continuation of the colonial empires of its British and French allies, while the rapid industrialization of the socialist world was creating a new and, for the United States, dangerous social and economic alternative to capitalism. Modernization represented an intellectual response to these conditions. Its theorists, mostly based in the United States, but widely influential throughout the world, viewed the world's cultures as arranged in a hierarchy from advanced to primitive. The United States had a special place in this hierarchy as it occupied the pinnacle of development and so provided a glimpse of the future of all other societies: a liberal-democratic nation filled with mass consumers. It was considered axiomatic that countries followed one universal development path to this final end-point with no desirable deviation possible. Accordingly, development policy became the selection of ways and means (usually involving the application of capital and scientific knowledge) to enhance the speed at which a society moves along this path while avoiding, or at least ameliorating, any social dislocations the process produced (Latham, 2003; Pieterse, 2001, pp. 20-23).

Modernization theory provided an apparently scientific rationale for the creation or continuation of policies that engaged with a global economic order dominated by the West. In its early years (the 1950s and 1960s), the infusion of capital and the application of scientific expertise advocated by modernization created ties that kept the newly defined developing world part of the global order after the collapse of the British and French colonial empires. Modernization with its universal vision of progress accommodated the desire of the new leaders of independent Africa and Asia for political decolonization and an end to the overt racism of colonialism which viewed much of the world as incapable of self-rule for generations. It was a powerful element of American global hegemony as a result (Rist, 2002, pp. 75-76, 81-88; Pieterse, 2001, p. 20; Aseniero, 1985, pp. 51-52).

While suffering setbacks in the academic world in the decades following the 1960s, modernization theory is still powerful and still helps to hold together the global economic order. The notion that there is a common, universal end-point for the development of societies continues to perform hegemonic work by creating commonalities of interest between North and South. And, in as far as the NRI presents the West as a normative model for the rest of the world to emulate as they plan and implement policies for ICT development, it is also engaging in the hegemonic project of creating legitimacy for the current global economic order. The countries that ultimately provide the model and inspiration for all the others are those at the top of the list so that the international digital divide as a policy problem is implicitly defined

as yet another attempt to catch up to the West, rather than creating alternatives.

However, the NRI does provide a new twist to an old hierarchy. Looking at the top twenty-five countries in the 2002-2003 list, we find, not surprisingly, the United States, Canada, United Kingdom and Germany, but also Singapore (3rd place), Taiwan (9th), Israel (13th), South Korea (15th), Hong Kong (18th) and Estonia (23rd). Unlike the hierarchies of the modernization theorists of the 1950 and 1960s, the top ranks of the NRI, while still predominantly Western, are not exclusively so. There are a few non-Western achievers as well, enhancing the underlying notion that all states are essentially equal and capable of advancing under the current international system. This hegemonic task of keeping states and peoples working within a very unequal and unfair global economic structure[3] is given further credence by the apparent inclusiveness of the NRI. Each year sees a further expansion of the geographical frontiers encompassed by the survey: 75 countries in 2001/02, 82 in 2002/03, 102 in 2003/04.

### **Presenting networked readiness: a competitive race between nations**

While inclusion is the norm, it is equally apparent that the NRI list is a record of a global race that everyone is invited to, but which has definite winners and losers. This is quite clear from the presentation of the NRI data. In the table laying out this data there are three columns. The first contains the name of the participating country, the second the NRI score, and the third the position the country finds itself in as a result of that score, its rank.

Publicity is one of the likely reasons why each country is ranked. Ranking enrolls the potent force of nationalism in the quest to put the issue on the international agenda. But more than publicity is at stake here. By ranking nations the NRI implicitly provides support for a view of international relations that sees economic competition between nation-states as part of the "natural" order of things. This view is an important element in the ideology animating global capitalism today. Leslie Sklair notes that to the extent "publics can be convinced that national competitiveness is vital to maintaining standards of living, states are given free rein to funnel resources, directly and indirectly, to large and powerful international firms operating within their territories" (Sklair 2001, pp. 113-114). Furthermore, he argues that acceptance of the concept as a guiding element of economic policy suggests to policy makers that states need to find one or more niches in which to excel within the current global capitalist economic structure (Sklair, 2001, p. 137). In advancing this notion, Sklair's work parallels those international relations scholars who have coined the term, the competition-state, to describe this new kind of state, addicted to finding appropriate places for themselves in a global economy (Cerny, 1997; Palan, 1999). National competitiveness and the related concept of the competition-state, much like modernization theory, acts as a mechanism to secure the adherence of states to the current structure of the global economy, despite the imbalance of power and wealth within that system. The notion of an economic policy inspired by domestic needs or values is marginalized as a result. Alternative structures or even serious reforms can be ruled out as impractical, but more importantly, unnecessary, as there are plenty of opportunities for competitive, hard-working states amendable to working within the system.

## **Defining the digital divide**

By portraying e-readiness in terms of a competitive race between essentially equal nation-states, the NRI is not only involved in a publicity-gathering exercise, but helping to define the international digital divide and its solution as a policy problem in particular ways. It is, first of all, a problem amendable to solution within the parameters of the currently structured global system. The notion that the global economy might be responsible for the divide in the first place, or that a solution to the problem may lie in creating alternatives to this structure is not raised. Second, it is a problem that involves nations racing against each other to realize its amelioration. The digital divide between countries becomes an additional spur to drive the competition-state forward. And finally, it is a universal condition, irrespective of historical or other contexts so that the solution to the problem is already to be seen in those areas of the world where the divide is smallest (the West and certain parts of East Asia). Later we will see how these definitions match the interests of the Sklair's transnational capitalist class, but for now we should turn our attention to the internal model used by the NRI to see how it too defines the international digital divide in a particular way.

## **Whose model of reality?**

If the first part of the NRI story lies in presentation, the second lies in the internal model used for the quantification process. The NRI model is based on sixty-four variables. Thirty-six of these are "hard" data, according to the NRI's creators, collected from such institutions as the World Bank and the International Telecommunications Union. However, the other twenty-four variables, termed "soft" data, are what are of interest here.

The "soft data" are the aggregated responses from questions included as part of the Institute for Management Development's (IMD) Executive Opinion Survey (EOS)[4]. The EOS is distributed to senior business executives around the world in order to "quantify issues that are not easily measured" (IMD, 2002, p. 668). Other than noting that the survey is sent out to senior executives, the selection process is not made clear. Readers are merely advised that "the target list is determined by IMD and has been developed over many years with the collaboration of our Partner Institutes worldwide" (p. 677) and that "we try to contact most IMD alumni" (p. 668). An assumption is made here, namely, that business executives are in the best position to provide data on, for example, the availability of public access to the Internet or the competence of public officials. It is a dubious assumption, not only because of the privileged socio-economic position of the survey's correspondents, but also because these correspondents do not have to be nationals of the country concerned, nor even long-term residents. They are only asked to report on the state of affairs of the country in which they have resided for the past year. Despite this lack of direct experience, the editors of the *IMD World Competitiveness Yearbook* appear confident that the survey results "reflect widespread knowledge about each economy" (p. 677).

The problematic nature of what is a sizeable component of the data used for the NRI model leads us to a further point regarding the emphasis placed on local or expatriate executives as experts on the conditions surrounding ICT in their countries. As noted previously, the NRI framework sees society as composed of three groups: individuals, businesses, and government. This is an odd scheme because the individual component

is not really in the same class as the others. Government and business are social institutions, but not individuals. Would not the label "civil society" be more appropriate in that it suggests another set of institutions outside the state and private sector?

Looking at the variables used to measure ICT readiness and usage for each group sheds light on the choice of terminology (Table III). For individuals, variables such as secondary school enrolment and public access to the Internet define ICT readiness, while the number of mobile phones, household spending on ICT, and number of television sets is seen as indicative of ICT usage. All these variables suggest a passive role. For business and government on the other hand, readiness is measured through such variables as ability to innovate and Intranet sophistication, while usage is measured according to particular applications of the technology: general research undertaken through the Internet, use of email for correspondence, pervasiveness of company web pages, and, for government, success in ICT promotion. These are all activities. The difference between the passive individual and active business and government sector is stark and suggests that in the eyes of the NRI's designers, "individuals" are not the architects of the networked society. That privilege goes to business and government. Individuals exist merely to consume and be trained. Replacing the label "individuals" with another such as "civil society", "labour", or even "citizens" would contradict this expectation.

#### **Take in Table III** NRI variables measuring readiness and usage

To sum up, the model provided by the NRI characterizes the digital divide in at least two ways. By subordinating "individuals" to business firms, it assumes that the ultimate aim behind attempts to bridge the divide is the enhancement of consumption so that the problem of the digital divide becomes essentially a lack of consumption opportunities, rather than say, democratic space or need for public services. Second, it establishes capital, in conjunction with the state, as the active ingredient in solutions to the problem, rather than other social collectivities.

#### **The international digital divide and the transnational capitalist class**

The digital divide that the NRI model and its presentation create as a policy problem closely reflects the viewpoint of global capital and what Sklair refers to as the transnational capitalist class (TCC). For Sklair the TCC is composed of transnational corporate executives, and what he refers to as "globalizing" bureaucrats, politicians, and professionals. According to him, these groups share a number of characteristics. They have similar lifestyles and think of themselves as global citizens. They have an international rather than domestic perspective on political and economic issues, favouring free trade and export-oriented development. Their economic interests are spread out around the world as well, rather than confined to one state or locality. And finally, they attempt to persuade subordinate groups to accept their demands through a rhetoric centred on the need for globally competitive states, with the payoff for the sacrifices and discipline this entails being the satisfaction of consumer demand (Sklair 2001, pp. 18-21).

## **Take in Table IV** The NRI and the Transnational Capitalist Class (TCC)

NRI's digital divide matches these characteristics quite well (see Table IV). The fact that little distinction is made between ranked nations (other than the value itself) means that the digital divide is seen as a problem universal in nature and thus amendable to solutions adopted in other parts of the world, principally the West, but also East Asia. Such a view mandates a kind of global knowledge that makes an equally global perspective indispensable for policy-makers seeking to "modernize" or "develop" their ICT capabilities. A conception of the digital divide as universal in nature also shields the current structure of the global economy from critical analysis and maintains the fiction that the nations of the world are equally able to implement such universal solutions. Export-oriented development and free trade is seen as unproblematic to the digital divide as a result. Bridging the divide is seen as a race between nations with some winning and others losing, implicitly suggesting the need to accept that nations need to be competitive, while the payoff is reduced to an increase in consumption for otherwise passive individuals. And finally, their own class, given the vague label "business" rather than capital, is placed at the centre of efforts to overcome the problem.

## **Conclusion: the need for more inclusive measures of ICT development**

There is nothing wrong in publicizing the digital divide as an important policy problem at the international level and defining it in a particular way. As the perspective on social problems pioneered by Spector and Kitsuse suggests, both activities are fundamental to the political process and are at the core of political life. Problems are not natural entities, ready-made for decision-makers to act on. From this point of view, the creation of numerical e-readiness indicators such as the NRI and DAI are not "bad" developments simply because they reflect a particular definition of what constitutes the digital divide, or that in their attempts to quantify much context and complexity is lost. In fact, they are probably necessary, given that modern society still tends to view quantification as a sign of authority. But what needs to be kept in mind is that these indicators come with a particular perspective. Those using the information they provide, be they journalists or academics, need to be aware that this is the case, make it known to their audiences, and actively seek out other viewpoints as a result. A deeper problem, of course, is that e-readiness indicators are not cheap to produce and publicize, which means that the voices of the powerful are more likely to be heard than those of the powerless. The NRI is a clear example as it reflects the perspective of a relatively small and already over-privileged segment of the world's population (the West in general and the transnational capitalist class in particular). The alternative is to create new e-readiness indicators, ones that reflect the needs or aspirations of marginalized groups around the world. An example is the work of Michel Menou and Olistica in Latin America where a fresh approach, referred to as IsICTometrics, is taken to e-readiness. It is based on a few key principles. The elimination of the "conventional focus on performance, rankings, competitive advantage" (Menou, 2001, p. 8) is the first of these. The second is that whatever variables are chosen as indicators "should be validated by representatives of the beneficiaries or stakeholders" (p. 9); thirdly, that the notion of the social value of ICT

be elaborated. Menou suggests that such an elaboration could be achieved through the analysis of ICT effects on such areas of existence as personal life, family life, social life, economic life, professional life, and citizenship (p. 11). Finally, Menou argues that provision needs to be made for beneficiaries to note both potential positive and negative effects of ICT development on their lives, rather than assuming only positive outcomes as current e-readiness schemes tend to do (p. 11). Such an approach, by incorporating voices less frequently heard, could actively engage in the process of creating a more inclusive digital divide as a policy problem worthy of sustained international attention.

## Notes

1. In this paper the focus is on the numerical e-readiness indicator, the NRI. Treating the accompanying texts to any great degree would require much more space.
2. In the latest edition of the NRI (2004-2005), the 1 to 6 point scale has been altered so that the top-ranked US now has a score of 2.02.
3. To give just one example of the inequity of the world economy, consider the mountain of debt that confronts the developing world. Susan George calculates that between 1982 and 1989, the South paid \$615 billion to service a debt that in 1982 totalled \$493 billion and which by 1989 had not shrunk, but actually expanded to \$629 billion (George, 1992, p. 86). These payments to already profitable banks represent scarce resources that could be deployed much more productively to meet any number of pressing needs in the South and are a stark reminder of the essential irrationality and meanness of the current structure of the global economy.
4. The IMD is a business school specializing in international business training located in Lausanne, Switzerland. They publish an annual *World Competitiveness Yearbook (WCY)* which incorporates the Executive Opinion Survey data.

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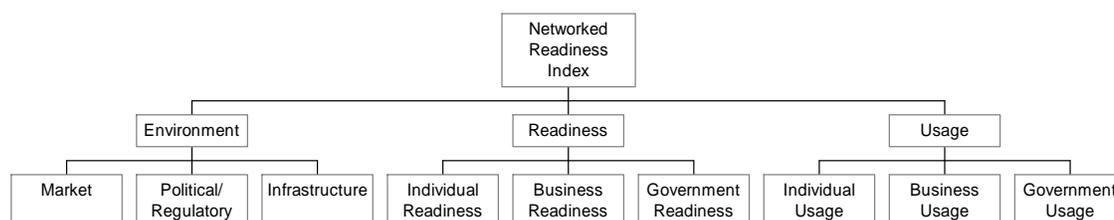
**Table I** Selected e-readiness assessment surveys

Project Name	Responsible Organization	Starting Year	Frequency	Countries Surveyed	Area of Focus
Global Diffusion of the Internet	Mosaic Group	1997	Case Studies	30	E-economy
Ready? Net. Go!	McConnell International	2001	One-time project	53	E-economy
E-Readiness Rankings	Economist Intelligence Unit	2000	Annual	65	E-economy
Knowledge Assessment Methodology	World Bank	1998	Annual	128	E-society
Monitoring the Digital Divide	Orbicom	2002	One-time project	between 139-192	E-society
Digital Access Index (DAI)	ITU	1998	Annual	178	E-society
International Survey of E-Commerce	WITSA	2000	One-time project	25	E-economy
APEC Readiness Initiative	APEC	1999	Case Studies		E-economy
ICT Assessments	USAID	1999	Case Studies	~9	E-economy
Information Society Index	IDC	1995	Annual	53	E-society
E-Readiness Assessment	ASEAN	2001	One-time project	10	E-society

**Table II:** Networked Readiness Index for 2006 (top ten only)

Countries	Score 2003-2004	Rank 2003-2004
United States	5.17	1
Singapore	5.12	2
Finland	4.98	3
Switzerland	4.93	4
Iceland	4.84	5
Sweden	4.72	6
Canada	4.67	7
Taiwan	4.66	8
Luxembourg	4.64	9
Denmark	4.61	10

Figure 1: The Networked Readiness Index Model



**Table III** NRI variables measuring readiness and usage

	<b>Readiness</b>	<b>Usage</b>
<b>Individual</b>	Sophistication of local buyers Availability of mobile Internet Availability of broadband Public access to the Internet Secondary school enrolment Total adult illiteracy rate Quality of maths and science education Cost of a local call Cost of off-peak local cellular call Cost of residential telephone subscription	Use of online payment systems Number of radios Number of television sets Number of cable television subscribers Number of mobile phones Number of Internet users Number of narrowband subscriber lines Number of broadband subscriber lines Household spending on ICT
<b>Business</b>	Firm-level technology absorption Firm-level innovation Capacity for innovation Business Intranet sophistication Quality of local IT training Cost of business telephone subscription	Use of Internet for coordination with customers and suppliers Businesses using e-commerce Use of Internet for general research Sophistication of online marketing Presence of wireless e-business applications Use of email for internal correspondence Use of email for external correspondence Pervasiveness of company web pages
<b>Government</b>	Government prioritization of IT Government procurement of advanced technology Competence of public officials Government of online services	Use of Internet-based transactions with government Government online services Government success in ICT promotion

**Table IV** The NRI and the Transnational Capitalist Class (TCC)

<b>NRI's International Digital Divide</b>	<b>How the NRI accommodates the TCC</b>	<b>Characteristics of the TCC</b>
<p>The key units of analysis are the nations of the world. They are seen as being essentially equivalent in nature and potential.</p>	<p>Validates a global perspective on the digital divide, rather than regional or local perspectives; legitimates the current global economic structure as fair and workable for all nations.</p>	<p>Members view themselves as global citizens and have an international perspective on events and issues. Supports free trade, export-oriented development as a result.</p>
<p>Amelioration of the divide seen as a race between individual states.</p>	<p>Provides an example of the need for governments to model themselves on the competition-state.</p>	<p>Uses the notion of national competitiveness as a persuasive tool to enact globalizing reforms.</p>
<p>Business and government are seen as the active agents in using ICTs; "individuals" as passive elements limited to consumption of ICTs.</p>	<p>The digital divide is reduced to a problem of consumption. Capital and therefore the TCC is privileged.</p>	<p>Uses the lure of higher or at least stable levels of consumption as a persuasive tool to enact globalizing reforms.</p>