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The Everything-ness and the More-ness of the Internet: How Digital Is Different From Other Media

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Digital media are qualitatively and quantitatively different from the analog media that preceded it. There is an "everything-ness" to media that arises when information is digitized. Digital media is pervasive, portable, persistent, and visible; personal and customizable; participatory, replicable, spreadable and scalable; and searchable. This changes three major dynamics of media and communication spaces where there are invisible audiences, collapsed contexts, and blurred boundaries between what used to be private and what used to be public. These properties of digital media create a "more-ness" to their role in people's lives. People see both good and bad impacts of digital media in their own lives and in the way digital media affect their societies. Public opinion sampling in 11 emerging economies shows how this more-ness is evident in tensions that people feel about their new media environment, especially when it comes to mobile digital connectivity.

Keywords: mobile phones, Internet, social media, emerging economies, digital media

The Internet was born with a computer crash (Poynter Institute, 2014), followed soon enough by grand pronouncements about its unique and globally transformative nature (Barlow, 1996). For more than a generation, scholars have documented the Internet's impact on everything from economic growth (Greenstein & McDevitt, 2009) to sexuality (Doring, 2009) to politics (Glass, 1996) to college faculty (Jones & Jones, 2005). By combining the affordances of one-to-one, one-to-many, and many-to-many interactions, digital media reconfigured the landscape of media businesses, social life, learning, organizational structures, civic activity, and commercial exchanges (Benkler, 2006; Castells, 1997a, 1997b, 1998, 2004, 2009; Negroponte, 1995; Wellman et al., 2003).

This reality suggests that there be a new understanding of the scope and influence of what once was called "new media." Various media studies have shown that there are eight aspects of digital information connected via the Internet that have made it a different kind of media (boyd, 2010, 2014; Castells, 1997b; Negroponte, 1995; Neuman, 2016). They are elaborated in the next section. Moreover, these affordances have intensified since the mid-1990s as a "triple revolution" in technology—Internet/broadband, mobile, social media—has unfolded. These technology changes have expanded and made more efficient the creation and transfer of information (Rainie & Wellman, 2011). In addition, Internet-connected digital media scaled up at the global level far more rapidly than previous local- and national-dominated media. The International

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Telecommunications Union reported in 2018 that half of the world's people are Internet users (International Telecommunications Union, 2018), and studies from the Pew Research Center in dozens of emerging economies show that a median of 42% use smartphones and 53% use social networking sites (Poushter, Bishop, & Chwe, 2018).

Everything-ness: The Eight Affordances of Connected Digital Media

A new understanding of digital media emerges from examining the ways that digital media are qualitatively or quantitatively different from previous kinds of analog media (boyd, 2010; Purcell, Rainie, Mitchell, & Rosenstiel, 2010). As Neuman (2016) puts it, "The Internet and new media revolution changes everything" (p. 47) by opening up a new marketplace of ideas and a "new paradigm" for communications and media. First, the shift of media from atoms to bits has allowed digital media to become pervasive and combinatorial (Negroponte, 1995). All forms of media—text, audio, pictorial, video—now are conveyed in digital format, making it possible for digital devices to be displays and amplifiers of information. Many analog media devices from radios to TVs to telephones to record players to gaming formats have been reimagined to embrace the multiplexity of digital formats. Moreover, smartphones themselves have become all-purpose media devices. The coming years will see the rise of connected smart appliances, smart cities, and smart billboards that convert digital information to user-friendly displays. The environment itself will be suffused with digital media, displayed on all kinds of devices and screens that convey all kinds of "realities"—augmented, virtual, and mixed.

This means that digital data and media are nearly omniavailable and omnipresent. Indeed, computing itself will become pervasive (Hansmann, Merk, Nicklous, & Stober, 2013). This new environment is tied to mobile connectivity and the growing presence of digital sensors in the environment and infrastructure. Some signs of digital media's pervasiveness include the following: Forty-five percent of American teenagers are online almost constantly and another 44% report being online at least several times a day (Anderson & Jiang, 2019). Some 28% of American adults report being online almost constantly, and another 45% are online several times a day (Perrin & Kumar, 2019).

Second, digital media are portable. The rise of mobile connectivity has allowed media to move around with humans as they bring their smartphones with them as they move around. This decouples media experiences from place-based media gadgetry that dominated media experiences in the presmartphone and pretablet computer era. It also means that people think of their smartphones as extra body parts (Rainie & Zickuhr, 2015), an adjunct of their brain or, indeed, another limb (Roache, 2010; Schaeffer, 2019). The decoupling of media from fixed, place-based experiences also allows media to be consumed on-the-fly as people are moving around the world, sometimes aided by point-to-point directions on their phones.

Third, digital media and communication are persistent and visible. As boyd (2010) argues, "Online expressions are automatically recorded and archived" (p. 44), and what one says sticks around, unlike the more evanescent communication and information sharing that takes place in nondigital environments. This is not always apparent to those who create digital communications and media at the time they are posting on social media, chatting on listservs, creating a string of text messages, or sharing a video with friends. The default setting for many of these exchanges is for public or semipublic availability of the material. It

takes conscious and sometimes considerable effort to reset the defaults to private or limited sharing. Thus, even ephemera often remain on the record, publicly visible for wide audiences. That reality overturns the more common experience of the analog era when it took considerable effort and expense to make media available and gain an audience for it. This condition of persistence and visibility also puts on display the wide range of human activities and emotions that in days gone by were private, intimate exchanges. Moreover, the mechanisms of the legal system—discovery and subpoenas—can be used to surface forgotten or even hidden digital material. In short, much more of users' lives in the age of digital media is lived in public, challenging norms surrounding informal, relaxed, and confidential encounters.

Fourth, digital media are personal and customizable. Essential parts of people's digital media streams and information flows are curated and shaped by curation practices. Both the technological and social filters that people use to customize the information flows into their lives are often necessitated by the volume and variety of information that is available to them. They filter e-mail traffic. They make friending and unfriending decisions based on the relevance and appeal of the media and messaging others are creating. They subscribe to various types of content, crafting "play lists" of music, news, social encounters, and a host of other kinds of media content. Moreover, many function within algorithm-mediated environments where media recommendations are offered ("here are other books that people who purchased this book purchased") and where profiles of them are created based on their purchases, clicks, shares, comments, or likes to craft the flow of new content in their "feeds."

Fifth, digital media are participatory. They allow everyday users to be content creators and activists in realms that matter to them. Arguably, the greatest impact of the rise of digital, connected media is that they have enabled many users to become media makers themselves by using low-cost tools to tell their stories and show their experiences to the world. They can create an audience for their creativity and galvanize a crowd for their passions. This social production has disrupted every creative and knowledge-making form of business, including the music industry, films, news, paintings, encyclopedias, scholarly endeavors, and software development (Benkler, 2006). Moreover, the social interactions around information production and sharing propel what Neuman (2016) calls "valenced communication—communications processes deeply imbued with the identities and interests of different social groups" (p. 44). In turn, the democratization of media production has challenged the structures of expertise, media gatekeeping, and legal regulation of media that dominated the industrial era of media. Of course, it has also allowed purveyors of misinformation, fraud, and menace new ways to torment and manipulate others.

Sixth, digital media are replicable. As Negroponte (1995) argues, digital bits are easy to duplicate and at high fidelity, distinct in many ways from the analog media that dominated the predigital age. Indeed, he posits that digital "media" are actually "mediumless" and "fluid." Similarly, boyd (2010) wrote,

> Copies are inherent to these systems. In a world of bits, there is no way to differentiate the original bit from its duplicate. And, because bits can be easily modified, content can be transformed in ways that make it hard to tell which is the source and which is the alteration. The replicable nature of content . . . means that what is replicated may be altered in ways that people do not easily realize. (p. 49)

Mashups and outright theft of digital content are commonplace in the digital era. People's private one-to-one messages can be cut and pasted and thrust into the digital public square. An emerging concern these days is the rise of manipulated copies or creations of falsified information—deepfakes—that give a mistaken appearance of real human activity.

Seventh, digital media are spreadable and scalable. A great deal of digital media creation, particularly in social media, is done for the purpose of sharing content and allowing it to be shared by others (Gans, 2012). Many websites and apps have one-click buttons for sharing, and this vastly expands the universe of potential consumers of information. Virality is an essential engagement metric for digital media and the advertisements they attract. In 1995, Negroponte saw the implications of this: "The digital world is intrinsically scalable. It can grow and change in a more continuous and organic way than former analog systems" (p. 41). Of course, there is no guarantee that digital media will spread far and deep. Furthermore, the same spreading process that enables meaningful and joyful content to find an audience is used by trolls and other malefactors to attack or shame content creators.

Eighth, digital media are searchable. The explosion of digital media would be largely unnavigable without powerful search tools that allow users to find the content they want and remember it when they have forgotten it. In major ways, search makes digital media possible and usable. Search enables long-ago episodes to be unearthed. Search permits people to outsource their memories to digital storage, retrievable in a few commands and nearly instantaneously. It also means that creators and users of digital content leave a record—a findable and searchable record—that others can examine and exploit and perhaps even invade.

Not only did the nature of information change when it became digitized and connected, the ecosystem of information exchange and social interactions also changed with it. At one level, these distinctive traits of digital information introduced new dynamics to personal and communal life, as Castells documents in his multivolume exploration of "networked society" (Castells, 1997a, 1997b, 1998, 2004, 2009). His examination of concepts of "timeless time," "space of flows," "mass self-communication," and the polarity of the "Net versus self" illustrates an array of activities anchored in special features of digital media and communication. At an even more bedrock level, as information became digitized, more of it was generated, a greater variety of it was circulated, and personal communications and information sharing increased in velocity (McAfee & Brynjolfsson, 2012). This, in turn, created more information about everything tied to human activity including demonstrations of love and hate, altruism and selfishness, brilliance and stupidity. It also shifted the dynamics of information sharing from the "push" structures of analog media to the "pull" dynamics of user-orchestrated and filtered media streams (Hagel, Brown, & Davison, 2010; Neuman, 2016). In addition, the rise of digital media created vastly more visible evidence about social engagement, social groupings, subjects that people and groups discuss, communities of interest, allegiances, alliances, affirmations, enemies, arguments, do-it-yourself initiatives, self-disclosure, mob-initiated shaming, outrage, gossip, attempts at manipulation, fact-checking, lying, and preening—indeed, the whole spectrum of human interaction and emotion (Rainie & Wellman, 2011).

In addition, the structures of people's attachments and communities have changed. People's social networks and their technological reification on social media are major mechanisms for them to engage in interpersonal, work-related, and group activity. Those networks can form "networked publics" in which

people's traditional pre-Internet terms of social engagement are altered. boyd (2010) argues—and Pew Research Center studies confirm—that three dynamics shape networked publics and make them different:

> *Invisible audiences:* not all audiences are visible when a person is contributing online, nor are they necessarily co-present. *Collapsed contexts:* the lack of spatial, social, and temporal boundaries makes it difficult to maintain distinct social contexts [for communication]. *The blurring of public and private:* without control over context, public and private become meaningless binaries, are scaled in new ways, and are difficult to maintain as distinct. (pp. 41–42)

The Pew Research Center's research has documented that these dynamics play out in a variety of ways. For instance, they shape the evolving rules of etiquette where people can be alone together or apart together with their smartphones (Rainie & Zickuhr, 2015). These new contexts also affect the vanishing line between work and home (Madden & Jones, 2008). In addition, the increasing surveillance of Americans' lives challenges the distinctions between what is private and what is public (Auxier et al., 2019). They also reconfigure the context of online activism, especially in the era of #MeToo and #BlackLivesMatter (Anderson, Toor, Rainie, & Smith, 2018).

In sum, the character and context of digital media represent notable breaks from media of the past.

Much of the change toward "everything-ness" is explored in research that focuses on the American context of digital adoption. Yet, even in that well-studied environment, it is important to note that "everything-ness" does not mean "everyone-ness" and "everywhere-ness." American data and evidence from around the world show striking differences in technology use patterns by gender, age, education, and income levels (Pew Research Center, 2020a; Schumacher & Kent, 2020). In addition, there are multiple layers to digital divides even among technology users. The divisions are evident in users' varying levels of "digital literacy" (Hargittai & Micheli, 2019), people's disposition to information (Horrigan, 2017), and their struggles with wired and wireless access to connectivity (Silver, Vogels et al., 2019).

Crucially, it is essential to understand that the argument here about "everything-ness"—that is, digital media can be used in multimedia and multiple media contexts—is not the same as "everywhere-ness." If half of the world is now connected, that means half is not (International Telecommunications Union, 2018). Non-Internet users are poorer, less educated, older, more likely to live in rural areas, and, in some regions, more likely to be women (Schumacher & Kent, 2020). In addition, the "everything-ness" argument is not meant to challenge the rich literature in media studies about the importance of media infrastructures and organizational structures in influencing the media environments of users. "Everything-ness" does not mean "seamful-ness." There are persistent gaps in the availability of the Internet in many nations, dramatic swings in its unreliability, and all-too-frequent political struggles that prompt national leaders to shut it down entirely in their countries.

More-ness: As Digital Media Spreads, People See Contrasting Impacts on Societies

Much of the change spawned by digital media—and the fallout from it—is evident in the results of an 11-country survey of emerging economies in four regions of the world in the second half of 2018 by the Pew Research Center and reported in 2019 (Silver & Huang, 2019; Silver, Johnson et al, 2019; Silver, Vogels et al, 2019; Smith et al, 2019) . These data illustrate the degree to which people's use of digital technology and their attitudes about its role in their lives and their societies are similar to those measured by Pew Research in the United States. These data cover both technology usage and popular assessments of the impact of digital media on a variety of elements of social, political, and economic life. They speak to the interplay of technology and social contexts and were framed with the recognition that those social contexts deeply shape technology usage and the worries people have about the impact of digital media.

The countries in this research were Colombia, Mexico, Venezuela, India, the Philippines, Vietnam, Jordan, Lebanon, Tunisia, Kenya, and South Africa. The central research questions focused on the adoption of technology and its role in the lives of their families, communities, and societies. The primary focus was on the rise of mobile connectivity in these emerging economies to see how differently (or similarly) technology adoption has unfolded in different societies around the world. Another goal of these studies was to explore potential differences and similarities about digital media adoption and impact in highly developed and developing societies, comparing the experiences in these emerging economies with the experiences of the United States, which has been a longtime focus of Pew Research Center work. One research interest was to determine whether mobile connectivity allowed emerging countries to skip a generation of digital technology adoption, thus foreshortening the adoption patterns and impacts that wired computers brought to the developed world.

These countries were picked because they are considered middle-income emerging economies by the World Bank. They have varied levels of technology adoption and have relatively high levels of internal migration (the movement of populations from the countryside to the city) and external migration. Some 28,122 adults were interviewed overall in nationally representative samplings, roughly 2,500 per country. The interviews were face-to-face and the margin of sampling error in the surveys ranged from ±1.9% to 2.5%. (The survey methodology is fully explained in each of the Pew Research Center reports.)

The basics of technology adoption that surfaced in this research are covered in Figures 1–3. Clearly, there is considerable variance in these countries in computer access, mobile connectivity (especially smartphones), and social media and messaging app usage. For these surveys, Pew Research counted as "social media users" all those who said that they use one or more of several different social media or messaging services: Facebook, WhatsApp, Twitter, Viber, Instagram, Snapchat, and Tinder. In addition to different levels of technology usage among these countries, there are differences among different demographic groups within the countries. For instance, young adults are more likely than their elders to use the technologies and better-educated citizens are more likely than less educated citizens to use the technologies. Interestingly, there were no consistent differences by gender. In some countries like India and Mexico, the gender gaps are striking. In others like South Africa, Colombia, Venezuela, and the Philippines, adoption differences do not exist.

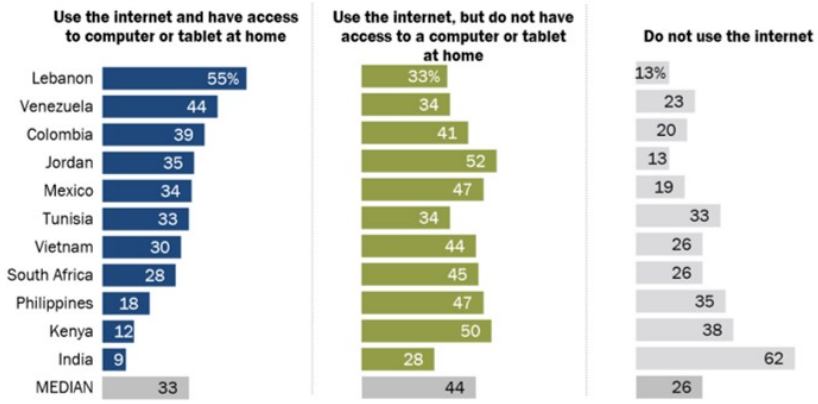


Figure 1. Percentage of adults having modes of Internet access in emerging economies.

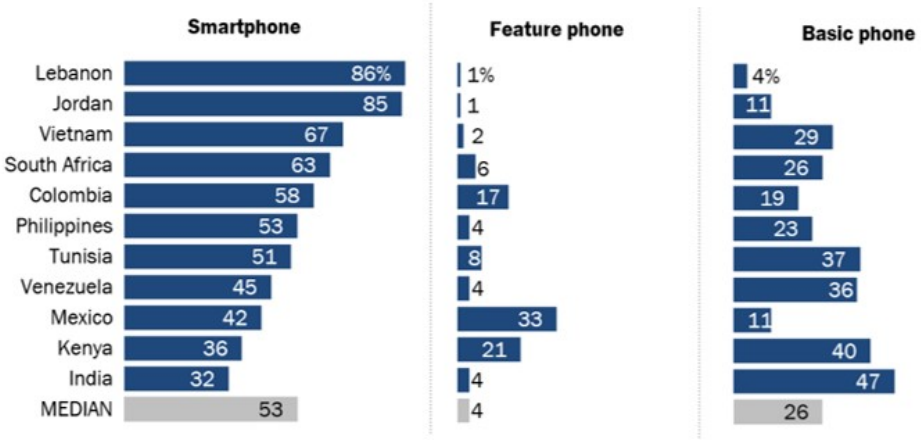


Figure 2. Percentage of adults having different phone types in emerging economies.

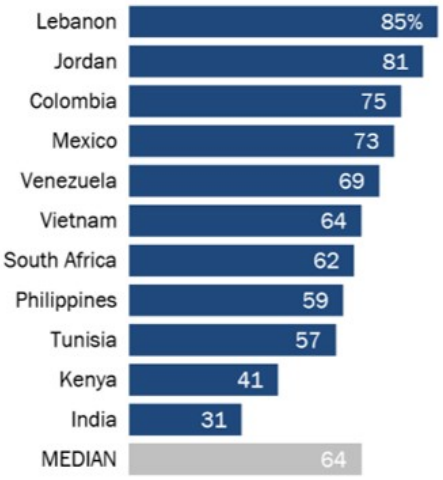


Figure 3. Percentage of adults using social media and messaging services in emerging economies.

In each country, the surveys probed adults' attitudes about the impact of digital technology on individuals, families, communities, and societies. The questions covered citizens' general judgments as well as reactions to both positive and negative attributes of mobile technology. The striking pattern was that people in most if not all the countries feel both positive and negative things. When asked about the direction of change, the citizens in these 11 countries believe digital technologies are driving change in both directions, bringing new advantages to their lives and new hardships. Succinctly put, the prevailing view in the surveyed countries is that mobile phones, the Internet, and social media collectively amplify life in both positive and negative directions, simultaneously making people more empowered in multiple ways, including politically, and potentially more exposed to harm.

There were eight of these tensions in the survey findings across these societies. They can be thought of as "more-ness" tensions because the spread of digital technologies—and their affordances—is pushing upward higher levels of information flows and human interactions in multiple ways that generate both enthusiasm and concern. The first "more-ness" tension centers on people's conflicting views about the extent to which technology is broadening people's personal horizons or causing their politics to become more tribal. Many seem to see elements of both. For instance, a median of 52% of those in these 11 countries said that mobile phones, the Internet, and social media make people more accepting of others who have different views from theirs. Meanwhile, a median of 58% said that those technologies make people more divided in their political opinions (see Figure 4).

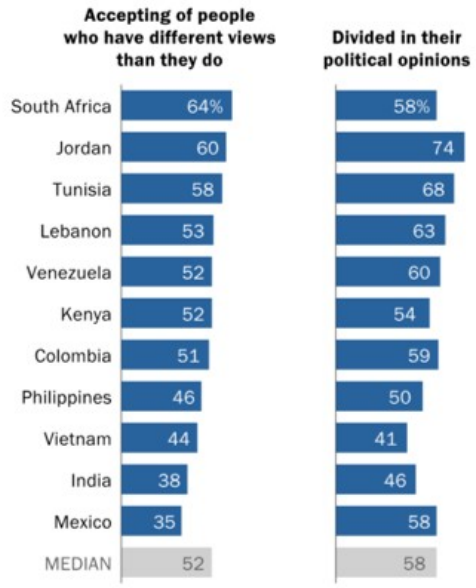


Figure 4. People's agreement with statements about the impact of digital technology on society (% of adults).

The second more-ness tension: A median of 78% of those in these countries believe mobile phones, the Internet, and social media make people more informed about current events, but a median of 72% also said that digital technologies make people easier to manipulate with false information and rumors (see Figure 5).

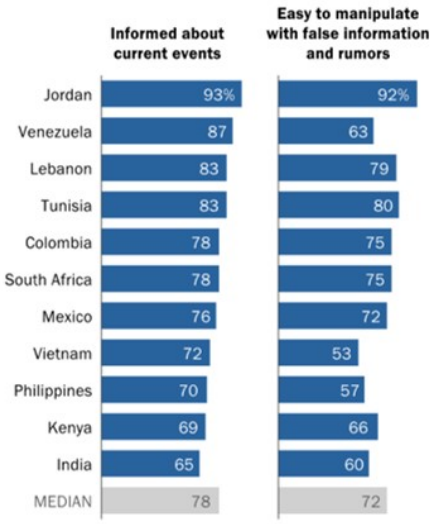


Figure 5. People's agreement with statements about the impact of digital information consumption on people (% of adults).

A third more-ness tension is that a majority in most of these countries said that social media increase the ability for ordinary people in their country to have a meaningful voice in the political process. At the same time, majorities in most of them also asserted that social media increase the risk that people in their country might be manipulated by domestic politicians (see Figure 6). Significant shares of people also think that these platforms increase the risk that foreign powers might interfere in their country's elections.

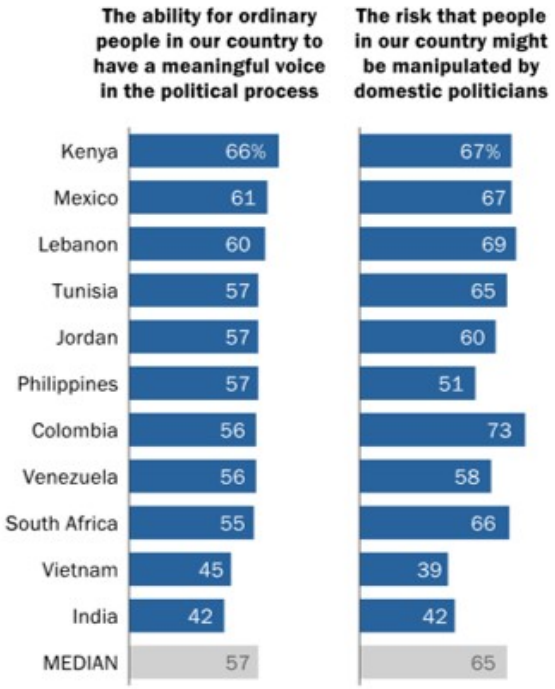
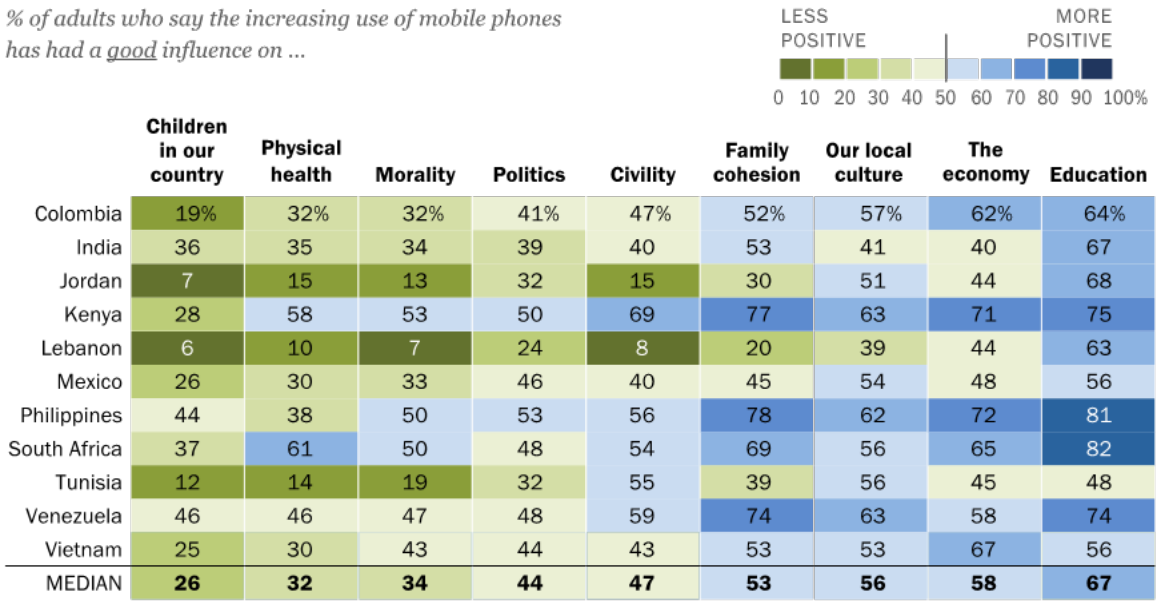


Figure 6. People's agreement with statements about the impact of digital information on politics (% of adults).

Relatedly, the fourth more-ness tension is that half or more of adults in seven of these 11 countries said that the rise of social media and messaging apps makes people more accepting of those who have different views than they do. However, a median of 56% reported that those platforms deliver information that makes them feel more negatively about others in groups that are different from them.

A fifth more-ness tension emerged as people thought about children and education. A median of 79% of adults in these countries said that people should be very concerned about children being exposed to harmful or immoral content when using mobile phones, and a median of 63% said that mobile phones have a bad influence on children in their country. Yet, a median of two thirds said that the increased use of mobile phones is a good influence on education (see Figure 7).



	Children in our country	Physical health	Morality	Politics	Civility	Family cohesion	Our local culture	The economy	Education
Colombia	19%	32%	32%	41%	47%	52%	57%	62%	64%
India	36	35	34	39	40	53	41	40	67
Jordan	7	15	13	32	15	30	51	44	68
Kenya	28	58	53	50	69	77	63	71	75
Lebanon	6	10	7	24	8	20	39	44	63
Mexico	26	30	33	46	40	45	54	48	56
Philippines	44	38	50	53	56	78	62	72	81
South Africa	37	61	50	48	54	69	56	65	82
Tunisia	12	14	19	32	55	39	56	45	48
Venezuela	46	46	47	48	59	74	63	58	74
Vietnam	25	30	43	44	43	53	53	67	56
MEDIAN	**26**	**32**	**34**	**44**	**47**	**53**	**56**	**58**	**67**

Figure 7. People's judgment about the impact of mobile phones on different dimensions of societies (% adults).

A sixth set of tensions relates to people's personal judgments about the role of phone in their lives. Three questions about personal attitudes were posed as tension pairs: Does your phone free you or tie you down? Does it help you save time or waste time? Is your phone something you don't always need or something you couldn't live without? In every country surveyed, mobile phone users were more likely to say that their phone is something that frees them rather than something that ties them down (see Figure 8). At least 63% in five countries (Kenya, Vietnam, Venezuela, South Africa, and the Philippines) characterized their phone as something that frees them, whereas users in other countries were somewhat more ambivalent. For example, whereas 46% of Jordanian mobile phone users said that their phone frees them, 25% said that it ties them down, and 21% volunteered that neither statement holds true. In Lebanon, 40% of mobile phone users said that their phone frees them, compared with 30% who said that it ties them down.

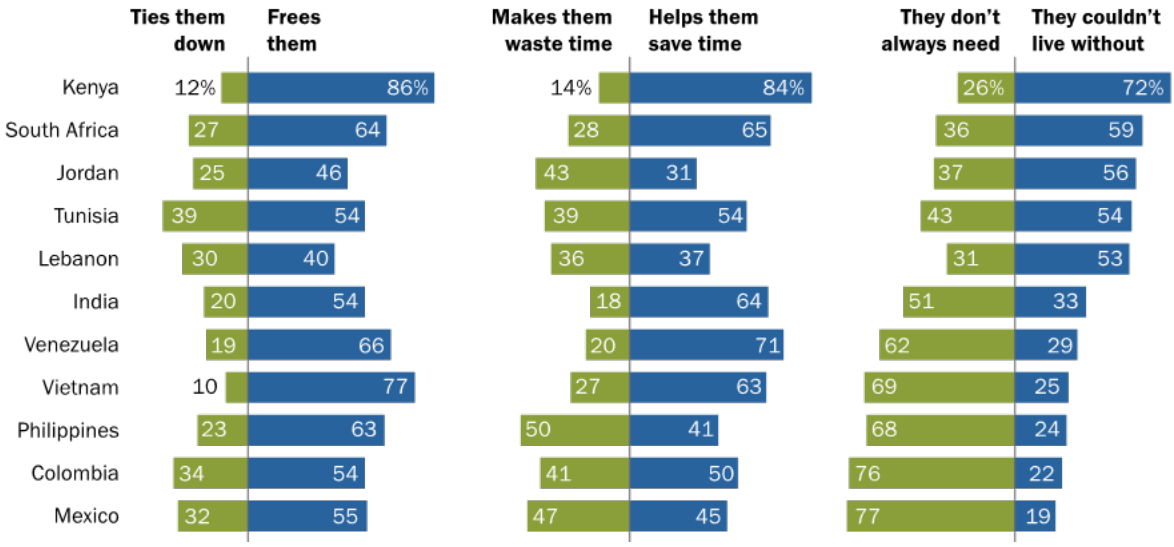


Figure 8. Feelings about mobile phones (% of adult).

Across the 11 countries surveyed, mobile phone users are somewhat more divided when it comes to whether their phone helps save them time or makes them waste time. In seven countries, larger shares said that their phone helps save them time (see Figure 8). Kenyans are especially likely to see their phone as a time saver; 84% of mobile phone users said that their phone saves them time, compared with 14% who said that it wastes their time. Venezuelan (71%), South African (65%), Indian (64%), Vietnamese (63%), Tunisian (54%), and Colombian (50%) phone users were also more likely to say that phones save them time rather than waste it. But mobile phone users in Jordan and the Philippines generally believe that they waste more time on their phones than they save, and Mexican and Lebanese phone users are roughly evenly divided in their assessments.

Mobile phone users are even more divided when assessing their reliance or lack thereof on their mobile device. In six countries—Mexico, Colombia, India, the Philippines, Venezuela, and Vietnam—approximately half or more see their phone as something they do not always need. But in five others—Jordan, Lebanon, South Africa, Tunisia, and Kenya—users were more inclined to say they could not live without it (see Figure 8).

A seventh more-ness tension applies to sociality. A median of 58% of mobile phone users said that their devices help them communicate face-to-face, even as a median of 48% of adults in these countries said that people should be very worried about mobile phones' effects on face-to-face communication. And an eighth tension pits people's own positive view that their phone helps their ability to get news and information about important issues (a median of 79% of the populations in these countries said that) against their concern that access to mobile phones exposes people to false and inaccurate information (a median of 64% said that people should be very concerned about that).

In many instances, individuals who are most attuned to the potential benefits technology are also the ones most anxious about the possible harms. For instance, in 10 of the 11 countries surveyed, the view that technology makes people more informed is correlated with the view that technology makes people easier to manipulate with rumors and false information. And in most countries, the view that technology makes people more accepting of each other is correlated with the view that it makes people more divided in their political opinions.

Certain groups—such as those with higher levels of education and those who are social media users—are especially likely to note both the positive and negative impacts of technology.[1] Across all 11 countries, adults with a secondary education or higher were more likely to say that technology makes people more informed about current events relative to those who do not have a secondary education. Yet, in nine countries, those with higher levels of education were also more inclined to say that technology makes people more subject to false information and rumors. More highly educated adults were also more likely to say that technology contributes to both political divisions and tolerance of opposing viewpoints in seven of these countries (Colombia, India, Kenya, Lebanon, the Philippines, Tunisia, and Vietnam).

The more sophisticated users in these countries were also more likely to have the most positive and the most doleful views about the impact of technology. Most notably, majorities of social media users in 10 of these 11 countries frequently or occasionally encounter content that seems obviously false or untrue, and majorities of users in six countries regularly encounter content on these platforms that makes them feel negatively about groups of people who are different than they are. Social media users also expressed mixed opinions about the characteristics of the social media environment relative to other information sources. Only in Vietnam did a plurality of users say that these platforms are more reliable than other sources they encounter. In other countries, users were more divided about whether the information on social media is about as reliable—or less so—than what they see elsewhere. Opinion was also relatively mixed across the 11 countries as far as whether the news people get on these platforms is more hateful than what they get elsewhere.

Comparing the United States and These Emerging Economies

These countries have markedly different technology landscapes from the United States, where the Pew Research Center has focused its studies since 2000. The emerging economies are more centered around mobile connectivity than the United States is. The share of the populations using computers and laptops is smaller than in the United States and other advanced economies. Finally, the extent and structure of digital divides is different (Silver, Vogels et al., 2019). In the emerging economies Pew Research Center studied, a median of 6% does not own their own phone or share a phone, ranging from 20% of Filipino adults to 2% of Vietnamese. In addition, 7% do not own their own phone, but share one that they borrow or rent from others.

[1] For the purpose of comparing education groups across countries, the Pew Research Center standardized education levels based on the United Nations' International Standard Classification of Education. In all nations surveyed, the lower education category is below secondary education and the higher category is secondary or above.

At the same time, the Pew Research surveys show that mobile divides even exist for phone owners. Significant numbers of owners struggle to use their phones to full advantage. A median of 46% in these 11 countries said that they frequently or occasionally have difficulties getting reliable phone connections, 37% said that it can be a challenge to pay for their phones, and 33% reported that finding places to charge their phones is a problem at least occasionally. In addition, a median of 42% reported frequently or occasionally avoiding some activities on their phones because they use too much data. In some countries, mobile owners' problems are particularly striking. In Lebanon, for example, 77% of phone owners reported having problems getting reliable mobile connections, and about two thirds (66%) said that they avoid doing things with their phones because those activities use too much data. In Jordan, nearly half (48%) reported having trouble paying for their phone; in Tunisia, 40% said that it can be a challenge to find places to recharge their phones.

Despite these differences, there are striking similarities in the United States and these emerging economies as people evaluate the impact of digital media and devices on society and confront the more-ness tensions. First, many shared broadly similar views about the role and impact of technology. Even though equivalent questions have not always been asked in America and the 11 emerging economies, there are some parallel patterns in the broad sentiments people expressed about technology.

One pattern is that people feel better about the role of technology in their own lives than they do about the role of technologies in their societies. In the 11-country study, a median of 82% of adults said that mobile phones have been mostly good for them personally and a median of 63% said the same about social media. At the same time, a median of 70% said that phones are a good thing for society and 57% said that about the impact of social media (see Figure 9). Similarly, although on a somewhat different question, 77% of Americans said that the Internet has mostly been a good thing for them (Smith, 2019), and 70% said that it has been mostly a good thing for society.

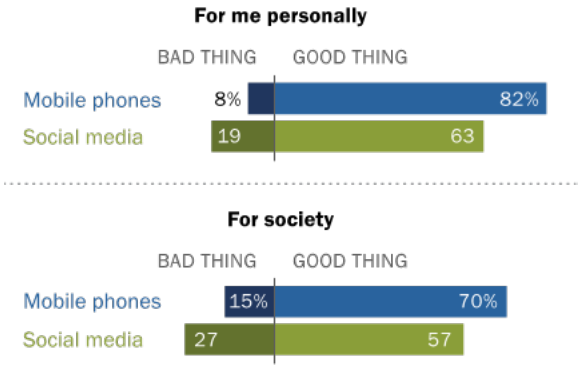


Figure 9. Mobile phone impacts on individuals and society (% of adults).

A second pattern is that those in emerging economies and the United States have some similar sentiments about more specific effects of digital technology. For instance, a median of 93% of those in the 11 countries said that their phone helps them stay in touch with people who live far away and 79% said that their phone helps them get news and information about important issues. When Americans who have

positive views about the Internet's impact on society were asked to explain their answers, the top reasons they cited are the ease and speed of access to information and the benefits from easy connection with others, especially family and friends (Smith, 2015).

On darker issues, particularly those involving children, there were also common refrains between Americans and those in emerging economies, although the Pew Research Center has measured them in different ways. A majority of Americans who think the Internet is a bad thing for society cited concerns about how it isolates people from each other and its impact on children. In the 11 emerging economies Pew Research studied, a median of 63% said that increasing use of mobile phones is a bad influence on children and about half said the same about the impact of the Internet. Some 79% said people should be very concerned about children being exposed to harmful or immoral content.

That worry mirrors findings from the first study by the Pew Research Center of teens, parents, and technology in 2001 (Lenhart, Lewis, & Rainie, 2001). For instance, 62% of parents at the time expressed concern about what their children might seek out or stumble upon on the Internet. More specifically, 57% of parents said that they worry that their children would be contacted by strangers on the Internet. And 45% of parents said that they are concerned that the Internet leads young people to do dangerous and harmful things. Yet another concern involved the distracting qualities of online engagement: Seventy-two percent of parents said that they worry that the Internet is keeping their children from doing more important things. For their part, online youth at the time did not express many concerns about the impact of their own use of the Internet, but they did express fear that others' use of the Internet keeps others from doing more worthwhile things. Almost two thirds of online teens (62%) said that they think that the Internet does keep young people from doing more important things.

A related version of these concerns surfaced in a Pew Research study in 2018. Some 61% of U.S. parents said that their child had encountered content on YouTube that they felt was unsuitable for children (Smith, Toor, & van Kessel, 2018). Along those same lines, the Pew Research Center's 2018 study of U.S. parents of teens found that 65% of parents said that they worry about their teen spending too much time in front of a screen, and 57% set screen time limits for their teens. In the 11-country study, a median of 52% of parents with children with mobile phones reported that they set screen time limits for their children.

A third pattern is that Americans and adults in these emerging economies have comparable mixed feelings about the role of their phones in their lives. In the emerging economies that the Pew Research Center studied, a median of 51% said that they do not always need their phone versus 33% who said that they could not live without it. When researchers asked American smartphone owners that same question in 2014 (Smith, 2015), 54% said that they do not always need their phone and 46% said that they could not live without it. On the somewhat different question, a corresponding relationship is evident: A median of 55% of those in emerging countries said that their phone frees them (rather than ties them down) and 70% of American smartphone owners said the same.

The fourth pattern is that digital devices and platforms have become an important source for news in both the United States and the 11 emerging economies the Pew Research Center studied. Significant numbers of Americans get at least some news online, including 57% who often get news on their mobile devices (Walker,

2019) and nearly two thirds said that they ever get news on social media (Pew Research Center, 2020b). In the emerging economies surveys, a median of 79% in those 11 countries reported that their mobile phones help them obtain news and information about issues. At the same time, 57% of social media users in the United States said that they expect the news they see on social media to be largely inaccurate (Shearer & Matsa, 2018). That ties to the concerns about inaccurate information online that are evident in these 11 emerging economies. A median of 64% in these countries shared the concern, but in countries like Kenya, India, and Vietnam, less than half said that this exposure to false information concerns them.

Conclusions

Any technology that enables information abundance (of treasures and trash), greater flows of information, more pathways to connecting people, more evidence of every dimension of human existence, and the tools to analyze what is happening is bound to have profound impact. The implications of the rise of digital media splay in all directions. There are implications for individuals at the level of daily living: How do I navigate the world? There are implications for physical well-being and daily activity. The World Health Organization (n.d.) reports that 23% of adults and 81% of children do not meet its recommendations on physical activity and health. There are implications for cognitive development and processes (Carr, 2011). There are implications at the social level, including the rise of the importance of social networks and networked individuals (Rainie & Wellman, 2011) and for social hierarchies that now take account of the material people create and push out into the world. There are implications for organizations and communities as traditional alliances based on ethnicity, place-based communities, and social class now branch out into affinity affiliations of every imaginable kind. There are implications for the structure of organizations. There are implications for jobs and work that are too vast too catalogue. And, because of all this, there are implications for policy and politics at all levels of governance.

Digital media have recast the idea of what media are, who can make them, and which audiences can consume them. In doing so, digital media have changed the character of information by making it pervasive, portable, persistent, and visible; personal and customizable; participatory, replicable, spreadable, and scalable; and searchable. In turn, that character of information has changed the contexts in which media flow. The effects are felt from some of the poorest corners of the world to the most privileged corners. Those who use digital media in those varied places feel a considerable number of tensions around these changes. More of everything is bound to do that.

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