Bridging The Socio-Economic Gap Through New Information Technology

By

M Alwi Dahlan

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Abstract. Information is assumed to play an important role in economic development, leading to the rapid transformation of social and economic structures toward an Information Society. The new structures stratify societies and socio-economic groups in terms of information criteria, e.g.., information access, production, ownership or control, and the capability to use information resources. Such differentiation may lead to new gaps between and within societies, intensifying existing socio-economic gaps. New information technology, which is capable of bridging extreme differences in time, distance and information requirements, may be able to close some of the increasing gaps. Presently, new technology may have extended the reach of information infrastructure across the chasm in physical terms, but not in qualitative terms which reflect the true relevance of information.

Introduction

The relationship between information, technology, and social economic conditions is increasingly recognized. The advent of the information society brings forth new and broader concepts of the social-economic role of information and its technology. Fritz Machlup (1962) probably started this conceptual development when his study almost three decades ago concluded that the economic structure of industrial societies was changing. With a rapid growth of information services and knowledge production, a new 'information sector' was expected to outgrow the industrial and agricultural sectors, giving birth to an information economy. Since then, others have analysed the phenomenon from the viewpoints of technology, social and cultural developments and propose expanding the important role of information even further. Marc Porat, for example, stresses on the crucial role of communication and in-

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[2]Dr. Dahlan is a member of Indonesia's National Telecommunications Advisory Board and teaches communications at the Faculty for Social and Political Sciences and the Graduate Program in Communications, University of Indonesia, Depok and Jakarta. He is also the Vice Chairman of *Badan Pembinaan Pendidikan Pelaksanaan Pedoman Penghayatan dan Pengamalan Pancasila* (National Board for Promotion and Education of the Implementation of Pancasila, BP-7), Chairman of the Indonesian Association for the Advancement of Social Sciences, and former Assistant Minister for Population, Ministry of State for Population and the Environment.

formation technology in the development of the new information economy.

The importance of information is continually growing not only in terms of the economy but also in the context of the whole society at large. Since information is a highly valued commodity in an information society, Daniel Bell (1973) foresee that information will have an impact on the social structure as well. Those who produce new information (scientists, R&D workers, engineers) will be treated as super elites in an emerging new class structure. Information is also considered by Bell (1979) as a strategic resource for the transformation of a society in all aspects, including political. The view of information as a political and economic resource is advanced from a different perspective by Alvin Toffler (1990), who proposes a concept of information which essentially replaces the position of capital in a society. Information is the basis of power in the coming society, just like land in the agricultural society, or money and capital goods in the industrial society. The power of information therefore may not be vested in information producers but rather in the ownership or application of information resource.

As a factor in social change, the importance of information has been noticed for some time by policymakers and development planners. UNESCO has been using the media index to measure social and cultural development of all UN member countries. Another UN agency, the UNDP, regularly compares economic development in various ways, among others in terms of information. Its Human Development Index includes literacy and schooling, which indicate basic information capability of an individual. In its measurement of South-North gaps, the agency includes adult literacy, years of schooling and telephones. To compare developing countries, it looks among others to their communication profiles, using such indices as radios, televisions, cinema attendances, daily newspapers, books, telephones, and letter posted. For the industrial countries, UNDP also compares registered library users, museum attendances and international telephone calls.

Clearly, differences in information access and communication exposures could bring about socio-economic gaps, indeed they could also be examined as socio-economic gaps themselves – whether they are gaps within a society or between societies or nations. Such differences obviously are dependent on the information technology in use. In other words, information technology contributes to the existence of gaps between nations and between social strata. But this raises other questions, e.g., if in-

formation and its technology contribute to the gaps, do they operate by creating or enlarging the gaps? As one of the factors which can influence the formation of gaps, can information technology be applied to reverse the direction of the process, and reduce socio-economic disparity? Can information by itself close or narrow down socio-economic gaps – all types of gaps?

Information and Socio-Economic Gaps

The term socio-economic gap may be used to describe any wide divergence existing between social groups based on some social or economic characteristics. In popular language, it defines broadly economic inequitability which brings social, psychological and cultural implications in daily life. The burden carried by an individual with an inequitable income (e.g., salary perceived as extremely low relative to the service rendered as compared to those in higher brackets), for instance, may not be limited to his financial inability, but include social indignity, feeling of inferiority or loss of pride in the family.

Social gaps. The previous illustration shows, that socio-economic differences are not necessarily measurable in economic or quantitative terms. Social indignity and integrity involve social inequalities, which are qualitative in character and very difficult to measure. What is called a gap may be created in fact through social perception, e.g., when the members of a social group (tribe, clan, clique, organization, interest group, etc.) think or agree that their conditions are far worse compared to other groups in the society – regardless of the real situation. This perception of inequality may not be observable from the outside but are nevertheless regarded as true by the members. In social dynamics, perceived disparity may be more real than reality to the members of the group. It has the potential to bring about serious social, political or economic consequences, for instance, in the form of social disturbances.

In addition to perceived gaps, there are also true social gaps, in which disparity is caused by non-economic factors. Some segments of the society may receive differential treatment of some sorts which separate them from the rest, either in a favorable or unfavorable way. Such social gaps may grow on the basis of ethnicity, way of life, faith, feudalism, education, profession, and other charateristics. Yet, they will affect the whole socio-economic relationships between the various groups, for example in

the form of discriminatory economic practices (e.g., boycott), and eventually create socio-economic gaps.

In the context of economic development, socio-economic gap generally characterizes the disparity brought by development in a society, particularly between the high income and lower income groups. Actually, the disparity here is not purely based on income; those with high socio-economic status always have higher income than the low SES in any society. The gap is, rather, on access to the opportunities created by economic development and consequently also on the sharing of the fruits of economic growth. Additionally, the high group SES has better access to various opportunities related to development in various sectors. For example, they could obtain easier financing, credits or facilities, participate in more and larger projects, and grow or progress at a rate much more rapid than the rest of the society. While the lower SES group make rela- tively little advancement and some struggle to keep the present existence, the higher classes make tremendous gains and profits from development. As a result, they live comparably much better, adapt the lifestyles of more modern societies, have better education for their children, etc.

In the context of policymaking, the term socio-economic gap is loaded with political overtones, which relate such divergence to the broader social system. In order to overcome these gaps more than improvement in compensation or information policy alone is required. To illustrate, the Indonesian government equity policy is composed of wide-ranging measures called the "lanes of equality" to narrow eight types of gaps, including inequality in the access to education and health services, and disparities between rich and poor regions, as well between urban and rural areas.[1]

Undoubtedly, these measures would require information and communication to support action programs in the efforts to reduce the gaps. Indeed, information play a role – direct or indirect – in all types of social and economic gaps, including perceived social gaps. Perception of being treated inequally, for instance, may come to being when low income or rural groups are reached by information from television broadcast about the easy, consumptive lifestyle of the richer people. The gap would be perceived to become much wider, when media information make them yearn for the high life which they would never be able to attain. One variation of such case was the 1992 Los Angeles riot, where existing perception of wide social gap between the

races was intensified by realtime broadcast coverage, thus activating a process toward wider divergence.

It may be true, that the Los Angeles case is probably a rare case to illustrate how application of new information technology – specifically realtime broadcast from mobile unit on location via satellite hookup – could have direct, instantaneous impact on social gaps. Other cases are abound to show the impact of new information technology on social and economic gaps, real as well as perceived ones. Installation of sophisticated telecommunication services to those who can afford to pay more, a special rate or other preferential treatment to big customers, are among the common instances by which new technology is related to economic gaps. However, disparity is not confined to socio-economic entities, but may also form information gaps.

Information gaps. The discussion in the earlier part of this paper on conceptual development of the information society, shows that new socio-economic gaps are inherent in the process leading to the formation of the society. For one, rapid structural changes in the economy – some even called it 'information (or communication) revolution' – unavoidably would close down many job opportunities in non-information sectors. When the new society is finally established at some future point, new disparities based on information-related factors would be created.

The Information Society is today fast becoming a reality and much of the theoretical discourse concerning its implications are beginning to be observable. The information sector is growing, even extending beyond industrialized societies to some developing nations. Workers in information related services and graduates with information skills obtain better positions and pay; they are much in demand as communication and information infrastructures are expanding faster than manpower. The emergence of Daniel Bell's super elite may be debatable; while the innovators of the new technology and producers of information do occupy high economic status, they have not been considered as a separate socio-economic class. Similarly, information has not replaced land and capital as predicted by Toffler. Yet, land or properties, products, services, or capital goods, will raise in value when it has more information content or component. Information and information technology have a high added value compared to manual skill, as can be seen in the case of the fly-by-wire aircraft, intelligent house, smart bombs, electronic equipment capable of more functions, etc.. Information also add value to people as well to groups by classifying them according

to address, settlement, properties, and hence, create social differentiation.

Information therefore play a role in the creation, and subsequently widening the gaps between socio-economic groups in a society. One source of the disparity between the high and low strata is information inequality. The groups which occupy higher socio-economic status have more access to education, communication channels and information sources. They are much better educated, possess the information necessary to gain to the higher position, and have more information available concerning new opportunities. Consequently, they are more knowledgeable on the ways to improve life, minimally retain their status, or even enhance it further.

On the other hand, the lower strata in the socio-economic ladder are much less educated and uninformed. With little access to information needed for advancement, they may not have the capability to apply or take benefit from such information even if they are available. To illustrate, economic development schemes designed to extricate the lowest group from poverty are often constrained by communication and information problems, e.g., difficulty in reaching the target group, or if succesful, in achieving sufficient understanding and comprehension.[2] As a result, information regarding schemes aimed to provide economic opportunities to the low SES, frequently fall into the hands of others with relatively better conditions and, in fact, used by them for their own benefit – at the detriment of the intended target.[3]

Undoubtedly, information is essential to achieve socio-economic gain for the lower strata and thereby minimize the gap. Yet, without information the lower SES would never be able to escape from their situation. The well to do obtain more information, which in its turn, could be used to generate more prosperity. The gap would continue to increase. As have been said so often in popular language, information is money and money is power. Money and power beget information, which in its turn, will be able to create more money and power.

The possession of money alone, however, does not insure social status in an information society. The riches must be 'information capable', i.e., able to process, analyse, and apply information at the proper moment for the right purpose. Material possessions (wealth, income) by itself are not socio-economically sufficient, even in an industrial society. The riches can not automatically acquired power in society, many are isolated and unrespected (thus "the filthy rich") and have to yield to the con-

trol of others who know how to manage right information. History is full with rich people who lost their fortune to the stock market, investment deals, or other people who are less affluent, when they operate on inadequate information.

In other words, information have always played an important role in all societies or economies. The importance of information in the formation of social structure is actually not as new as it sounds. In many Asian traditional societies, too, power is vested in those who produce, manage and control information relevant to each particular society. Thus, the source of power of ancient elites like the tribal leaders or clerics lies in their knowledge of the supernatural, customs and culture, and the ability to manage and apply such information to solve problems of the day.

Information remain to be essential to socio-economic power in all societies at all levels, but the format, content or the technology in use always change. Consequently, those high in socio-economic status always attempt to crease their information capability to maintain social power through various means, e.g., by continuously adopting newer information technology. It does not mean that the elite prevent information flow to the lower SES groups, yet they tend to screen out valuable information for their own use and pass down only those which have low value added potential. As studies on social communication network of various SES groups in rural Java show, valuable information are more likely to flow horizontally within the same strata (Setiawan, 1983; Utari, 1993). The 'two-step flow' hypothesis is not working as social elites utilized value adding information for themselves, including development communication messages intended to the lower groups.

New Technology as Infrastructure

Much of socio-economic gaps are rooted in information, hence they could only be reduced through a change in the information environment. The key to this gap is differentiation in the acces to information infrastructure and technology. The higher income groups already use existing communication infrastructure, and have the means to utilize new technology and thereby is more able to receive information faster. Subsequently, they are able of applying new information for their maximum benefit ahead of the lower income group to the disadvantage of the latter. To break through, the lower strata should progress in a much faster tempo than the higher

group to narrow the chasm which is quite wide to start with and continues growing. Since the gap is structural, theoretically the best way may be to redesign social economic structure, which practically means restructuring of the whole society, which of course is impossible to do.

A faster way may be to provide the all segment of the society with new information technology. Characterised by the convergence of information and communication (including broadcasting) NIT could transform information and communication infrastructures to become highly efficient to carry more information at higher speed, capacity and quality with multimedia capability (voice, text, data, video and graphics), thereby make more information available at much less cost. Access to information of all sorts would be opened equally to wider and larger segments of the society. Eventually, universal services would be available to everybody, bridging the gaps in society. Some writers (e.g., Williams, 1991) foresee that universal services would be expanded to cover more than basic telecommunication service but a variety of new information services make possible by the evolving global broadband ISDN.

The development of communication infrastructure is very strategic to uplift economically disadvantaged group in the longrun. IC infrastructure has been recognized as an investment for human resource development, one of the services regarded as social overhead capital by many economists. Nevertheless, it requires enormous investments. Even more so, because it is only one of three basic infrastructures considered essential by the World Bank to build an economy, i.e.: (a) hardware infrastructure (inc. telecommunications), (b) software infrastructure (e.g. ability to collect and use information), and institutional infrastructure. Each should complement the others, thus should be developed together, because advances in one would be wasted if it does not go together with advances in the other.

Without integration with other the other two, development of this infrastructure may be counterproductive for narrowing socio-economic gaps. The investment would only increase existing gaps, as it provides high income groups with an exclusive electronic highway by which they will become more interconnected – thus leaving the lower segments out in the progress toward the new society.

Presently, some of the socio-economic elites in developing countries have already been interconnected globally. With the rapid development of global communica-

tion infrastructure pushed by the advancement of new information technology (e.g., LEO communications satellites, terrestrial and undersea fiber optics networks) and trade liberalisation, technology is bridging the gaps between societies faster than that within many societies. In theory, this new infrastruture would provide access to reach all socio-economic class across the globe, and subsequently reduce the gaps between all societies. Yet, at the same time, this development may in fact work toward increasing existing socio- economic and information gaps inside each country.

The impact of media. It should be acknowledged, that the masses are not totally neglected by the application of new technology. Although somewhat limited, many countries are building telecommunication infrastructure to reduce urban-rural gaps. Global broadcasting, popular arts like pop music, and video products have become more popular with the general public across the world. Some countries have adapted communication satellite technology in order to increased information availability. The application of new technology has propelled some countries to join the modern information environment. (For example, the case of Indonesia which in only a few years have multiple the number of national TV broadcasting stations from one to six networks, in addition to opening up the country to foreign satellite broadcast).

The real impact in terms of information, however, is arguable. Some consider it to be beneficial to increase knowledge, ideas, and information. Others question whether broadcast information available to the public actually help progress, when most contain entertainment, violence, shows, and values considered incompatible to the national ones.

The problem is that the role of information and communication in bridging the socio-economic gap is usually understood as a one-way process. Communication and its technology supply to the disadvantaged masses a wealth of information, which otherwise, would be available only to the economically advantaged groups. With relatively little expense, the masses would be able to enjoy movies, sports and a variety of entertainment which are produced for the higher SES and formerly beyond their means to reach. Although limited at a superficial level, they obtain a glimpse of the happenings and the way of life of the riches. Soap operas, serials such as *Dallas, As the World Turns,* or *the Bold and the Beautiful,* present an opportunity to daydream. Similarly, broadcast events such as inaugurations, award ceremonies or live

shows, provide a feeling of being there together with the elite, movie stars, the beautiful and powerful people of the society.

Of course, shows are not the real bridge to overcome the gap; they do not enable people to upgrade their standards of living in a direct sense. At the most, broadcasts have the potential to motivate and gain insights of the values which are necessary to reach progress. More important, new technology makes it possible for the general public to have access on those information which are crucial to achieve progress. However, these positive potentials may not have been applied or utilised to a great deal. The real strength of video technology in knowledge and information production, for instance, have been utilized; it more appreciated in terms of its technical functions to produce amazing forms and colors.

Clearly, the concept of "information" needs to be redefined in a sharper way. Not all that is communicated through the media or modern technology automatically, fulfilled the requirements to become relevant information. There is a need to define the economic values of information, so that social investment can be calculated to find out the real impact of new information technology.✪✪✪

NOTES

[1]The complete list of the eight policy areas to narrow the gap cover equitability in (a) basic needs, (b) education, (c) health services, (d) income distribution, (e) job opportunities, (f) urban-rural opportunities, (g) equal regional opportunities, and (h) access to justice.

[2]The difficulty to reach the low socio-economic group is well known among development planners working on equity program in various sectors. In one case in Indonesia, efforts to provide health services to the poorest groups receive very little response from the intended target. Apparently they could not be reached by the usual development communication channels, e.g. newspapers, flyers, announcements posted in markets, etc. This is not only a metter of affordability but also the lack of reading skil and habit, the lack the basic knowledge to comperehend information due to low education. Insufficient understanding and exposure give rise to suspicion toward the formal communication channels Therefore low income groups usually give higher credibility and rely more on interpersonal communications and informal social networks for their information.

[3]In his study on social strata and communication networks in Java, Bambang Setiawan (1985) found that the intended targets were not aware of the assistance made available to them by several schemes such as small credits for village vendors, fishermen or farmer. Other examples: schemes to help the poor through cooperatives are often more beneficial to the village middle class.

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