DIGITAL DIVIDE IN NATIONAL INFORMATIZATION QUOTIENT: THE PERSPECTIVE OF MAINLAND CHINA

Jianbin Jin and Chengyu Xiong

School of Journalism and Communication,
Tsinghua University, Beijing, PRC

Abstract

This paper introduces a new approach in assessing the digital divide. Digital divide is a widely mentioned but conceptually confusing construct in contemporary communication studies. Beginning with the discussion of multi-faceted nature of digital divide, we argue that the presence of digital divide largely depends on how it is defined. National Informatization Quotient (NIQ) is an index launched by China government to evaluate the information and communication technologies development in different regions in China. It is composed of six dimensions which cover 20 indicators. The structure and computation of NIQ are introduced in detail. Utilizing the informatization development data of 2000 published by National Informatization Evaluation Center (NIEC), the digital divide situation in China is assessed. Specifically, the ratio of *Standard Deviation to Mean* of NIQ index of all cases is tactically employed as the indicator of digital divide level in our analysis of the digital divide. According to our analysis, there is "significant" digital divide in China in terms of NIQ in year 2000.

The Digital Divide in Terms of National Informatization Quotient:

The Perspective of Mainland China

Laugksch (1999) pointed out that scientific literacy has become an internationally well-recognized educational slogan, buzzword, catchphrase, and contemporary educational goal. The same applies to the case of digital divide. Courtright & Robbin (2001:2) contend that "the metaphor of the 'digital divide' has become part of the national discourse of the United States, an abstract symbol that condenses public concerns about social inequality and evokes hopes for solutions related to the use of information technology." In addition, "the digital divide is a potent resource whose symbolic properties and communicative power have activated a wide array of participants in the policy debates about how to create a more just society."

According to Hoffman (2001, cf.: Arquette, 2001), the term *digital divide* was first used by Lloyd Morrisett who vaguely conceived of a divide between the information-haves and have-nots. However, the divide herein mainly is a gap of PC penetration in the early days of the Apple II in 1980 (Arquette, 2001). The term then grasped public's attention with the issuance of the first National Telecommunications and Information Administration (NTIA) survey on Internet adoption and use in the US in 1994 with the catchy title: *Falling Through the Net.* Since then, numerous articles, either popular or academic, on this issue have been published. According to a convenient sample of newspapers, journal articles, newswires and similar mass media sources in the Lexis-Nexis database from January 1999 to December 2000 (Arquette, 2001), the increasing rate of digital divide related articles hits almost 3000%. In China, digital divide is receiving similar social saliency. A quick search with the key words "digital divide" (in Chinese) in one of China's leading news website *People's Daily Online* (peopledaily.com.cn) shows that at least 500 articles somehow related to this term are available[1]. On July 2001, a high-level forum on public understanding of information technology with the special topic of *Pay Attention to the Digital Divide* was held in Beijing. A wide range of representatives, including governmental officials, IT experts, educators, social scientists and media practitioners, presented their viewpoints and comments on this issue. Digital divide has been incorporated into people's daily conversational discourse.

Ironically, while the term *digital divide* has frequently appeared in varied contexts, including academic writings, both the connotative and denotative meanings of it are confusingly incoherent. The presence of other similarly prevalent terminologies, such as digital equality, information equality, e-development, network readiness, etc., add additional confusion. People seem to debate on the issue without a shared understanding of what is meant by the digital divide. As Arquette (2001) contends, the entire "e" researcher community is plagued by a lack of definitional clarity of the concepts such as digital divide: "each researcher assumes other researchers use the same definitional frameworks for these terms" while in fact "there is no such shared meaning in nomenclature." (p.3).

[1] The website of People's Daily is: http://www.peopledaily.com.cn, the search is conducted on July 31, 2002.

While the comment of Arquette (2001) mainly refers to the phenomenon in the English speaking world, the use of its Chinese counterpart of the term *digital divide* is also in a similar situation. For example, among more than 30 articles collected by the book *Pay Attention to the Digital Divide in China* (Leng, 2002), no consistent conceptual definition is available across the writings. While some are talking about the Internet penetration divide among different social groups categorized by age, occupation and educational level, others refer the concept to an uneven development of e-infrastructure among different areas or nations. So, whenever the term digital divide is confronted, the following question can always be raised: *in terms of what*?

This article intends to introduce a new approach of operationalizing digital divide from the perspective of China. We first make a brief review of different definitional perspectives of the term *digital divide.* Then a detailed introduction of National Informatization Quotient is presented which will be employed as the operational definition of the informatization level of a region. Finally we will investigate the geographical digital divide in China in terms of NIQ.

Conceptual Review

Sartori (1984, p.22) contends that "clear thinking requires clear language," and "in turn, a clear language requires that its terms be explicitly defined." In the study of digital divide, a clear conceptual and operational definition of the term seems to be the essence of any meaningful conversation and communication.

Conceptualization is the process through which we specify the essential dimensions of a concept. On the other hand, operationalization involves the development of specific research procedures that enables the empirical observations representing those intended concepts in the real world (Babbie, 1998). In this section, we will briefly review the multiple conceptions around digital divide.

Digital divide is a fresh term not unfamiliar to communication scholars (Zhu, 2002). As early as 1970, a theory called *knowledge gap* (Tichenor, Donohue & Olien, 1970) was developedwhich has been one of the most active inquiry fields hereafter in communication studies. The supposition of knowledge gap mainly concerns the different knowledge possession through mass media by social groups with varied social-economic-status. In 1980s, with the development of ICTs, especially with the wide application of PC in diverse contexts, a divide between the information-haves and have-nots was sensitively observed and warned (Compaine, 2001). Since early 1990s, digital divide has gradually become a convenient label, or more precisely, a metaphor (Courtright & Robbin, 2001), in describing the inequality of possessing and using ICTs, especially the Internet connectedness.

We contend that the various definitions of the concept can be summarized through two clues implied by the term itself: along the meaning of "digital" and along the meaning of "divide".

The first group of definitions varies on the concrete referents of what "digital" means. In a narrow sense of the definition, digital divide is particularly referred to the inequality of Internet access and use among different social groups or localities. US Department of Commerce's (1995, 2001) *Falling through the net* reports represent the most influential version of the stream. Zhu (2002) also takes Internet penetration as the sole indicator of what "digital" means in his construction of digital divide index (DDI) while taking age, sex, education and occupation collectively as the categorizing factors. In short, in this stream of definitions, digital divide is operationalized to Internet access/penetration divide categorized by demographics and social status factors.

However, to many people, the term *digital* means a wide range of ICTs other than the Internet. Arquette (2001) labeled it as the concept fit[2] disjuncture in the studies of digital divide, i.e., to measure global digital equality in terms of teledensity or Internet penetration. Employing the so-called Information Intelligence Quotient (IIQ) analytical framework, he uses ICT infrastructure rather than a single ICT such as Internet or telephony as the subject of the "digital".

A second clue of conceptualizing the digital divide basically focuses on the meaning of "divide". Many different analytical perspectives on this concern are available. Jackel (2001) exemplifies some of these:

- A macro-level-comparison of the so-called First and Third world or a comparison of rich and poor countries;
- A comparison of differences in modern societies according to the level of integration in the labor market;
- A comparison of differences in modern societies according to education groups, gender and age, more general a comparison of generations;
- A specification of differences in modern societies according to communication skills;

[2] The conceptual fit describes the degree to which an operational definition approximates the conceptual definition of a variable (Frey et al., 1999; cf. Arquette, 2001).

- A comparison of different diffusion curves as a result of differing demands.

As can be seen, the dimensions identified by these perspectives are noticeably diverse.

Synthesizing the prior research on digital divide, Arquette (2001) proposed an organizational framework based on three dimensions of digital divide: ICS infrastructure, access, and use. ICS infrastructure refers to the technophysical means by which voice, audio, video and/or data communication circulates. The operationalization of the dimension involves the specification of sixteen indicators, including telephony penetration (wire line and wireless), Internet hosts, and costs of calls, etc. The second dimension is ICS access which "focuses on the ability of persons interested in using the infrastructure (regardless of that infrastructure quality or quantity) to gain access to the infrastructure." Nineteen indicators are developed to operationalize the dimension. The third dimension of digital divide that Arquette (2001) specifies is ICS use. Use-based conceptualizations of digital divide are conceived in terms of how people employ the technologies. Another nineteen indicators are developed to measure the situation of this dimension of digital divide. In summary, IIQ is an aggregate meta-analytic framework for assessing the state of digital divide among different nations or regions.

A notable point implied by the IIQ is its consideration of the dimension of ICT use. In fact, "access is not enough" is becoming a recognizable consensus (e.g., Blau, 2002; Jackel, 2001; Nagaraj, 2002). In other words, merely connecting people and computers will not bridge the digital divide (Blau, 2002), and there's digital discrimination among the information haves, too (Nagaraj, 2002). Jackel (2002) labels the divide among ICT haves as the second level of "divide".

This article tends to view the digital divide in a broad sense. Similar to IIQ to some extent, we will synthetically take a couple of ICTs, other than merely Internet and computer, into consideration. In addition, some additional dimensions of the concept will be specified to reflect the special characteristics in China. This perspective of the digital divide is reified eventually through so-called National Informatization Quotient (NIQ).

The Frame and Content of NIQ

After eight years' debates and studies, the National Informatization Quotient (NIQ) was officially launched on July 29, 2001 by the Ministry of Information Industry of China as a key index of China's IT development. The establishment of NIQ signalized

China's determination to establish a unified national index for scientifically evaluating national and regional informatization as well as for comparison with other countries. It is proposed and perfected under the context of China's pursuit of promoting industrialization by developing the information industry in order to make a big leap-forward in development. According to People's Daily (May 8, 2002), NIQ is believed to be an important index besides the gross domestic product (GDP) to demonstrate a country's comprehensive strength in this information age.

NIQ is a composite index comprised of 20 indicators in six dimensions. It is the operational definition of the National Informatization Level (NIL). In the remaining part of the article, the digital divide is discussed in terms of this NIL which is operationally defined as NIQ.

The six dimensions of NIQ are:

- *The development and application of information resources* (*IR*): The indicators under this umbrella term include *Radio and TV broadcasting hour/per 1000 people; Bandwidth per person; Telephone use frequency per person; Total capacity of Internet data base*.

- *Information network construction (IN)*. There are 4 components in this dimension, including *Total length of long distance cable; Microwave channels; Total number of satellite stations; Number of telephone lines per 100 people*.

- *The application of information technologies (IT)*: the indicators for this dimension include *Number of cable TV stations per 1000 people; Number of Internet users per 1 million people; Number of computers per 1000 people; Number of TV sets per 100 people; E-commerce trade volume; Proportion of investment in the information industry by enterprises to the total fixed investment*.

- *Information industry development (II)*: there are two indicators designed to reflect the situation of this dimension: *Added value contributed by the information industry to the total GDP; Contributions made by the information industry to the total GDP increase*.

- *Human resources of informatization (HR)*: there are two indicators for this dimension: *Proportion of university graduates per 1000 people; and Information index which refers to the proportion of expenditure other than fundamental consumption to the total expenditure*.

- *The environment for informatization development (EI)*. Two indicators are designed to measure the situation of the dimension: *proportion of expenses for research and development of the information industry to the country's total budget in R&D; Proportion of investment on the infrastructural development of the information industry to the country's total investment in capital construction*.

Compared to other index used to reflect the digital divide or ICT development in a country or region, NIQ has several characteristics:

1. It is a multi-dimensional composite index. Therefore, NIQ is a comprehensive reflection of the state informatization level rather than the development of some particular ITs.

2. As for its application in assessing digital divide, the divide it evaluates is a geographical divide rather than informatization divide among different social groups or divides defined by other factors.

3. The index covers a wide range of the aspects regarding the informatization development. Particularly, NIQ emphasizes the importance of information industry in its structure of dimensions. The proportion of indicators related to information industry is notably high which, as is depicted by Song Ling (People's Daily, May 8, 2002), reflects the fact that NIQ will be a guideline for the promotion and adoption of IT in China.

With the introduction of NIQ, we will turn to examine the digital divide in China in terms of this index. Our research question is:

Is there a digital divide in terms of NIQ in China?

The Computation of NIQ

The model for computing NIQ is (National Bureau of Statistics of China, 2001):

$$NIQ = \sum_{i=1}^{n} (\sum_{j=1}^{m} P_{ij} W_{ij}) \times W_i$$

Where the multidimensional *NIQ* is a function of the six dimensions with different weight; *m* is the number of indicators of dimension *i*; P_{ij} is the standardized value of indicator *j* in dimension *i* ; and W_{ij} is the weight of indicator *j* of dimension *i*. W_i is the weight of dimension *i*.

Two points need further explanation regarding the specification of weights for different indicators and dimension and the standardization of the indicator values. The relative importance of each dimension to the NIQ is determined by incorporating the opinions of experts in the field regarding this issue. In NIQ computation, the weights eventually assigned to six constitutive dimensions (*Wi*) are: 15% for *IR*; 16% for *IN*, 18% for *IT*, 15% for *II*, 20% for *HR* and 16% for *EI*. As can be seen, the weights are classified into four levels. The highest level is *Human Resources* dimension to embody the idea that the human resource is always the key element of informatization. The second highest level is *Information Technologies* dimension. Following itis *Information Network* dimension and *Informatization Environment* dimension. The lowest weight goes to *Information Industry* dimension. As for W_{ij} , the weight of each indicator in different dimension is the same. Therefore, the specific W_{ij} value depends on the number of indicators in each dimension.

Since the units of indicators vary, the value of indicators need to be standardized before being incorporated into the final composite index of NIQ,. The formula for computing each standardized value of the 20 indicators is:

$$z_i = \frac{X_i - Min}{Max - Min} \times 100$$

Where z_i is the standardized value of indicator *i*; X_i is the raw value of indicator *i*; *Min* represents the minimum raw value of the indicator *i* among all cases for this indicator; *Max* stands for the maximum raw value of the indicator *i* among all cases for this indicator.

With above demonstration, we can see that the NIQ index for China in a whole as

well as for each province (or key cities with province status) in a particular year can be calculated. However, due to the fact that the values of indicators might change across years, we have to find a way to ensure the compatibility of the NIQs of different years. For this purpose, a reference year is assigned. Theoretically, the assignment of reference year is arbitrary. In our case, the year 1995 was chosen to be the baseline of NIQ computation. In other words, only the NIQ for year 1995 is calculated through the procedure introduced above. For the years after 1995, we first calculate the growth rate of each indicator (based on the raw values of the indicators across the years). Then we have the aggregate growth rate for each dimension of the NIQ. Finally the growth rate of NIQ based on the six dimensional growth rates is obtained. The NIQ for any year after 1995, therefore, is calculated based on the NIQ of 1995 and the growth rate of each constitutive indicator's growth rate of the year compared to 1995. With such technical process, the NIQs of different years become compatible and therefore, comparable.

The remaining question is: how to operationally assess the digital divide situation in terms of NIQ?

Since the instrument employed in our analysis of digital divide situation is a composite index rather than a single variable, we have to take a quite different way from what Zhu (2002) proposed in his process of Digital Divide Index. In our case, the standard deviation of all provinces is devided by the means to obtain scores on digital divide among the NIQ index across the country. .

The data for this study was originally collected and issued by National Information Evaluation Center (NIEC). For simplicity, we only present the dimensional index for six dimensions of NIQ in year 2000, as is shown in Table 1.

Table 1 about here

Based on above operationalization of digital divide in terms of NIQ, we investigate the digital divide situation in China for year 2000. Table 2 presents the calculated digital divide scores of six dimensions of NIQ index across the country.

Table 2 about here

As can be seen, the *S.D/Mean* of NIQ index for all the provinces in China in 2000 is 0.5123. This is pretty high considering the meaning of standard deviation and mean value of NIQ index. Since the statistics of *S.D/Mean* is seldom employed in previous studies, no existing criterion of judging the significance of divide is available. In this study, we tentatively propose the value 0.5 for S.D/Mean as the critical value in judging whether the "deviation" or divide is "significant". This is a pretty conservative evaluation. Based on such proposition, we conclude that there is a significant digital divide in China in terms of NIQ in 2000.

Since NIQ index is a composite index composed of six dimensions, it is revealing to investigate the S.D/Mean in the case of different dimensions respectively. As displayed in Table 2, the dispersion scores of six constitutive dimensions are greatly different. *Human Resource* dimension accounts to be the most divided one among six dimensions with S.D/Mean value of 1.2325. In other words, the Human Resource development of ICTs across the nation is most uneven. *Information Network* is the second most divided dimension with S.D/Mean value of 0.9632. Come up next is the *Informatization Environment* dimension whose S.D/Mean value is 0.6730. The remaining three dimensions—*Information Resource, Information Technology* and *Information Industry*—have S.D/Mean values around 0.5. According to our criterion, the digital divide in terms of *Information Technology* and *Information Industry* is not significant while in terms of other dimensions of NIQ issignificant.

The digital divide situation in terms of each dimension can be visually demonstrated as Figure 1 to Figure 6.

Figure 1 to Figure 6 about here

From the figures, it is clear that the frequency distributions of different value intervals for *Information Resource* (Figure 1), *Information Network* (Figure 2), *Human Resource* (Figure 5) and *Informatization Environment* (Figure 6) across provinces are severely disparate, sharply bipolarized among provinces. On the other hand, the frequency distributions of different value intervals for *Information Technology* (Figure 3) and *Information Industry* (Figure 4) are much less dispersed. A vague central tendency can be found in these two figures. In general, however, the frequency distribution for NIQ index (Figure 7) is quite dispersed indicating so-called digital divide.

Figure 7 about here

Conclusion and Discussion

The result of this study shows that, whether there is a digital divide is subject to the definition of the issue. In terms of NIQ, both the tabular and visual results provide descriptive support for the presence of geographical digital divide in China. However, the levels of disparity of ICTs development in terms of different constitutive dimensions depict quite different pictures. Since NIQ index is composed of six conceptually distinctive dimensions, the conclusion of this study demonstrates that the strengths and weakness of different provinces in developing informatization are different. A certain province might be advanced in one dimension of NIQ while be a laggard in other aspects. For instance, if we group the provinces based on quartile set for each dimension, quite a lot of provinces will be in different quartile sets across the dimensions (Figure 8). The NIQ index is a comprehensive reflection of the multiple aspects of informatization level.

Figure 8 about here

Several points are worthy of notice. Firstly, the specification of six dimensions of NIQ is not unquestionable. The fact that the NIQ was launched after eight years of debates has demonstrated the controversies around the structuring of NIQ index. Secondly, the assignment of weight for each dimension, and even each indicator, is a tricky but important question which inevitably affect the eventual value of the index. However, the assignment procedure is intrinsically subjective and biased. Finally, as has been stated, the appropriateness of employing S.D/Mean as the practical instrument in judging the digital divide situation is open for debate and discussion. A more disputable point, of course, is the specification of 0.5 as the "critical value" of S.D/Mean for judging whether a digital divide is present.

In short, NIQ provides a new approach in understanding and measuring the digital divide among different regions. It is constructed with the consideration of cross-national comparison possibility. Therefore, a couple of key indicators in other instruments (such as in IIQ, Arquette, 2001) are also included in NIQ index. This orientation in measuring the digital divide offers a common platform for further comparative studies from a wider horizon. Future research should explore cross-national and longitudinal research strategies.

References

Arquette, T. J. (2001). Assessing the digital divide: Empirical analysis of a meta-analytic framework for assessing the current state of information and communication system development. Unpublished draft dated on September 15, 2001, Department of Communication Studies, Northwestern University.

Babbie, E. (1998). *The practice of social research (8th Ed.)*. Belmont, CA: Wadsworth Publishing Company.

Blau, A. (2002). Access isn't enough. *American Libraries*, June/July 2002: 50-52

Compaine, B. M. (Ed.) (2001) *The digital divide. Facing a crisis or creating a myth?* Cambridge, MA: MIT Press

Courtright, C.& Robbin, A. (2001). Deconstructing the digital divide in the United States: An interpretive policy analytic perspective. Paper prepared for International Association of Media and Communication Research and International Communication Association "Symposium on the Digital Divide", November 15-17, 2001, Austin, Texas, USA.

Jackel, M. (2001). Inclusion, exclusion and the diversity of interests. Is "digital divide" an adequate perspective? Paper prepared for International Association of Media and Communication Research and International Communication Association "Symposium on the Digital Divide", November 15-17, 2001, Austin, Texas, USA.

Laugsksch, R. C. (2000) Scientific literacy: A conceptual overview. *Science Education, 84(1)*: 71-94.

Leng, Dexi (Eds.) (2002) *Guanzhu zhongguo shuzi honggou (Pay attention to the digital divide in China)*. Beijing: Science Press.

Nagaraj, N. (2002). The other divides. Businessline, April 24, 2002.

National Bureau of Statistics of China (2001). Zhongguo xinxihua shuiping cesuan yu bijiao yanjiu (A study of computation and comparison of China's informatization level). In Song Ling (Eds.) *Xinxihua Suiping cedu de lilun yu fangfa (The theories and methods of Informatization measurement)*. Beijing: Economic Science Press, pp. 3-46.

People's Daily (May 8, 2002). China releases world's first national IT index. Retrieved from: http://service.china.org.cn/link/wcm/Show_Text?info_id=32193&p_qry=NIQ

Sartori, G. (1984). Guidelines for concept analysis. In G. Sartoni (Ed.), *Social science concepts: A systematic analysis* . Beverly Hills, CA: Sage. pp. 15-85

Tichenor, P. J., Donohue, G. A., & Olien, C. N. (1970). Mass media and differential growth in knowledge. *Public Opinion Quarterly, 34*, 158-170.

U.S. Department of Commerce (1995). Falling through the net: A survey of the "have nots" in rural and urban American. Retrieved from http://www.ntia.doc.gov/ntiahome/fallingthru.html

U.S. Department of Commerce (2001). Falling through the net: Toward digital inclusion. Retrieved from http://www.esa.doc.gov/fttn00.pdf

Zhu, J. J. H. (2002). Shuma gou zhishu zhi caozuo dingyi he chubu jianyan (The operational definition of digital divide and its primary test). In Wu Xinxun (Eds.) *Wangluo Chuanbo Yanjiu (Newwork Communication Research)*, Shantou: Shantou Unviersity Press, pp.202-211.

Table 1

The NIQ Index of Each Province in China in 2000

Region	Information Resource	Information Network	Information Technology	Information Industry	Human Resource	Environment of Informatization	NIQ index
National	45.29	37.12	65.89	53.78	13.43	21.86	38.84
Beijing	93.53	318.82	179.97	112.68	112.15	79.61	149.5
Tianjing	54.24	83.51	127.75	111.27	45.87	23.92	74.18
Hebei	31.72	45.58	85.24	44.5	6.44	7.63	36.58
Shanxi	61.15	101.83	60.99	44.92	19.48	11.95	48.99
Neimeng	73.18	7.65	57.69	44.32	10.91	21.57	34.87
Liaoning	74.12	52.67	84.6	46.44	28.36	21.33	50.82
Jiling	66.11	41.86	81.49	44.49	25.48	24.85	47.03
Heilongjiang	59.13	18.64	105.91	43.79	18.89	23.39	45
Shanghai	99.91	191.86	155.3	45.19	68.91	16.65	96.86
Jiangsu	48.31	37.03	101.57	34.9	21.97	41.91	47.79
Zhejiang	72.43	59.03	86.53	33.49	9.86	34.68	48.43
Anhui	26.02	50.12	65.22	39.25	6.95	24.42	34.85
Fujian	68.78	54.33	106.24	68.35	6.87	90.77	64.28
Jiangxi	22.95	41.92	51.33	68.42	5.48	37.81	36.8
Shandong	29.86	50.1	65.55	25.26	13.36	20.16	33.98
Henan	30.16	42.02	66.23	41.67	6.45	19.74	33.87
Hubei	32.53	108.19	69.6	30.43	11.9	21.97	45.18
Hunan	5.91	204.38	56.32	55.35	5.42	43.64	60.09
Guangdong	73.81	81.89	84.13	44.12	13.71	27.53	53.08
Guangxi	17.02	50.79	52.12	38.89	3.25	36.01	32.31
Hainan	76.97	66.48	51.97	50.3	7.83	7.49	41.85
Chongqing	11.69	217.2	87.81	48.55	11.76	25.87	66.08
Sicuan	21.48	50.87	55.79	34.91	9.1	29.08	33.11
Guizhou	2.16	157.84	40.38	5.62	4.45	21.01	37.94
Yunnan	15.02	59.53	32.9	29.07	3.76	16.54	25.46
Xizhuang	70.43	0.2	1.67	41.18	3.13	6.13	18.68
Shanxi	37.73	69.46	76.24	76.35	19.69	46.61	53.34
Gansu	26.14	16.85	44.38	21.58	11.21	26.75	24.36
Qinghai	45.66	2.25	61.1	49.16	10.44	13.42	29.82
Ningxia	60.27	39.29	65.88	48.53	14.52	23.83	41.18
Xinjiang	40.48	3.93	94.43	87.72	17.32	9.6	41.86

Table 2

S.D/Mean Values for Six Dimensions of NIQ

Statistics	Information Resource	Information Network	Information Technology	Information Industry	Human Resource	Informatization Environment	NIQ Index
Mean	46.7387	75.0361	76.0106	48.7323	17.9006	27.6087	48.0059
S.D.	26.2906	72.2713	34.8974	23.1029	22.0617	18.5808	24.5915
Range	97.75	318.62	178.30	107.06	109.02	84.64	130.82
Percentiles/25	26.0200	39.2900	55.7900	34.9100	6.4500	16.6500	33.9806
Percentiles/50	45.6600	50.8700	66.2300	44.4900	11.2100	23.8300	41.8562
Percentiles/75	70.4300	83.5100	87.8100	50.3000	19.4800	34.800	53.0821
S.D/Mean	0.5625	0.9632	0.4591	0.4741	1.2325	0.6730	0.5123

Figure 1

NIQ Information Resource Index Histogram

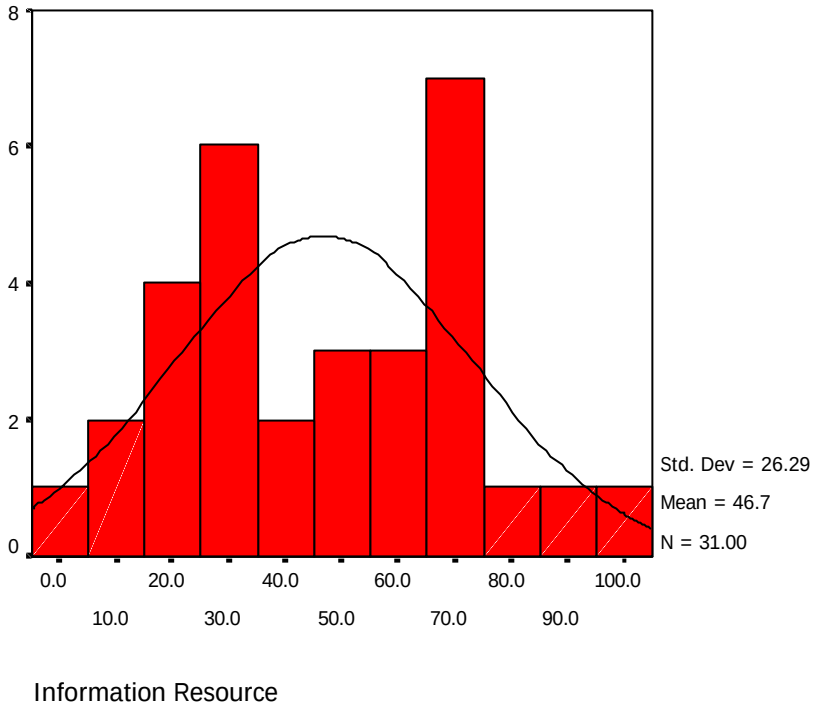

Figure 2

NIQ Information Network Index Histogram

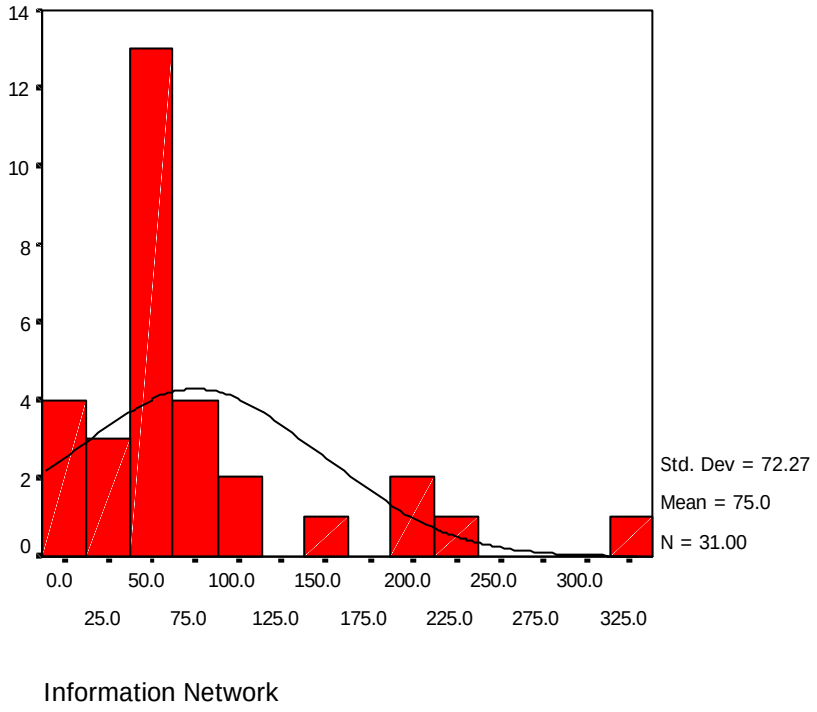

Figure 3

NIQ Information Technology Index Histogram

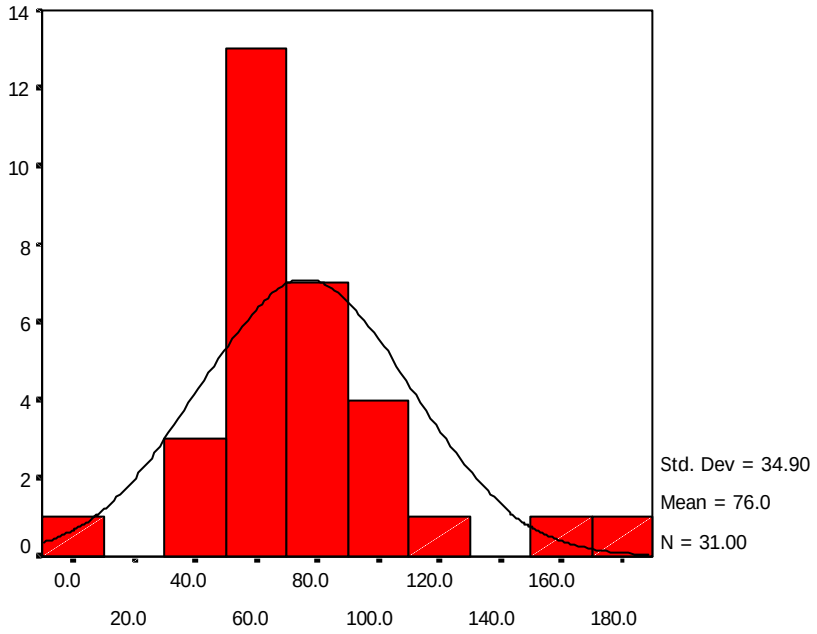

Figure 4

NIQ Information Industry Index Histogram

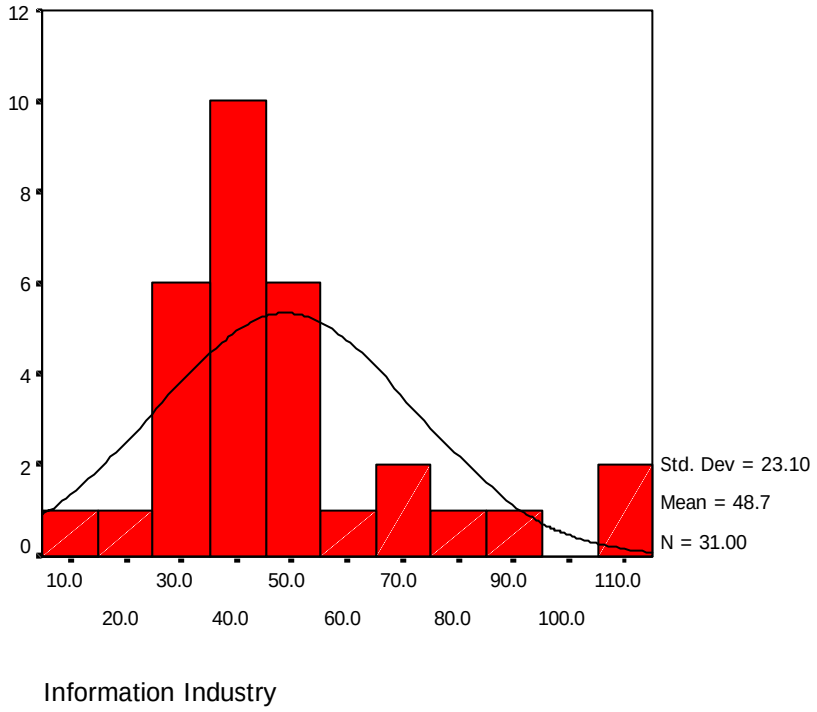

Figure 5

NIQ Human Resource Index Histogram

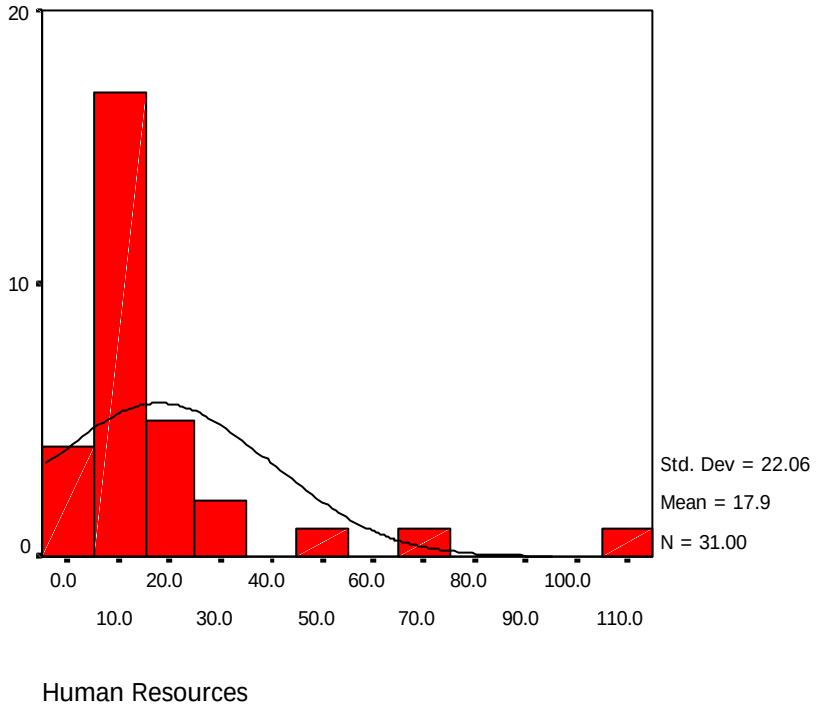

Figure 6

NIQ Environment of Informatization Index Histogram

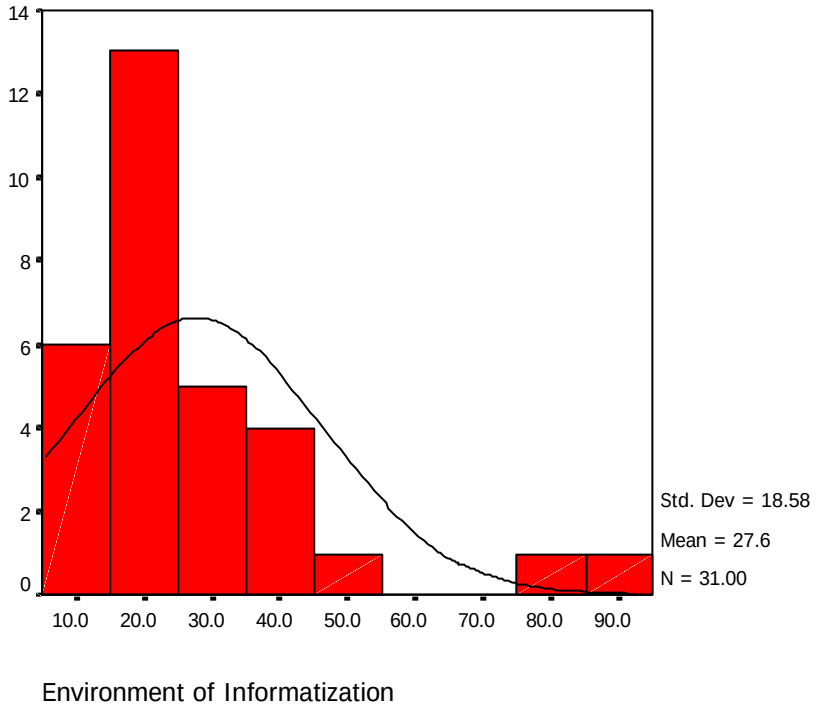

Figure 7

NIQ Index Histogram

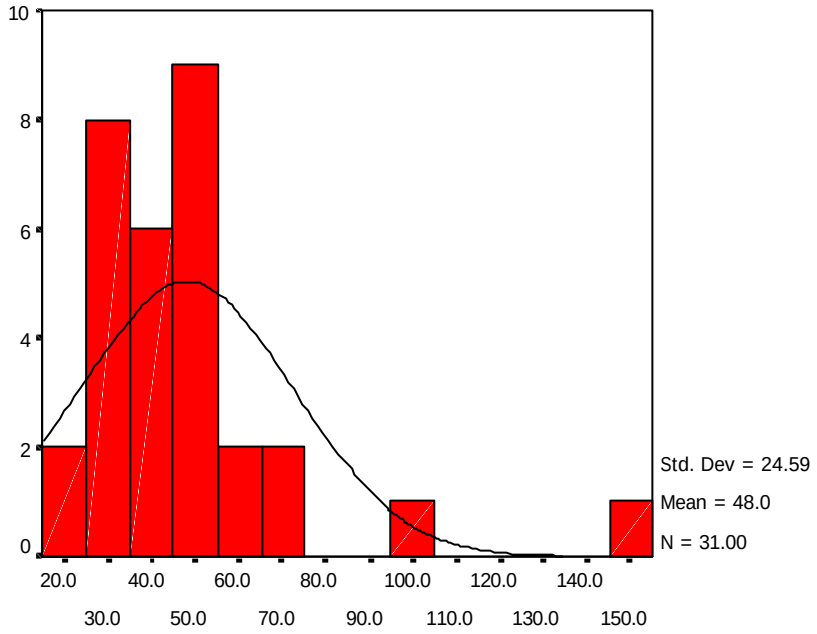

Figure 8

The Distribution of Quartile Ranks for Six Dimensions