Social Foundations of the Internet in China and the New Internet World: A Cross-National Comparative Perspective[1]

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Abstract

This paper provides evidence from survey research on the evolving attitudes, values, and patterns of use defining the New Internet World (NIW). The analysis focuses on China and other 'emerging nations' with similarly strong patterns of Internet diffusion, in comparison with the US and other nations that led the early development of the Internet. These findings lend support to previous research showing that new Internet users across the globe often share fundamental values and beliefs with users in more established Internet nations. For example, they are generally supportive of freedom of expression and online privacy, and concerned about governmental surveillance. However, users in newly adopting nations are often more innovative in content creation and social media uses, than users in nations that were the early leaders of Internet adoption. While Internet users in China are in line with other nations in their levels of political discussion and with respect to their views on government censorship and online monitoring, they are among the world's leaders in online entertainment, leisure, and commerce. Given the support of Chinese users for the traditional values and attitudes underpinning the global Internet, the rise of China within the NIW may not lead to the kinds of changes in freedom of expression and privacy that might be expected on the basis of the rhetoric surrounding national policy.

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Introduction

The geography of the world's online population has changed dramatically since the Internet's inception. While users in North America and Western Europe dominated the Old Internet World (OIW), the Internet's global diffusion in the twenty-first century has shifted its centre of gravity to the rapidly developing nations of Asia and the global south.

Will this changing centre of gravity reconfigure the social and economic uses, and societal implications of the Internet? Our previous research found that users in China and other nations rising in prominence within the NIW held values and attitudes, such as toward freedom of expression and privacy, that were similar to those of users in nations that led the OIW (Dutta et al 2011). Additionally, in some cases, users in emerging nations were found to be as innovative, if not more innovative, in their patterns of use than users in the nations that dominated the Old Internet World, for instance in their propensity to create content and participate in social media applications. This pattern of findings supports the thesis that the changing online population of the world is maintaining, if not reinforcing, the values and attitudes that have shaped the Internet over the last decades, but that shifts in values and usage are evolving rapidly and needed to be tracked over time.

Related Research Literature and Findings: Toward a Global Culture

The initial impetus behind our research was an expectation that the global diffusion of the Internet could dilute the core values and attitudes that underpinned its early development. The Internet arose as a bastion of liberal values, with the US enshrining freedom of online expression under the protection of the First Amendment of the US Constitution. Governmental policies with respect to freedom of access, expression and privacy have not been as protective of these core values in many emerging Internet nations, such as China (Dutton et al 2011). Increasingly, the press and academic research have varied assessments of Chinese Internet policy. Some have argued that Internet policy is becoming more conservative (Qiu 2013), while others have argued that the Internet is having a liberalizing effect (Yang 2009).

In the context of this debate, we reasoned that the values and attitudes of users could differ in fundamental ways from the strictures of public policy. Surveys have uncovered wide variations in the beliefs of Internet users on such matters as whether they perceive various media to be free in their nation (English and Vlad, 2011). At the same time, other research that has found support for traditional Internet values, such as freedom of expression, across the world (BBC, 2010), suggesting that the values and attitudes of users might have more in common than variations in media policies and traditions would suggest.

In line with this argument, we found in our initial global survey that the values and attitudes underpinning Internet use in the emerging nations of the NIW were indeed in line with those of users in nations that fostered the early

diffusion of the Internet (Dutta et al 2011). This led to the notion that there is a global culture of the Internet that counters local and regional traditions tied to the actual circumstances of Internet access, and use of information and communication resources that vary more widely across the globe.

Theoretical Expectations

Therefore, in our second phase of research, our central working hypothesis that the values, attitudes and patterns of use in the emerging nations of the NIW would be similar to those that characterize the early adopters of the Internet. Despite potential differences in everyday life and work, and the actual conditions of Internet governance in each nation, we expected to find an evolving shared culture of the Internet, based on underlying values and patterns of use, that supports the adoption and use of the Internet worldwide.

This research will examine whether and in what way the Internet's global diffusion might reshape the uses and values underpinning its infrastructure. In addition, it will contrast Chinese Internet users with users in other countries that are experiencing similarly strong growth in Internet use, as well as in countries that led the OIW, such as the US. It will build on and extend existing research to address the following questions:

1. Do the previously identified similarities and differences in the values and uses of users in early and later adopting countries continue to exist? If so, are these a result of demographic and structural differences between national Internet populations or linked to underlying cultural groupings that are associated with early and late adopting groups?

2. Do Chinese Internet users differ from other users in terms of their Internet uses and values? Will the influx of users in China, operating in what might be an increasingly different Internet sphere to Western users, result in a fundamental shift in net global understandings of the Internet as a place for free organization, information sharing and discussion?

The following section briefly lays out our survey methodology. We then describe the shifting patterns of diffusion that are shaping the NIW, and a set of categories that enable us to identify groups of nations that have joined the NIW at different times and with different rates of adoption, before moving to an overview of key findings related to China's place in the NIW.

Methods

The limitations of our 2010 research led us to replicate the survey in 2012 with refined questions, a larger global sample, and more languages options to determine whether our previous findings would be supported overtime, particularly in light of continuing changes in the NIW.

This new survey was fielded between July and September 2012 by two world-leading online research companies Toluna and comScore. In contrast to the 2010 survey that was offered only in English, the 2012 survey was offered in

nine languages: Arabic, English, French, German, Italian, Japanese, Korean, Spanish, and Simplified Chinese. Invitations were issued to comScore and Toluna panelists 15 years or older by E-mail or through data collection software that was installed on panellists' computers in the form of web-based pop-up windows. The online questionnaire was programmed to randomize questions and force answers to minimize response sets and non-response biases. 'Don't know' answers were treated as missing data.

A total of 11,225 cases were obtained, almost doubling the sample size from the 2010 survey, and resulting in a rich dataset with users from more than 60 countries worldwide.

For the purposes of this paper, cross-national comparisons will be conducted at two levels. First, general comparisons will be drawn between all 11,225 respondents across five developmental categories (defined below). We then focus on comparing respondents in two of the most prominent groups: Early Leaders, defined as users in those nations that shaped the Internet we know today, and Emerging Nations, including China and other rapidly developing countries such as Brazil, Mexico and Egypt.

Secondly, our dataset includes a sufficient number of respondents (more than 200) in 24 countries allowing comparisons to be drawn between individual nations (Table 1). We focus on China, as representative of the Emerging Leaders, with some comparisons drawn with the US, as representative of the Early Leaders.

Limitations

Online surveys have been criticized for not representing the general population. This is because online surveys are limited to people who have access to the Internet, automatically excluding a possibly large or minor percentage of the population offline, depending on the country. However, this does not limit our research since its main purpose is to study Internet users.

However, there are still some major threats to validity in online surveys. These are primarily anchored in the self-selection of respondents, tied to sampling and non-response biases. Respondents were recruited through online global panels with more than 5 million users. comScore and Toluna used a wide variety of recruiting techniques over thousands of diverse web sites, which reduces the likelihood of collecting falsified or biased data from repeated panelist members.

Non-response issues were addressed by employing mandatory answers to encourage respondents to complete the survey. This solution is not completely satisfactory but is judged adequate for this study. Problems such as these are not unique to online surveys; mail, self-selected and self-administered questionnaires also suffer from the same limitations.

Table 1. Countries Represented in Dataset by Developmental Group

	Early Leaders	Trailing Leaders	Rapid Developers	Emerging Nations	Late Developers
Countries in dataset (over 200)	Australia (n = 327) Canada (n = 512) Germany (n = 328) Japan (n = 319) Korea (n = 301) United Kingdom (n = 307) United States (n = 800)	France (n = 303) Italy (n = 301) Spain (n = 303) United Arab Emirates (n = 245)		Argentina (n = 301) Brazil (n = 305) China (n = 527) Colombia (n = 306) Egypt (n = 529) Jordan (n = 243) Mexico (n = 305) Morocco (n = 270) Peru (n = 307) Saudi Arabia (n = 511)	Algeria (n = 229) India (n = 507) South Africa (n = 332)
Additional Countries in Dataset (Less than 200 respon-dents)	Denmark, Finland, Hong Kong, The Netherlands, New Zealand, Norway, Singapore and Taiwan	Bahrain, Chile, Ireland, Israel, Malaysia, Poland, Portugal and the United Arab Emirates	Kuwait, Oman, Qatar	Costa Rica, Panama, Tunisia, Uruguay and Venezuela	Afghanistan, Bangladesh, Belize, Bolivia, Ghana, Guatemala, Iran, Iraq, Kenya, Nicaragua, Nigeria, Pakistan, Paraguay, Sri Lanka, Thailand and Yemen

The biggest weakness of this study is the small number of panelists often found in low Internet penetration, and small or remote countries, limiting our coverage of certain parts of the global Internet population. This also makes it difficult to collect certain country samples that are large enough for a country-level analysis. However, as a greater percentage of the world's population

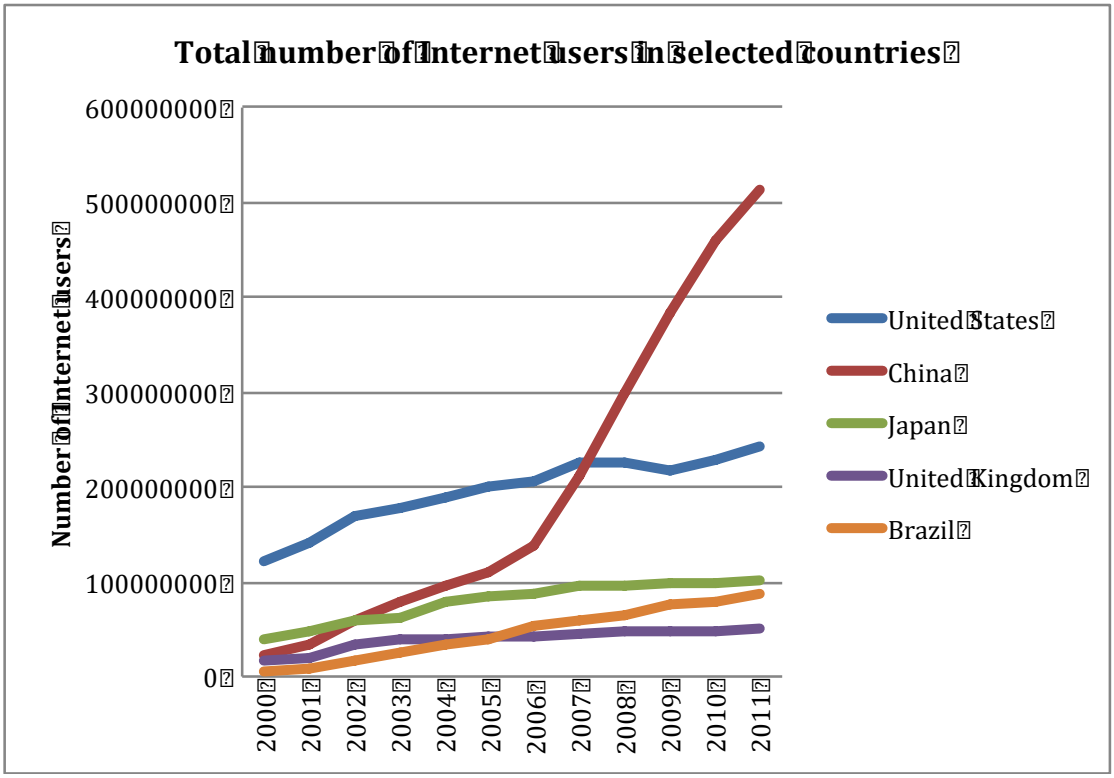
migrates online, particularly through mobile devices, collecting cross-national data should become easier.

Findings

The findings are organized in three sections, focusing first on the patterns of diffusion shaping the NIW, which provide a foundation for our comparisons, and discussion of China. We then focus on comparing patterns of Internet use across these categories of nations before turning to the values and attitudes shaping Internet use.

The Internet's Shifting Centre of Gravity

Figure 1. Total Number of Internet Users in Selected Countries.



Source: World Bank/ITU

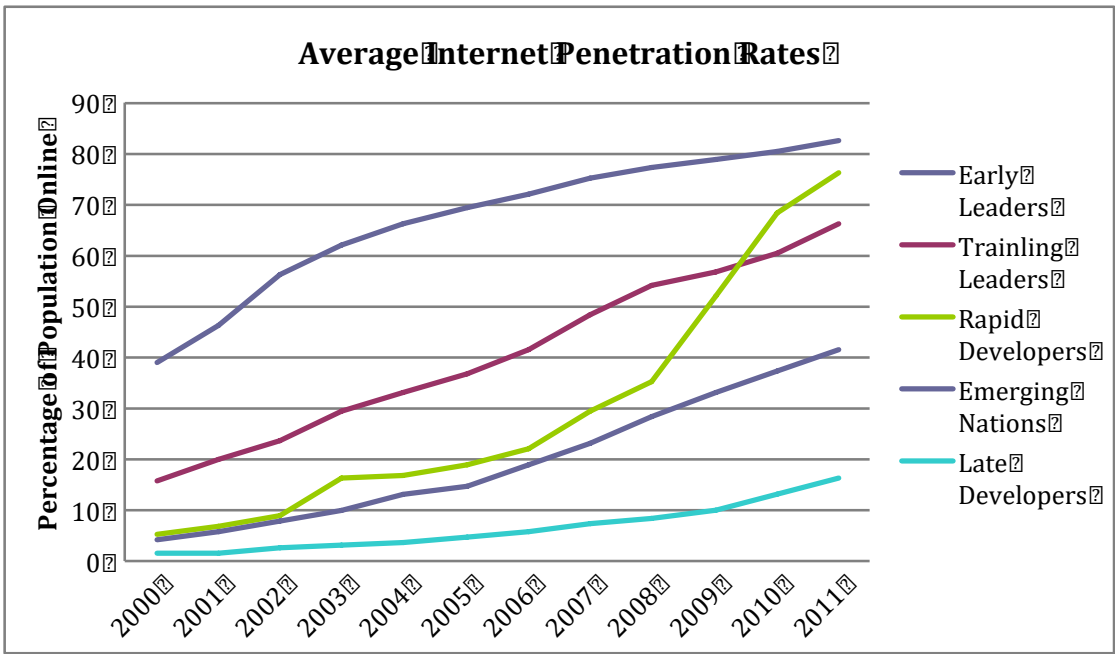
While the Old Internet World was dominated by the USA, Western Europe and developed East Asian countries, a major shift began in the early 2000s as diffusion began to be more substantial in developing countries, beginning with nations of Latin America. These changes remain underway with Internet penetration rates continuing to grow among the huge populaces in countries such as China, India, Indonesia and Nigeria, which are still low in percentage penetration terms, but growing fast in numbers and proportions of the overall population of the NIW. These new Internet users have dramatically changed the demographic and geographical composition of the global Internet, as illustrated by the growing throw-weight of the increasing number of users in China relative to other selected nations (Figure 1).

Within the 63 countries in our dataset, five distinct developmental patterns stood out. Early Leaders, including most of Northern Europe, North America, Australasia and the developed economies of East Asia, were the most prominent nations of the Old Internet World and have had more than half their population online for the last decade (Figure 2).

Trailing Leaders, including countries from South and Central Europe and early non-Western adopters such as Malaysia and Chile, followed a similar developmental path to the Early Leaders, but with smaller Internet populations both as a percentage of national population and as a proportion of the global total. They have, thus, played somewhat less of a role in the development of the global cosmopolitan values associated with the Internet and other information and communication technologies (ICTs).

The largest changes have come from the Emerging Nations, rapidly developing countries such as Brazil, Mexico, Egypt and China, with relatively new but rapidly expanding Internet populations (Figure 2). It is these countries that are driving the development of the NIW and will likely continue to do so over the next decade, when it is expected that there will be approximately five billion new Internet users, approximately half of which will be Chinese (Schmidt and Cohen, 2013: 4-8).

Figure 2: Internet Penetration Rates in Sampled Countries by Group



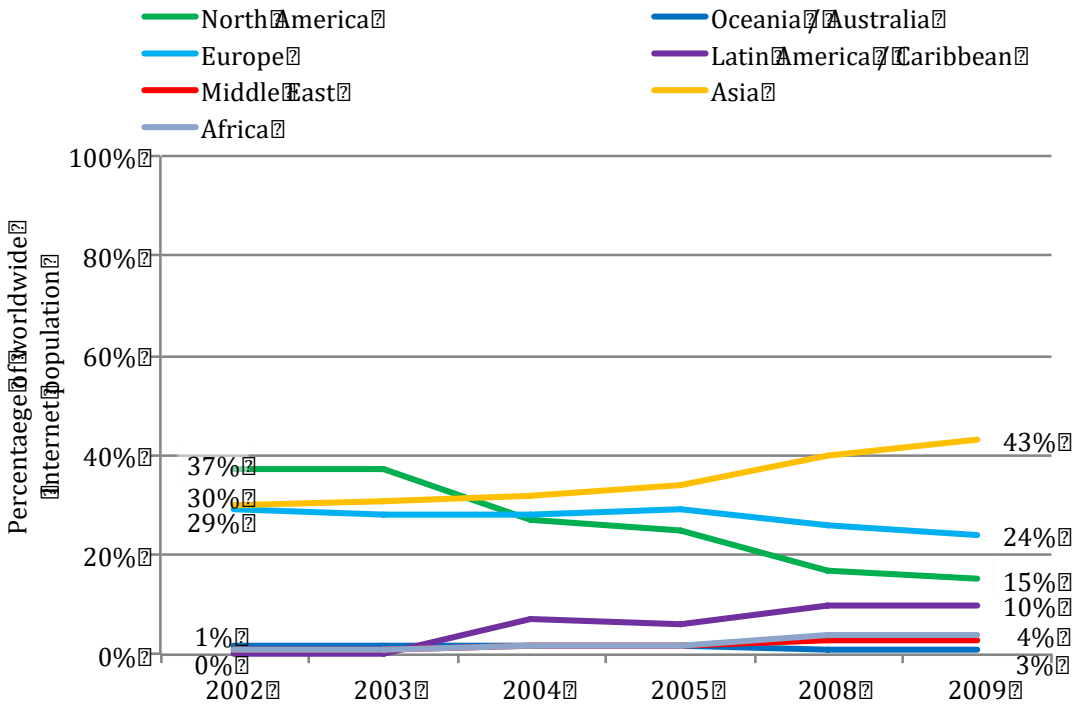
Source: ITU

Two other distinct developmental paths are illustrated in Figure 2. Three countries in the Middle East (Kuwait, Oman and Qatar) have developed rapidly, moving from only about five percent of their respective populations online in 2000 to approximately three quarters online in 2011. A fifth grouping

is composed of countries that have yet to develop large Internet populations, with currently on average 16 percent of their population online (compared to an average of 41 in the Emerging Nations group). This group, which includes most of Sub-Saharan Africa, much of South and South East Asia and later developing countries in Central and South America, are likely to play an increasingly influential role in the future Internet but their current influence is outweighed by the earlier developers and the Emerging Nations group.

In examining the effects of the Internet's changing geography, it is important to consider not simply countries or developmental categories as discrete units but rather the contribution of different countries or regions to the composition of the whole. As Internet use has spread to Emerging Nations, the percentage of Internet users located in the countries that were influential in shaping the Old Internet World has steadily declined, with the percentage contributed by Europe and North America dropping since 2003, despite continuing increases in the proportion of Americans online (Figure 3).

Figure 3: Declining Throw-weight of North America and Europe in NIW.



Source: Internet World Stats

Much of the Internet's shifting centre of gravity is illustrated by the changing status of two of the world's most populace countries: the USA and China. The technical community within the USA was the driving force behind the Internet's early development and this was largely responsible for the linguistic dominance of English on the Internet in its first decades, as well as values we take for granted as implicit in the Internet, such as its global connectivity and assumption of free expression (Norris, 2011: 232). Later adopters of the Internet have generally accommodated the structures and values that were

packaged with the infrastructure of the Internet, rather than reinventing it from the ground up.

However, China, which overtook the USA in the late 2000s to become the world's largest Internet population, has taken steps toward the development of an Internet with Chinese characteristics, behind the so-called 'The Great Fire Wall', with domestic companies occupying many of the market niches held by US firms elsewhere. Language has tended to create a natural division between China and the rest of the world, but the potential for China and other nations to build national Internet spheres is one possibility illustrated by debates over global Internet governance. The Internet could become an increasingly global infrastructure over the coming years, or move toward a more nationally fragmented system. A better understanding of how users' values, attitudes and patterns of use compare cross-nationally should inform debate about these possible futures.

Cross-National Patterns of Internet Use

Three broad categories capture the major trends and differences in cross-national Internet uses: innovative uses in content production and networking; consumer uses for online shopping, entertainment and leisure; and mobile Internet use. These distinctions are related and overlapping but prove useful in contrasting the Old and New Internet Worlds.

Innovative Use in Content Production and Networking

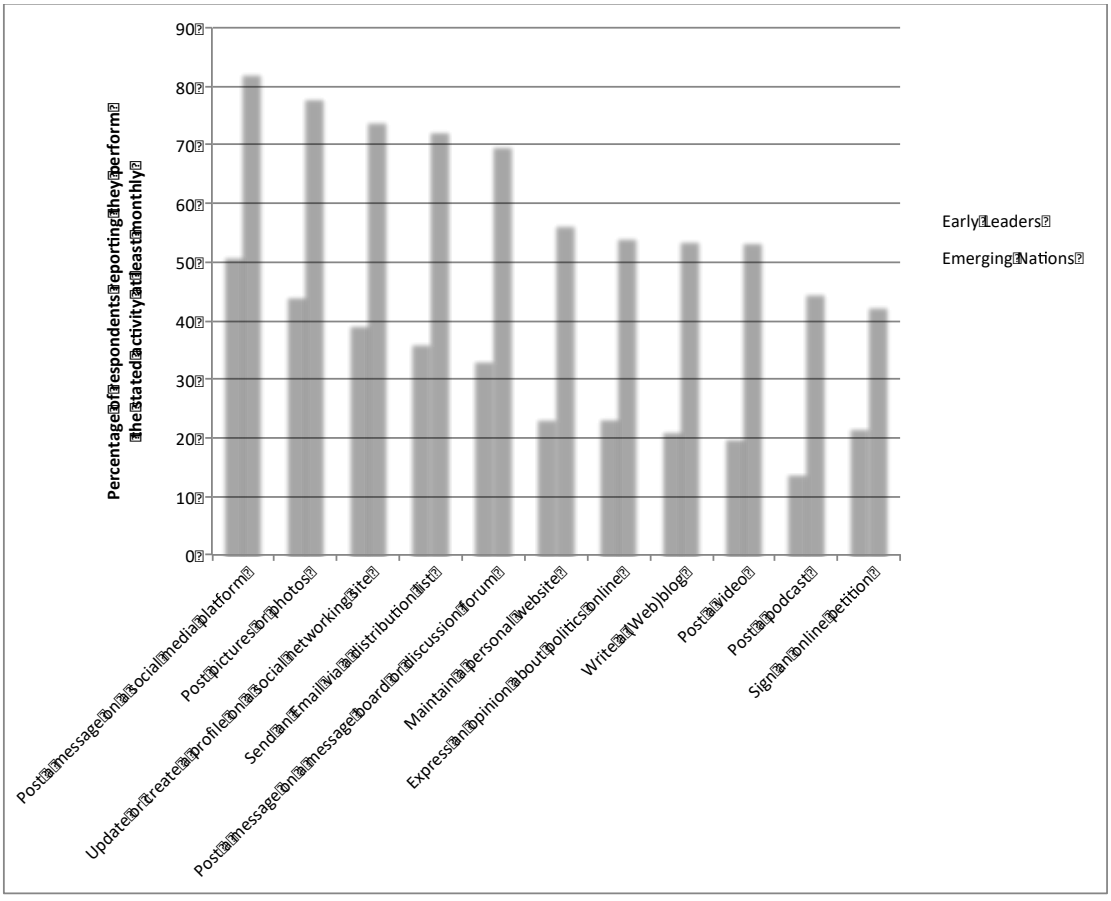
Previous research found that users in emerging nations produced more online content, and were more willing to explore and meet new people online rather than using the Internet more exclusively to support or solidify their offline lives (Dutton et al 2011). In the 2012 survey, we asked respondents to indicate their willingness to be friends or make connections with someone they did not know offline, whether they would meet people online that they had not met in person and whether they would meet someone offline that they had first met online. For each of these three measurements, Internet users in the Emerging Nations were significantly more sociable online ($p < 0.00$) than their counterparts in Early Leading countries. These new results closed aligned with the previous findings, adding confidence to the validity and reliability of both studies.

These differences in online sociability remained when controlling for age, gender, education, income, time using the Internet and reported interest in the Internet, suggesting that the differences between users in emerging and established Internet nations are not due to demographic differences in Internet populations or early adopter effects that are likely to be erased over time but rather that differences between users may be linked to underlying social, cultural and economic contexts that are linked to the conditions of earlier or later Internet adoption.

Similar results were found when examining content production. Survey respondents were asked how frequently they contributed content of different

types online including: updating or creating a profile on a social networking site, posting pictures or photos, posting a message on a message board or discussion forum, posting a message on a social media platform, sending an Email via a distribution list, writing a (Web)blog, maintaining a personal website, posting a podcast, posting a video, signing an online petition and expressing an opinion about politics online. Each of these areas of content production was significantly higher ($p < 0.00$) for respondents in Emerging Nations compared to those in Early Leading countries (Figure 4). On average users in Emerging Nations contributed about three times as much content than users in Early Leading Nations. Similar to online sociability, these differences remained when controlling for age, gender, education, income, time using the Internet and reported interest in the Internet.

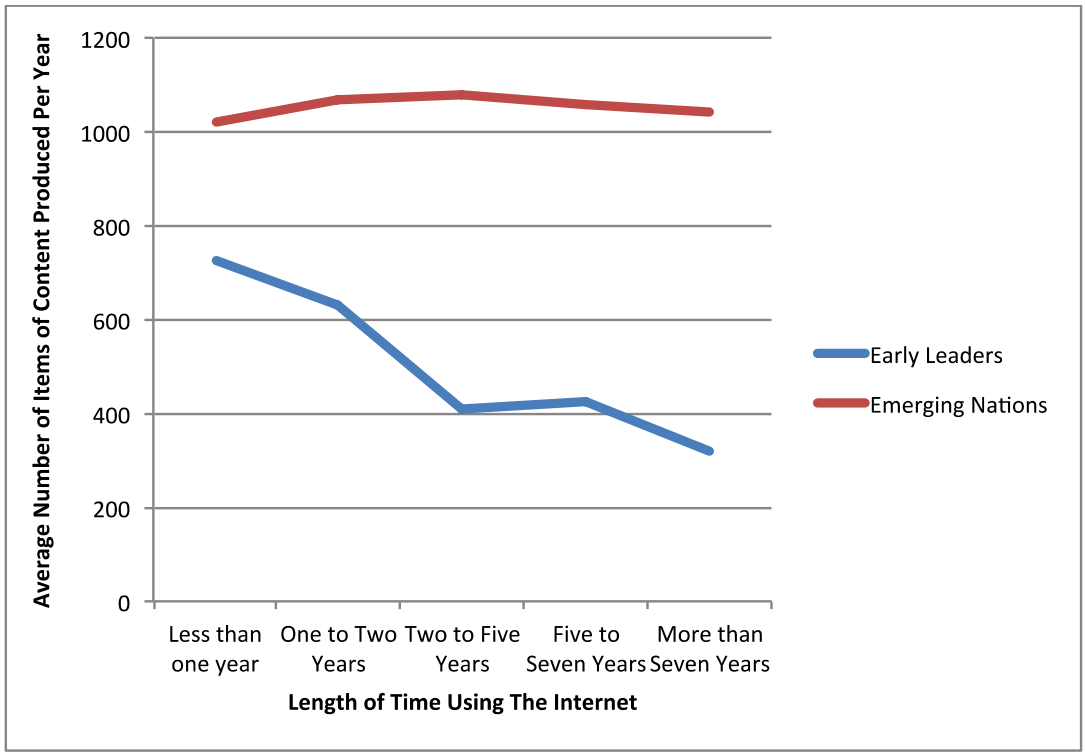
Figure 4. Percentage of Respondents Who Perform Selected Content Production Activities At Least Monthly



While in Early Leading Nations content production falls dramatically for users who have been using the Internet for longer, this is not the case for users in Emerging Nations, where content production remains both high and stable regardless of how long a user had been using the Internet (Figure 5), opposite of what might be expected if this difference was based only on the novelty of the technology. These findings lend more support to the conclusion that differences between these two groups are not simply a matter of yet-to-be-domesticated technology and early adopter effect, and may be related to the cultural, social and geographic circumstances of typical countries in these

groups, since an independent variable (length of time using the Internet) has different effects on the dependent variable (amount of online content produced) in the two systems under comparison.

Figure 5. Average Number of Items of Online Content Produced Per Year



Consumer Use for Online Shopping, Entertainment and Leisure

Another category of Internet use we examined focused on shopping, entertainment and leisure. China, with a rapidly developing middle class, has become a major market for consumer goods and entertainment products; however, our survey revealed that Chinese respondents stood out as the most frequent online shoppers of any country surveyed, with 60 percent of reporting making online purchases at least weekly, twice the worldwide average.

Chinese respondents also engaged in many types of online entertainment and leisure activities significantly more frequently than non-Chinese, reporting, for instance, more frequently getting music online (gamma = 0.47), and more frequently watching videos online (gamma = 0.31). While many of the most frequent online shoppers were located in the economic powerhouses of Emerging Nations, there was little difference overall between frequency of online shopping users in the Early Leading and Emerging Nation groups, with online shopping infrequent in Mexico, Algeria and Jordan, and very frequent in Brazil, India and China. Levels of online shopping were also very high in South Korea, an Early Leading nation, with 54 percent of respondents reporting making a purchase at least weekly, second only to China. One possible explanation for this is the economic and cultural closeness of China

and South Korea, which has led to a similar and potentially shared online marketplace.

Table 2. Leisure, Entertainment and Shopping in Early Leading Countries, Emerging Nations, China and the USA

	Early Leaders	U.S.A.	Emerging Nations	China
Percentage of respondents reporting making an online purchase at least weekly	27.49 %	23.01 %	30.10%	59.73 %
Percentage of respondents reporting using the Internet to get music at least weekly	29.71 %	19.38 %	68.85 %	80.00 %
Percentage of respondents reporting using the Internet to watch videos at least weekly	45.58 %	39.16 %	83.32 %	85.39 %
Number of Respondents	3567	800	3857	527

While shopping frequently online does have a strong positive association with using the Internet to save money on products and services, countries with high levels of online shopping, such as China, also exhibited high levels of Internet use for other leisure and entertainment activities, suggesting that Internet use in these countries is part of a wider pattern of social practices.

Chinese respondents were more likely than respondents in many other nations to report using the Internet to get music. However, unlike shopping, which was not associated with the Early Leaders and Emerging Nations categories, the frequency of downloading music was significantly higher among users in Emerging Nations compared to those in Early Leading countries (gamma = 0.60). A similar result was found for the frequency of online video watching. Chinese respondents had the third highest percentage of respondents who reported watching online videos at least weekly (85.4 percent), after Saudi Arabia (87.4 percent) and Egypt (85.9). Watching videos online was a much more frequent activity among respondents in Emerging Nations compared to respondents in Early Leading countries (gamma = 0.63).

One potential reason for this greater use of the Internet for music and video consumption in China and other Emerging Nations is relative the price and enforcement of copyright restriction in developing countries. In many Emerging Nations and China in particular, copyright of cultural products is enforced much less frequently than in Western countries, meaning more content is available for consumption and downloading online, leading to more frequent use. This interpretation is supported by the fact that respondents in the Emerging Nations were significantly more likely to report using the Internet to download content than their counterparts in Early Leading countries (gamma = 0.65).

However, another potential explanation is that in Early Leading countries, the use of online resources is more likely to be complementary to an existing pattern of consumption that includes television and portable music devices, reducing the reliance on the Internet for entertainment and leisure activities, where as in Emerging Nations devices are likely to offer a greater range of programming and choice than that which is otherwise available to the user.

Mobile Internet Use

Smart phone use for mobile access to the Internet is higher in Emerging Nations than Early Leading Nations, as is use of the smartphone for entertainment activities (Table 3). Eighty-six percent of Chinese Internet users reported they owned a smart phone, the highest of all 24 countries examined, which is in line with high levels of reported online entertainment and leisure activities in China. This pattern in China is similar to that of South Korea, where 85 percent own a smart phone. This widespread adoption is not limited to young people; while in the West and Japan, smart phone ownership drops dramatically among those older than 34, smart phone ownership among older respondents in China and South Korea remained high among older users.

Compared to smartphone users in other countries Chinese (and South Korean) respondents also used their phones more frequently for entertainment and leisure activities, with 90 percent reporting that they used their phones to listen to music, compared to 30 percent in the United States. Clearly, Internet users in the Emerging Nations, led by China, use ICTs more frequently for entertainment and leisure activities compared both to countries that were earlier adopters of the technology and to the worldwide average.

Users in Emerging Nations also used their phones significantly more frequently for browsing the Internet, sending and receiving Email and updating social networking sites compared to those in Early Leading countries. In their use mobile technology, Chinese users were again the most active, with 90 percent reporting using their phones to browse the Internet.

While the percentage of respondents reporting using their phones for playing games and listening to music declines with age, it declines much faster among users in Early Leading nations. For instance, while in the 18-24 age group, 82 percent of users in Emerging Nations reported playing games on their cell phones compared to 77 percent of users in Early Leading nations (a difference of five percent), in the 45 – 54 age group the difference rises to 19 percent (42 percent of users in emerging nations compared to 61 percent in early adopting nations). This is further evidence that these technologies play different social roles in Early Leading and Emerging Nations, and that the independent variables that effect ICT users act differently in emerging and established Internet countries.

It could be argued that those who use their mobile phones heavily for entertainment and leisure activities in Emerging Nations might do so because they do not have access to other technologies that perform this function; however, the individuals who play games on their phones are likely to report

owning a personal gaming system and those who listen to music on their phones are also likely to report owning a portable MP3 player (although this may be complicated by respondents who see their device both as a phone and MP3 player). This conclusion supports previous research that found that people use mobile phones to do more of what they do online using other devices (Blank and Dutton 2013).

Table 3. Mobile Internet in Early Leading Countries, Emerging Nations, China and the USA

	Early Leaders	U.S.A.	Emerging Nations	China
Percentage of respondents who own a smart phone	50.94 %	34.62 %	59.06 %	86.15 %
Percentage of respondents reporting playing games on their phones	50.06 %	33.54 %	76.24 %	88.03 %
Percentage of respondents reporting listening to music on their phones	47.38 %	29.56 %	83.26 %	92.46 %
Percentage of respondents reporting using their phones to browse the Internet	56.92 %	40.46 %	78.87 %	90.50 %
Number of respondents	3567	800	3857	527

Values and Attitudes of an Internet Culture

This final section shifts focus to the values and attitudes of users, examining the attitudes of Internet users towards online freedom of expression and control, which are critical to accessing the potential consequences of the shifting geography of the Internet. Seventy percent of Chinese Internet users believe the Internet is free, but this is a lower percentage than the average for Emerging Nations and is the lowest of all the 24 nations examined except South Korea (62 percent). Similarly, more than half of Internet users in China agree that the government should monitor content online, although this is not dramatically different from many other nations (Table 4).

In many respects, Chinese users tend to mirror the values and concerns of both Early Leading Nations and the other Emerging Nations of the NIW, despite operating within an Internet that is significantly more controlled than the majority of survey respondents. For example, we found little difference between respondents in Emerging and Early Leader nations on the subject of Internet control and censorship, and no major difference between Chinese and non-Chinese respondents on these issues (except on the issue of the censorship of racist or discriminatory content where respondents in Emerging Internet Nations exhibited slightly greater levels of agreement).

On questions about whether the government should censor the Internet on political matters, Chinese respondents exhibited a somewhat more neutral

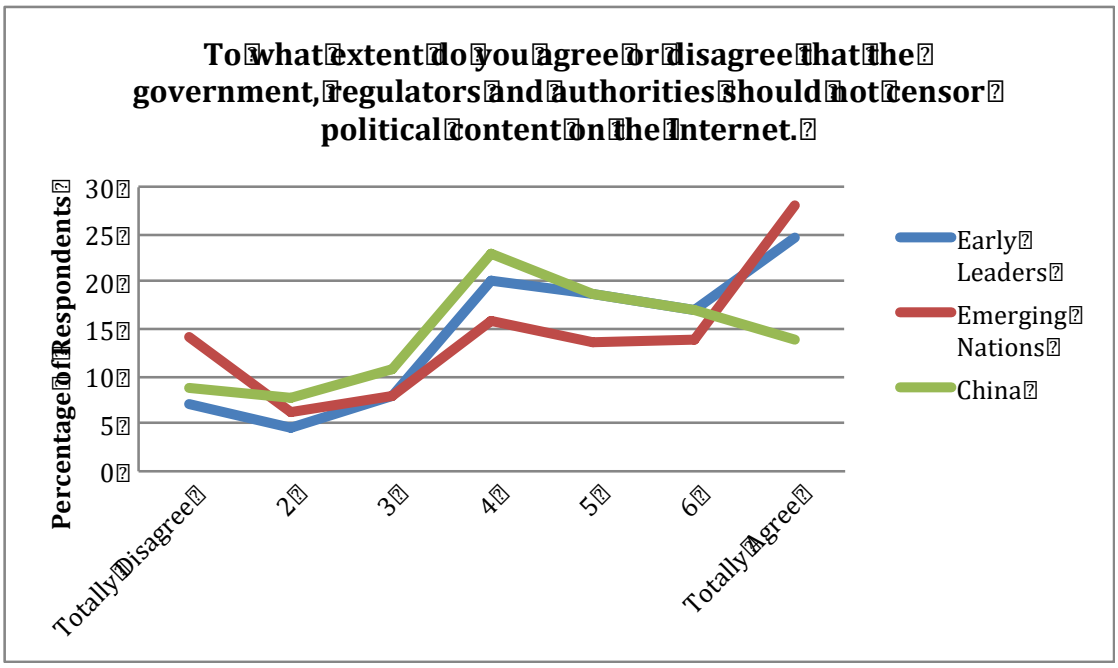
view than non-Chinese respondents. When asked whether they agreed or disagreed with government, authorities or regulators tracking their online activity, censoring political content or knowing whom they communicate with offline, Chinese respondents were, on average, less likely to respond that they strongly agreed or strongly disagreed and more likely to respond that they neither agreed nor disagreed than non-Chinese respondents, or average respondents from other Emerging Nations or Early Leading countries (Figure 6).

Table 4. Attitudes Toward Freedom of Expression and Key Internet Values in Early Leading Countries, Emerging Nations, China and the USA

	Early Leaders	U.S.A.	Emerging Nations	China
Percentage of respondents who say they think the Internet is free	89.35 %	92.33 %	80.30 %	70.45 %
Percentage of respondents who agree that the government should monitor content posted on the Internet	46.72 %	42.82 %	45.56 %	52.41 %
Percentage of respondents who agree that the government should not censor political content online	56.07 %	64.77 %	42.22 %	49.61 %
Percentage of respondents who say they are concerned about their online communication being monitored	67.94 %	68.28 %	58.93 %	63.89 %
Percentage of respondents reporting posting a political opinion online at least monthly	23.53 %	25.73 %	54.23 %	49.22 %
Number of respondents	3567	800	3857	527

This result could be indicative of a more nuanced view towards government control and censorship on the part of Chinese respondents. Living in a society where they must consider the arguments both for and against Internet censorship, they see both its pros and cons more strongly than those for whom government control is less expansive and overt. However, another possible explanation could be that of acceptance of the status quo; knowing that they cannot change the state of government regulation within China they choose a neutral view, unlike respondents in more democratic societies who take a more polarized view because they feel that their opinions can result in concrete change.

Figure 6: Support for Censorship of Political Content Online



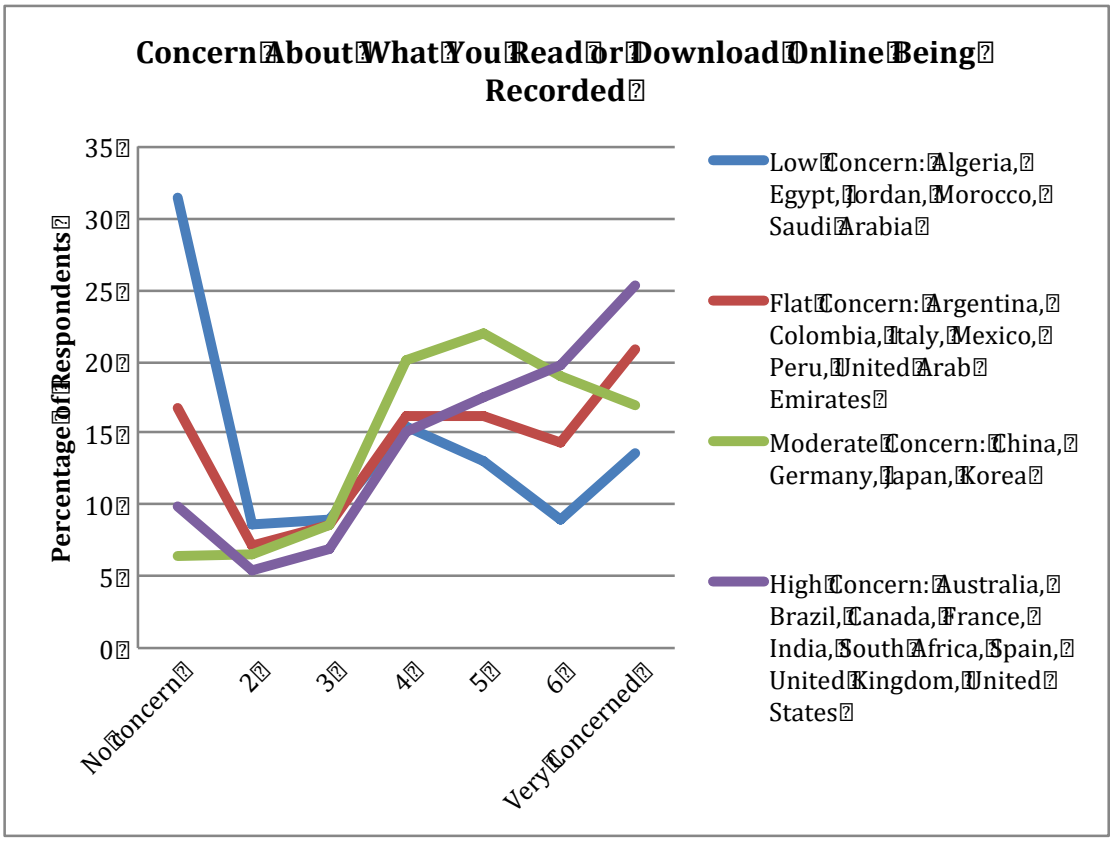
Consistent with attitudes toward censorship of the Internet, Chinese respondents did not stand out in their concern over the monitoring of online activity. Users in the more liberal democratic countries of both the Early Leading and Emerging Nations, such as Brazil, France, India, the UK and USA, showed the highest levels of concern about their online behaviours being monitored. In Japan, Korea, China and Germany, most respondents expressed moderate, but not high, levels of concern about their online activity being monitored. A third pattern, evidenced in the Middle Eastern and North African countries of Algeria, Egypt, Jordan, Morocco and Saudi Arabia, showed the greatest number (between 30 and 40 percent of respondents) expressing no concern for their online activity being recorded (Figure 7).

This suggests that respondents concern about their online activities being recorded may have a cultural basis that is separate from whether they live in early or later adopting countries, and separate from opinions about the desirability of monitoring. There was no correlation between whether respondents agreed that governments, regulators and authorities should know who they communicate with online and concern about who they e-mail or message online being recorded either in China or in the general population.

Despite a much greater realistic chance that their the online activities of users might be monitored, respondents in China had very similar views to their neighbours in Korea and Japan. Chinese respondents who reported posting about politics online and those with more education were no more likely to be

concerned about online monitoring than those who did not; however, younger Chinese respondents, particularly those in the 25 – 34 age group, were more likely to express concern about online monitoring.

Figure 7. Concern About Online Monitoring Cuts Across Developmental Groups



It is significant that concern about one's personal activity being monitored has no correlation with support for monitoring of that activity in general and that countries in which the Internet is generally seen to be free exhibit higher levels of concern about monitoring than in countries where more monitoring takes place. Concern has little correlation with actual reality, but will likely have a strong influence over individual behaviours.

Another important aspect of online civil society is the ability for the Internet to facilitate information sharing, information seeking and discussion on political and social issues. Studies in the West have consistently shown low levels of participation in online politics (Hindman, 2008), reflecting low levels offline. In regards to levels of political communication online on a global scale, we expected that similar patterns would emerge both established and emerging countries with younger, more educated respondents more likely to engage in political expression online. In China, levels of political discussion online were expected to be lower than the general average, but follow the same pattern.

We found, however, that respondents in Emerging Nations had significantly higher rates of posting opinions about politics online compared to those in Early Leading countries (gamma = -0.4816), with 40 percent of respondents in Emerging Nations reporting posting a political opinion online at least weekly compared to 15 percent of respondents in Early Leading countries. Respondents in Emerging Nations were also much more likely to say they used the Internet in order to express their views and opinions on issues, 77 percent of users compared to 56 percent of those in Early Leading countries.

However, younger and more educated respondents across the entire sample reported higher levels of political expression online, suggesting that likelihood of political participation is affected by similar factors in both established and emerging Internet nations. Indeed the drop off in online political expression with age was even larger in Emerging Nations, with online political expression among older respondents remaining comparable or even slightly higher to that of young people in Canada, Japan, the United Kingdom and the United States.

In China, approximately half of respondents reported expressing a political opinion online at least once a month, which was about average for Emerging Nations, suggesting that although levels of online political expression in China are not as high as other large countries with rapidly growing Internet populations, restrictions on political speech in China do prevent users from utilizing the Internet to express themselves on certain issues. For instance, Chinese respondents reported posting political opinions online much more frequently than Koreans, who were similar to Chinese in entertainment, leisure and smartphone usage.

Across the entire sample, the posting of political opinions online has a strong positive correlation with other activities of content generation and opinion expression such as signing online petitions (gamma = 0.60), posting messages to message boards and discussion forums (gamma = 0.62), posting podcasts (gamma = 0.63) , posting videos (gamma = 0.58) and writing weblogs (gamma = 0.58); and information seeking activities such as seeking information about events in other countries (gamma = 0.50), seeking information about local events (gamma = 0.46) and seeking information about political parties, candidates or issues (gamma = 0.62). Posting political opinions online was also positively correlated with the sociable aspects of the Internet associated with Emerging Nations such as making connections online with someone you do not know offline (gamma = 0.40) and meeting someone offline who you first met through the Internet (gamma = 0.41). These results are consistent with our finding that respondents in the Emerging Nations were are more active in producing rather than simply consuming online content of all types.

Discussion

Several themes emerge from these findings that provide a basis for reflecting on the evolving NIW. This section will briefly note these themes and then

show how they might connect to a general thesis about the Internet of the NIW, generally, and China in particular.

First, relative to the Leading Nations of the OIW, such as the US, users in China and other rapidly-developing economies (along with Koreans, part of the OIW) are more active as consumers in shopping, leisure and entertainment online. Among all countries analyzed, Chinese respondents stood out for their high levels of Internet use for entertainment and leisure activities, particularly shopping. This finding on its own is not inconsistent with observations by commentators who see the Chinese media as overly, and intentionally, consumerist (Zhao and Schiller 2001). According to this interpretation, Chinese users are diverted to entertainment and leisure users of the Internet to undermine the potential of Internet use for information sharing, organizing and political activities. However, it is possible to argue, in light of our other findings, that this consumer oriented aspect of Internet use is not necessarily in lieu of other forms of online activity. The contrary is more supported by our data, which suggests that the emerging nations, such as China, are also more innovative in content production, networking, and mobile use in ways than can support political discussion and other civic uses of the Internet.

Chinese respondents frequency of use of the Internet for entertainment, leisure and shopping, and use of mobile technologies are the highest of all the countries examined. This is particularly significant in that more than half the country remains offline, particularly in rural and minority areas, and these individuals, who are expected to be connected over the next decade, will likely use mobile devices, rather than fixed machines, to connect to the Internet. In catering to for these populations, China will likely lead the way in shaping the NIW as it transitions from desktops and laptops to a mobile, multi-device system.

In short, the Internet seems to be a more vital infrastructure for users in Emerging Nations, than in the nations that led early development. It is used more for shopping, but also for many other activities, including civic activities such as posting political comments or finding information of political parties, candidates and issues. It may, thus, be that the Internet's relative advantage in the Emerging Nations is greater than in Early Leading Nations. For example, in the case of online commerce in China, the Internet is not only a critical economic infrastructure, but also valuable in creating new businesses, which should lead the government to protect its vitality into the future.

In addition, the values underpinning Internet use in the NIW remain supportive of freedom of expression and concerns remain high over privacy and governmental surveillance. There is somewhat of a greater propensity for users of the Internet in China and other Emerging Nations to adapt to the likelihood that their Internet use will be the subject of governmental surveillance. However, overall this is further evidence of a developing global Internet culture that is supportive of freedom of expression and privacy, albeit it often moderated and not absolute.

The Internet was introduced in China, at a time when much academic literature on the Internet focused on the technology's potential to change political processes. ICTs have been very successfully utilized in China for entertainment, leisure and commerce. But has this come at an expense of information seeking and civic activities? Alternatively, has the vitality of the Internet for commerce been congenial to civil society to developing online? We believe our data supports the latter in several respects. For example, it is critical to note that the use of the Internet for political expression is higher in China than the US and many other Early Leading Nations. Moreover, the values and opinions of Internet users do not vary significantly between the established and emerging countries of the NIW. They are similar or show distinct regional or cultural patterns not related to the dichotomy of Early Leaders or Emerging Nations in relation to their opinions on Internet censorship and concern about online monitoring. Specifically, Chinese respondents were in the mainstream of other nations with respect to their levels of political discussion and opinions on government censorship and online monitoring.

China has taken a lead in the commercial use of the Internet, without being left behind in terms of online civic participation. The effects of China's growing influence might be to support the continuing commercialization of the Internet, but without undermining support for the basic values and attitudes enabling the Internet to be an infrastructure for freedom of expression.

Conclusion

Internet users in Early Leader Nations, such as the US, often differ from their counterparts in Emerging Nations, like China, in their patterns of Internet use; they are less likely to produce content, or to establish new social connections online. They are less likely to use the Internet for shopping, leisure and entertainment activities, and are less invested in a mobile culture and also less likely to discuss politics online. While a smaller proportion of the population of the Emerging Nations are yet online, these new Internet users are using the Internet in more innovative and varied ways than are the users in nations that led early adoption. These differences remain when controlling for demographic and structural factors known to effect Internet users and values in the Old Internet World such as age, gender, education, income, time using the Internet and reported interest in the Internet, suggesting that observed differences are likely to persist over time. In short, the centre of gravity of the Internet is shifting not only in numbers but also in patterns of use, with Emerging Nations such as China moving in directions that could make them central to the future of innovations in the production and use of the Internet.

While Internet users in China are among the world's leaders in use of the Internet for entertainment, leisure, and commerce, they are in line with other nations in their levels of political discussion and with respect to their views on government censorship and online monitoring. Based on these patterns of public attitudes, values, and use, China's policy-makers are likely to value on the unusually strong commercial and economic significance of the Internet. In

combination with the support of users for the basic values and attitudes underpinning the traditional values of the Internet community, their may be more reason for optimism about the future of an open Internet in China and across the NIW than might be expected on the basis of the rhetoric surrounding national policy.

However, while the values and attitudes of Internet users are important, they are only one element shaping the future of the Internet and its societal implications cross-nationally. The opinions need to be tracked over time and examined in the context of other factors shaping use of the Internet, including Internet policy and governance cross-nationally and globally, in order to evaluate how the Internet's changing demographics will shape its future.

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