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# Information Technology, Regime Stability and Democratic Meaningfulness: A Normative Evaluation of Present and Potential Trends

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## Recommended Citation

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# Information Technology, Regime Stability and Democratic Meaningfulness: A Normative Evaluation of Present and Potential Trends

## **Abstract**

This inquiry explores the normative impact that the rise of Information Technology is having on society as viewed through the lenses of Social Choice and Democratic Theory. Information technology has drastically increased the amount of available information by increasing information about users, the flow of information to users and the flow of information between users through digital connectivity. This has resulted in a socially fragmenting “long tail” of media, a subversion of top-down institutions and has made for easier identification and mobilization of small and geographically dispersed groups. As understood through the Social Choice construct of multidimensionality, these trends have had both positive and negative normative implications for regime stability and democratic meaningfulness. The two negative normative effects of the rise of Information Technology are Rikerian meaninglessness and connectivity-driven regime instability. However, since these negative effects can be qualified or compensated for by the two positive impacts of democratic meaningfulness and stability-inducing pluralistic disequilibrium, this examination concludes that information technology has a positive net normative impact on society. If this is to continue to be the case, users and policy makers must be mindful of issues that could affect this balance, such as the digital divide and issues of diminishing digital privacy.

## **Keywords**

Information Technology, Social Choice, Social Choice Theory, Long tail, regime stability, democratic theory, democracy, internet, technology, Web 2.0, multidimensionality, disequilibrium, Riker, digital divide, privacy, Social Science, Political Science, Jack Nagel, Nagel, Jack

**Information Technology, Regime Stability and  
Democratic Meaningfulness:**  
A Normative Evaluation of Present and Potential Trends

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Honors Thesis  
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March 30, 2007

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### Introduction

Karl Marx observed, “In changing the technical world, Man changes his own nature.” By changing the way we do business, conduct scientific inquiry, communicate, collaborate and think about the world, the rise of Information Technology is demonstrating this aphorism. We have at our fingertips more information than ever before, along with new and more powerful ways to communicate and organize. Where there was once a ledger, there is now a data warehouse. Where there was once a printing press, there is now a blog. Where there was once a street address, there are now email, voicemail, VOIP, AIM and SMS addresses and mobile numbers.

These changes in information technology come with enormous ramifications, particularly for economics and politics. The positive impact that information technology has had on the US and world economies is well documented<sup>1</sup> but the impact that these technologies will have on politics is still an open question. Cognitive scientist Andy Clark classifies the introduction of knowledge technologies as “mindware upgrades” in recognition of how they constitute “deep and integral parts of the problem-solving systems that constitute human intelligence.”<sup>2</sup> “If human nature is partially the result of a society’s technologies, it becomes crucial to examine technology, both to ascertain the effects of technological history and to attempt to infer the consequences of technological decisions on the future development of society.”<sup>3</sup> It will be the purpose of this inquiry to explore the brief technological history of information technology, to evaluate what normative effect it is having on the ways societies organize and govern

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<sup>1</sup> “Information technology is both an industry and a modernizing force. In most countries, IT spending grows at two to five times the rate of overall economic growth. To the extent that the spending is on locally produced products and services, the industry provides employment, tax revenues and a generally expanded industrial base. As a modernizing influence, the use of IT leverages investments in other capital, called “capital deepening” -- such as human capital, production equipment, etc. This in turn can increase a country’s overall productivity and output per capita.” Murray and Gantz, 1. Also see Jorgenson and Stiroh for empirical data on ICTs and economic growth.

<sup>2</sup> Clark, 17

<sup>4</sup> Morrisett, 22

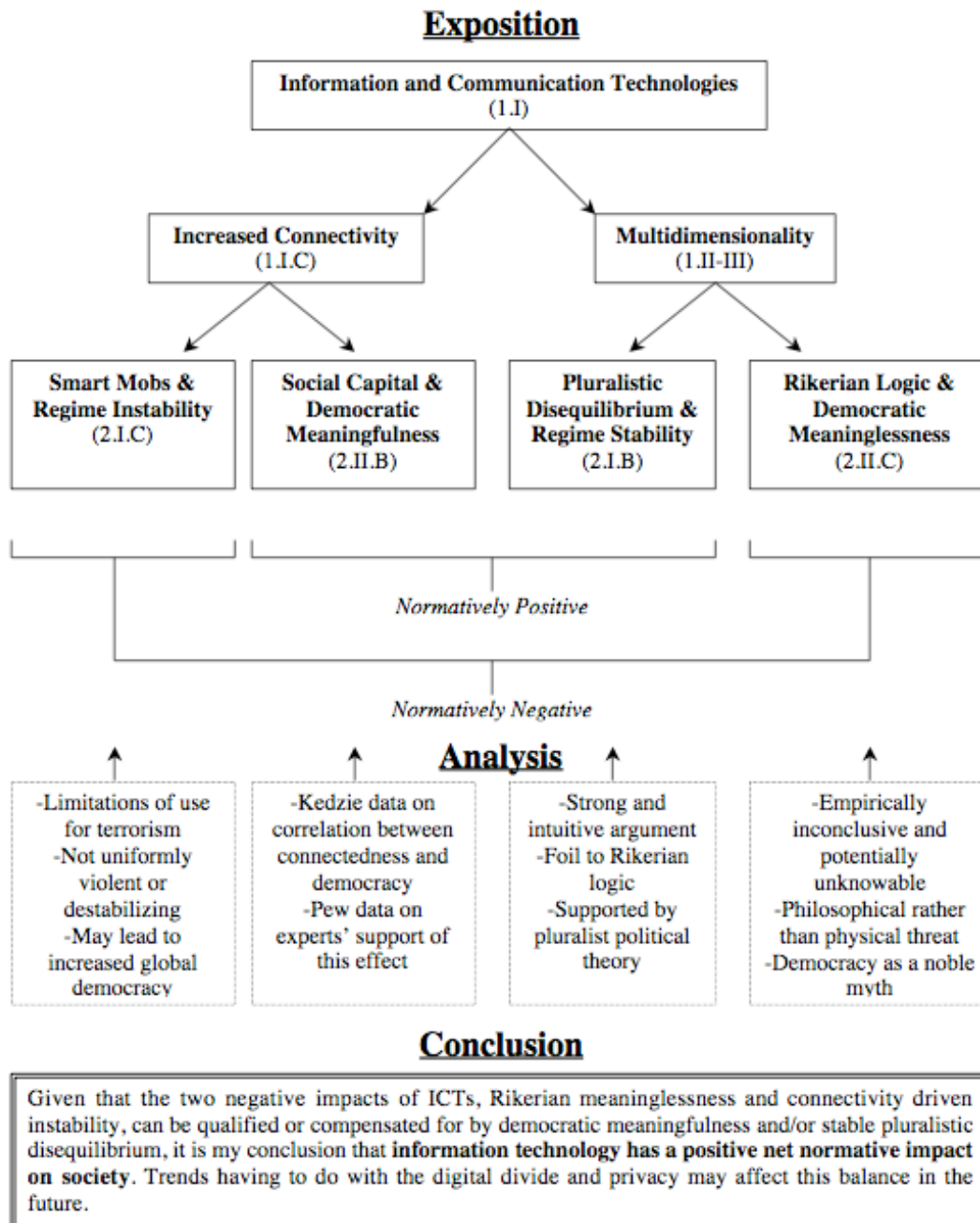
themselves, and to identify what decisions will affect the future normative impact of this technology.

In order to evaluate information and communication technologies (ICTs) in a normative light, one must first establish what is normatively desirable. What is the normative goal of government in modern society? While there is no definitive answer to this question, one can turn to the canon of political philosophy for guidance. According to Thomas Hobbes and Max Weber, a government's fundamental aim is to maintain a monopoly on the use of physical force in order to create a cooperative state of peace. On the other hand, John Locke and other liberals assert that, in order to be just, a government must be validated and guided by democratic self-government. Furthermore, they argue, citizens have a right to sacrifice regime stability in pursuit of this end. I will call these principles of liberal democracy, including participation, liberty, equality and (implicitly) social choice accuracy, democratic meaningfulness. While one could consider other normative desirables such as Rawlsian justice, constitutional liberalism or economic prosperity, I will limit my normative analysis to these two fundamental pillars of political desirability: regime stability and democratic meaningfulness.

It is noteworthy is that these two normative goals can conflict; each has a different prescription for a non-democratic state. This normative balancing act reflects the broader normative ambiguity surrounding the subject at hand; ICTs can have both positive and negative effects on peaceful political stability and democratic meaningfulness. I will argue that the same forces that are bolstering stability in democratic nations have also caused destabilizing unrest and philosophical crisis in both the developed and developing worlds. To further add to the complexity of this topic, one must consider the context from which we observe it: we are in the midst of these technological changes and thus have yet to see the full manifestation of their consequences or gain significant historical perspective. In light of the nuanced and sometimes

conflicting normative effects that ICTs can have on government and the lack of empirical conclusiveness that characterizes the literature on the subject, this work sets out to frame a broad normative analysis that could pave the way for further empirical investigation.

I will break up the inquiry into three sections. The first will explore the history and current state of information technology, social choice theory, and the link between ICTs, increased connectivity, and a social choice concept that will prove important to the analysis that follows: multidimensionality. The second section will examine the impact of information technology (through multidimensionality and increased connectivity) on regime stability and democratic meaningfulness. It will demonstrate how ICTs can have both positive and negative normative consequences. Lastly, it will weigh these conflicting effects in order to evaluate the net normative impact they have on democratic and non-democratic states. This analysis will shed light on what policy decisions and trends will affect the future normative impact of information technology.





**Section 1: Information Technology, Social Choice and Multidimensionality**

**I. What Is Information Technology and What Changes Is It Causing?**

“Information technology” is the use of software applications and computer hardware to convert, store, protect, process, transmit and retrieve information. The power of information technology to manage data and to network, particularly via the Internet, has changed our capability to interact with information and each other.

The Internet dates back to the late 1960’s when researchers at the Defense Advanced Research Projects Agency (an agency founded in response to the Soviet launching of Sputnik with the mission of developing new technology for use by the military) developed ARPANET. ARPANET was the world’s first packet switching network to allow for computers at major research institutions to communicate with one another. Packet switching is a technology that allows digital information to be broken up into small pieces and routed independently across a network. This was an important design element because the network was meant to be resilient to nuclear attack: if one node disappeared, packet switching allowed the network to adapt. With the gradual opening up of the network and with the advent of standards like TCP/IP and HTML, ARPANET slowly transformed into the Internet we see today.

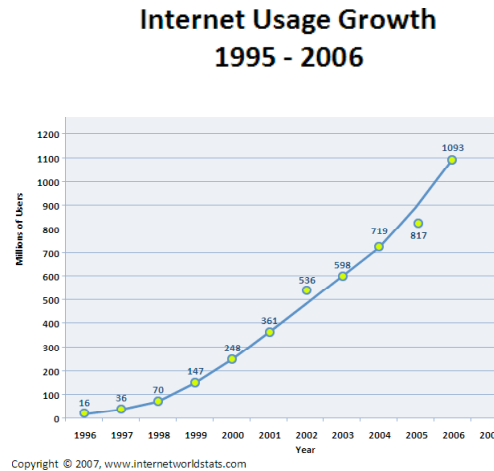
In 2006 there were 1.1 billion Internet users worldwide.<sup>4</sup> 63.6% of Americans access the Internet at least once per month and of those, 42% have a broadband connection at home.<sup>5</sup> In the developing world, people often connect to the Internet via kiosks or “net cabins.” Although only 16% of the world is directly connected to the Internet itself, this underestimates its reach. “Many argue that in much of the world, the Internet reaches only elites... But through Net-connected elites, information from the internet reaches radio listeners and newspaper readers around the world, so the Internet has an important secondary readership: those who hear or are influenced

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<sup>4</sup> Macklin, 1

<sup>5</sup> Horrigan, 1

by online information via its shaping of more widely distributed media.”<sup>6</sup> Whatever the exact number of individuals who, in one way or another, feel the effects of the Internet, it is significant and growing rapidly.



What is it that all these people are connecting to? They are connecting to an unparalleled explosion of recorded information. By increasing the speed, capacity, flexibility, access and types of messages with which individuals can communicate, the Internet has made more information available to more people than has ever been the case.<sup>7</sup> According to a report by UC Berkeley’s School of Information Management and Systems, the surface web of fixed web pages on the Internet amounts to 167 terabytes of data, roughly seventeen times the size of the Library of Congress’ print collections. Furthermore, the deep web of database driven websites that can pull files and create sites on demand constitutes roughly 91.9 petabytes of data, which is 46 times the information contained in all US academic research libraries.<sup>8</sup> The Internet is the fastest growing new medium of all time. According to Hal Varian, an economist at UC Berkeley and a

<sup>6</sup> Powell, 173

<sup>7</sup> Alberts, “The Technologies of the Information Revolution.”

<sup>8</sup> It is worth noting that the marginal return of information cannot be assumed to be constant. Research libraries have fewer bytes precisely because they are selective in a way that maximizes value given limited inventory; the information on the Internet will not be of similar “quality” per byte. However, we will see that the virtually unlimited digital inventory capacity of the Internet unlocks knowledge that never would have been available through traditional analog libraries.

consultant to Google, worldwide information is increasing at 66 percent a year.<sup>9</sup> A Google search for the term “Information Revolution” yields 80 million results in a tenth of a second.

It is no surprise that such a rapid preponderance of access to information comes with a diversity of implications. In approaching these implications I divide the rise of information into three key components: information made available *to* users, information made available *about* users, and increased flow of information *between* users through heightened connectivity. The former has a fragmenting cultural effect and undermines the power of top down institutions, the second allows vastly improved message targeting through increased understanding of the preference landscape and the third allows collective action in ways never possible before. The first two will ultimately inform our understanding of how ICTs increase multidimensionality while the third will not require a framework as complex as social choice theory to be related to regime stability and democratic meaninglessness.

#### *A. Increased Information Available To Users*

In his best selling book *The Long Tail*, Chris Anderson, editor in chief of *Wired* magazine, explains how the changing economics brought about by information technology have transformed the cultural and business landscape. His insight applies most literally to the economics of selling tangible objects but the principles he develops immediately and powerfully extend themselves to the marketplace for information.

The true shape of demand is modeled by a powerlaw curve; there are a few products that are wildly popular but as popularity decreases, there are a near infinite number of niche products for which there is a tiny but existent demand. This part of the curve that is made up of less popular products is called the “long tail.”

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<sup>9</sup> Kelly,124



It was once the case that products in this category were not commercially viable because the costs of producing/publishing, shipping and stocking these goods in retail stores outweighed the revenue that they could produce. In other words, the cost of extracting the value of the long tail was prohibitive. The Internet has dramatically reduced inventory costs for tangible goods by allowing a firm to centralize their inventory in one warehouse while selling to the entire world. Firms can also now engage in “drop shipping,” a supply chain management technique in which a seller does not stock his own goods but rather transfers customer orders and shipment details to wholesalers who ship goods directly to consumers. More importantly, for goods that can be digitized, inventory and distribution costs have virtually fallen to zero. The shocking business implication is that, by making it affordable to offer the unpopular goods that make up the long tail, information technology has made it economical to offer a much broader and deeper inventory of products.

Now apply this logic to the product of information and cultural content. Where the costs of publishing a story or producing and distributing a movie used to be prohibitive to all but major media conglomerates and movie studios, it is now affordable for the average American to write and publish his own web log (“blog”) or create a documentary with his camcorder. Furthermore, where it only used to be economical for a bookstore or newsstand to offer items that could pay for their own shelf space, it is now affordable to offer an inventory of every book and article ever written. Information technology has eliminated the marginal cost of information distribution, which has led to the explosion of the depth and diversity of available information. Whether

created by an institution or an individual, whether popular or obscure, all the world's information is flooding onto the web where it becomes instantly, inexpensively, and internationally available. Information technology allows us to unlock the value of an ever-expanding long tail of information.

In order to better understand the contemporary information landscape as modeled by the concept of the long tail, it is helpful to explore the processes and players that have created it. There are three steps that have created the long tail phenomenon, each of which helps one to better understand the underlying information technology. These steps are democratizing the tools of production, democratizing the tools of distribution, and connecting supply and demand through search and filtering mechanisms.<sup>10</sup>

The concept of democratizing of the tools of production is embodied by the affordable availability of desktop creation, production and publishing tools such as digital video cameras, personal computers and word processing software. The widespread ownership of these tools has allowed for a transition from passive consumerism of information and cultural content to an ethos of "participative producerism." "Today, millions of people publish daily for an audience that is collectively larger than any single mainstream media outlet can claim."<sup>11</sup> Wikipedia, a web-based encyclopedia collaboratively written and edited on a volunteer basis by millions of amateur experts and average web users, has over a million articles (twelve and a half times the number found in The Encyclopedia Britannica). YouTube.com streams 200 terabytes per day of largely user-generated video content.<sup>12</sup> 8% of Internet users write their own blog, 14% have created their own webpage and 26% have shared something online that they created themselves

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<sup>10</sup> Anderson, 53-56

<sup>11</sup> Anderson, 63

<sup>12</sup> Frommer, "Your Tube, Whose Dime?"

(including artwork, photos, stories and videos).<sup>13</sup> Even those who do not directly participate in producing or consuming user-generated content online are feeling the effect of this trend as it bleeds over into the mainstream media. Just consider the recent YouTube video of Virginia Senator George Allen. The video, which shows him calling a rival's camera-toting staff member a *macaca*, was played on loop on network news for weeks.<sup>14</sup> It is indisputable that the democratization of the tools of production has resulted in an increase of available content. This increase in content on individual users' computers is meaningless, however, without mechanisms of distribution. This leads us to the second step of the evolution of the long tail: the democratization of the tools of distribution.

Democratizing the tools of distribution means lowering the barrier to entry to distributing one's information.<sup>15</sup> This has happened as specialized tools and nodes of aggregation have allowed Internet users to take advantage of the near costlessness of digital information distribution. The businesses and websites that provide these services have become big names in today's online landscape. Amazon and eBay aggregate physical goods, making it affordable to buy and sell even the most obscure object. Apple's iTunes Music store aggregates the sale of digital music, allowing record labels and musicians alike to distribute their own tracks to the world. YouTube aggregates, hosts and streams user-uploaded video content. Flickr and Photobucket aggregate user-generated digital images while social networks like MySpace and The Facebook aggregate user and social information. Google, whose corporate mission is to "organize the world's information and make it universally accessible and useful" indexes the Internet, aggregates information including websites, news, weather, stock quotes, phone

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<sup>13</sup> Madden, "Internet Penetration and Impact."

<sup>14</sup> Lizza, "The YouTube Election."

<sup>15</sup> Anderson, 88

numbers, etc.<sup>16</sup> Furthermore Google aggregates and distributes targeted advertising by placing it alongside its searches and on partner websites through its AdWords and AdSense programs.

Taken as a whole, these companies are the new interchanges through which individual Internet users consume and contribute information. What is remarkable is that the cost of distribution through these kinds of IT driven channels is vastly less than the alternatives of an analog world. Democratized distribution has made available the increased amount of digital information however it hard to find what one is looking for amidst the sheer amount that is now distributable. Making this information useful is the role of the third step of the long tail's evolution.

The final component of a long tail is the search and filtering technology that connects supply and demand. Whereas analog search was performed by such methods as card catalogs and phone books, digital search and filtering allows for instantaneous results and decentralized classification. Such technologies include traditional multi-level taxonomies but also extend to more complicated systems such as pattern matching, personalization and collaborative filtering. Google's search algorithms analyze how websites have linked to one another in order to infer page value and relevancy. Pattern matching technology analyzes what other users' viewing and purchasing behavior indicates about the connections between, say, novels, and helps one find relevant results by analyzing one's observable web behavior. Personalization filtering sorts content by one's expressed preferences; for example, Google Reader will deliver news stories, even local news stories based on one's zip code, according to one's expressed interest in sports, technology, international affairs, particular keywords or issues etc. Collaborative filtering uses user reviews and ratings to bring quality items to the fore. For example collaborative bookmarking sites like Digg.com display news items based on other users' ratings of stories.

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<sup>16</sup> <http://www.google.com/corporate/>

There are two relevant items to note about these distribution and filtering technologies: they are bottom-up mechanisms and they can be individually personalized. They are bottom-up mechanisms in that they select content based on the feedback of consumers rather than on editorial judgments; while online distribution reduces the need for the printing press, these filtering technologies reduce the need for the editorial board. The viability and clout of top down institutions that are used to deriving profit or power from economies of scale and centralized information distribution are increasingly undermined by these technologies. In recognition of this new dynamic of bottom up control, Time Magazine announced that the person of the year for 2006 is “You.” “You control the Information Age...For seizing the reins of the global media, for founding and framing the new digital democracy, for working for nothing and beating the pros at their own game, Time’s Person of the Year for 2006 is you.”<sup>17</sup>

In addition to being top down, these technologies allow for a degree of personalization that is impractical or impossible in an analog world. Users can search for and find exactly the kind of information that they are looking for and can control what kind of information they automatically receive from websites and RSS feeds.<sup>18</sup> This personalization fragments the way that information is consumed and, by implication, our very culture. Assuming diversity in tastes across individuals, it is reasonable to suppose that an increase in the breadth of the spectrum of information coupled with increased ease of search and filtering would result in an increasingly diverse distribution of information consumption. In fact, this is exactly the pattern that has emerged. “Abundant, cheap distribution means abundant cheap and unlimited variety—and that

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<sup>17</sup> Grossman, 40

<sup>18</sup> RSS stands for Really Simple Syndication and describes a technology that allows consumers to hand pick sources of frequently updates digital content such as blogs, news feeds or podcasts and receive this content as soon as it is posted to the web. RSS “readers” or “aggregators” serve personalized media to the consumer.



means the audience tends to distribute as widely as choice... Infinite choice equals ultimate fragmentation.”<sup>19</sup>

The fragmentation in information consumption is causing a cultural transition from mass culture to niche, or “massively parallel,” culture. On any given Sunday in 1954, 74% of American TV households were watching *I Love Lucy*.<sup>20</sup> Furthermore “it was a safe bet that not only had your neighbor read the same news you had in the paper [that] morning, and gleaned knowledge of the same music and movies, but the same was true for people across the country.”<sup>21</sup> The revolutionizing effect of broadcast, telecommunications, and commercial printing technology had made this mass culture possible but its further evolution would undermine it. Information technology changed the economics of distribution and reduced the need for centralized broadcast and publishing by reducing the enormous fixed costs of infrastructure. As fixed costs decrease, choice increases and concentrated demand falls. This is apparent in recent mass media trends: newspaper circulation is down a third since the 1980’s, magazine newsstand sales are at their lowest since statistics have been recorded, nightly news viewership has declined 28% in the last ten years<sup>22</sup> and the Hollywood box office fell by 7% in 2005 alone. Today’s top-rated TV Show, *CSI*, is watched by only 15% of US TV households.<sup>23</sup> As information and entertainment has become more diverse and accessible, people have self-selected away from what used to be selected for them. Rather than hearing about the same few news stories, digesting the same analysis and therefore thinking about the world from a similar cultural context, our cultural consciousness has been shattered into a thousand schemata like so

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<sup>19</sup> Anderson, 180

<sup>20</sup> Anderson, 29

<sup>21</sup> Anderson, 28

<sup>22</sup> “The State of The News Media, 2006.” Project For Excellence In Journalism.

<sup>23</sup> Anderson, 37 & 85

many shards of glass. “We’re increasingly forming our own tribes, groups bound together more by affinity and shared interests than by default broadcast schedules.”<sup>24</sup>

According to Cass Sunstein, author of Republic.com, this fragmentation encourages group polarization and a feedback effect of self-reinforcing ideology. “As the customization of our communications universe increases, society is in danger of fragmenting, shared communities in danger of dissolving... You need not come across topics and views that you have not sought out. Without any difficulty, you are able to see exactly what you want to see, no more and no less.”<sup>25</sup> There is evidence in the surveys of the Pew Internet & American Life Project that people use the Internet to help them find and join groups that share their ideological, cultural, and lifestyle preferences and that Internet users are increasingly using services that individually customize news.<sup>26</sup> Despite these arguments it is worth noting that a Pew Internet survey found that, during the 2004 campaign, Internet users were more likely to be aware of differing political views (including those that counter their own beliefs) than non-users even when controlling for interest in politics.<sup>27</sup> However even as this indicates that the Internet is not exclusively reinforcing users’ views or erecting walls between communities, it does not obscure the larger online trend towards a more fragmented cultural and informational consciousness.

The upshot of the new long tail of information available to users of Internet technology is fragmented information and cultural consumption along with increased interaction and communication with those who share similar affinities.

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<sup>24</sup> Anderson, 40

<sup>25</sup> Sunstein quoted in Anderson, 189

<sup>26</sup> Cornfield, “The Impact of the Internet on Politics.”

<sup>27</sup> Horrigan, “The Internet and Democratic Debate.”

## *B. Increased Information Available **About** Users*

Due to the interactive nature of information technology, the modern increase in information has not been a one-way phenomenon. As more information has become available to users, so has information *about* users. This data is being collected through observation of both online behavior and real-world transactions. As technology captures and digitizes increasingly robust individual behavior trails, the potential for targeted marketing and behavior/preference analysis becomes ever more vast.

Virtually every interaction between you and the digital world can be monitored, recorded and used to profile and target you. As more and more information is becoming digitized, more and more is available for this purpose. The Electronic Privacy Information Center (EPIC) lists the following as sources of information for consumer profiling:

“Information from online and offline purchase data, supermarket savings cards, white pages, surveys, sweepstakes and contest entries, financial records, property records, U.S. Census records, motor vehicle data, automatic number information, credit card transactions, phone records (Customer Proprietary Network Information), credit records, product warranty cards, the sale of magazine and catalog subscriptions, and public records.”<sup>28</sup>

In addition to consumer data, many users post vast amounts of personal information on social networking sites like MySpace and The Facebook. Even their private musings may be publicly posted in their own web diary. As information on individuals is becoming increasingly available, companies are going to great lengths to find ways to crawl, capture, index and take advantage of this data. Why are businesses so data hungry and what companies and technologies are aggregating and analyzing this information?

The technologies and players recording individual information can be broken down into online and offline tracking. While data from both sources can be integrated to create robust consumer profiles, I will examine each in turn. Websites and online marketers track user

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<sup>28</sup> Electronic Privacy Information Center, “Privacy and Consumer Profiling.”

information via the web. This is done primarily through a technology called an http cookie. Cookies are parcels of text returned to a web server that allow for user authentication and therefore the tracking and connection of current web activity to past page views and interactions. This is the same user identification technology that allows for such ubiquitous web features as logins and virtual shopping baskets. However, this identification technique has far more powerful purposes.

Some of the world's largest and most successful software companies including SAP and Oracle have built businesses around tracking customer data and providing what is known as data mining analytics. Data mining software uses complex statistical techniques, algorithms and neural network technology to analyze relationships and patterns in stored user 'data warehouses.'

There are two relevant applications of data mining findings: e-commerce personalization and targeted online marketing. Amazon.com is one example of e-commerce personalization. In fact, the personalization technique is so essential to the business that it is publicly touted by Amazon's CEO, John Bezos:

"Amazon.com records what a shopper purchases and then matches the acquisitions to the aggregated purchases of other shoppers who have bought similar products, Bezos said. By comparing what an individual shopper has purchased to aggregates of what shoppers with apparently similar tastes have purchased, Amazon.com has come up with, for example, a "new for you" feature. The features can suggest, for instance, that based on a certain book purchase, a shopper might like a certain newly released music compact disc... "If we want to have 20 million customers, then we want to have 20 million 'stores...' Our mission is to be the earth's most customer-centric company," Bezos said."<sup>29</sup>

SAS, the data mining technology provider behind Amazon's personalization, boasts on its website that "SAS provides high-end analytics capable of measuring the potential business impact of personalization-enhancing algorithms." This technology is estimated to have increased Amazon's sales by 15% through improved targeting.<sup>30</sup>

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<sup>29</sup> Ferranti, Marc. "Amazon's Bezos Touts Personalization."

<sup>30</sup> SAS, "Writing the Book on E-commerce."

Another use of insights revealed by data mining is targeted marketing. With appropriate data, consumers can be sorted into hundreds of psychographic profiles from “Blue Blood Estates” to “Shotguns and Pickups” for the purpose of targeting. Users’ online behavior is often an even better indicator of who to target than these psychographics. While ecommerce sites track user behavior on their own sites in order to capitalize on personalization, marketers vying for the \$15 billion spent annually on online advertising are tracking user behavior across almost all visited sites. Businesses like Advertising.com, Tacoda Systems and Seevast pay websites to place their cookies on the computers of users who visit them so that they can serve online ads that match an individual’s online behavior. Tacoda tracks user data across a network of 3,500 sites so that, for example, Weather.com can show lucrative auto ads to customers who just visited Cars.com.<sup>31</sup> As Jason Catlett, the president of Junkbusters Corporation, puts it “Our PC monitors are becoming two-way mirrors. When we look out at the Internet, banner ad companies look in to see which Web pages we visit, and what keywords we type into search engines and other forms.”<sup>32</sup> Google, the web’s most successful online advertising company, is also getting into the act as it offers more and more free services like Gmail, calendars, document management and chat that require a user to login; as Google creates the default end-to-end online portal, it is increasing both its own visibility and the amount of information it can extract from consumers. They are building the ultimate machinery for personalized advertisement targeting.

The same information technology that allows for tracking and targeting of such intangible behavior as online activity is also increasing the ability to record and interpret tangible, offline behavior. Wal-Mart was the pioneer of brick and mortar data mining having constructed what is generally regarded as the largest data warehouse in the world; Wal-Mart’s TeraData warehouse amounts to over 583 terabytes of data, 3.5 times the amount of data available on the entire

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<sup>31</sup> Hansel, “Marketers Trace Path Users Leave on Internet.”

<sup>32</sup> Catlett, “Is It Online Buying or Spying?”

Internet's surface web.<sup>33</sup> This data is made available to suppliers and used to better predict consumer behavior and market to prospective buyers. On an even broader level of consumer profiling, credit card companies such as American Express, Visa and Mastercard track and analyze user information from purchases made on and offline. What is most important to note is that companies that track such information often make it available for purchase. "MasterCard International uses data mining to extract statistics about its millions of daily cardholder transactions; furthermore, MasterCard sells this data to its 20,000 business partners — banks and other companies, such as Shell Oil, that offer credit-card services."<sup>34</sup> In fact, complete consumer dossiers that cover all of the many methods of consumer profiling listed above by the EPIC can be bought at a cost of only \$65 per thousand names.<sup>35</sup>

With the increasing penetration of mobile technology, the tracking of real-world behavior is getting even more robust. The ability of wireless Internet and cellular communication devices to track one's location is making real the possibility of real-time geo-targeting and location based advertising. The idea is that by linking the location of one's mobile device to one's dossier of personal information, the local sports bar will be able to serve targeted ads to sports enthusiasts who are within a three block area around dinner time. Since such advertising will have a much higher success rate than traditional means it is more valuable per impression to ad buyers and therefore more lucrative for those that can distribute such targeted ads. This is such a potentially lucrative business that Google has announced plans to offer free wireless Internet to the entire city of San Francisco in order to test the location-based services it has been developing.<sup>36</sup> Loopt is another technology business that is betting on location-based advertising. Loopt currently offers a mobile social network on Boost Mobile phones that allows friends to see where there

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<sup>33</sup> Babcock, "Data, Data Everywhere."

<sup>34</sup> Ahmed, "Applications of Data Mining in Retail Business."

<sup>35</sup> Electronic Privacy Information Center, "Privacy and Consumer Profiling."

<sup>36</sup> Maik, "Google Confirms Free San Francisco WiFi Plans."

friends are at any moment via social mapping GPS technology.<sup>37</sup> Business models of this kind are a clear path to consumer location tracking and location-based marketing.

This use of information technology to track, analyze and target consumers both on and offline highlights not only an increased ability to understand consumers but to reach them. By creating new paths for data consumption such as online banner ads, social network messages, emails, instant messages and mobile text messages, technology is enabling the refinement of the message and medium. Taken together, these data flows *about* users have greatly increased the ability of data gathering organizations to better understand and target the preferences of individuals. While this has increased the ability of centralized actors to better target individuals with one-to-one vertical communication, there are important phenomena to be observed in the horizontal, many-to-many networked communication of individuals themselves.

### *C. Increased connectivity*

In his book *Smart Mobs: The Next Social Revolution*, Howard Rheingold describes how information technology enables humans to act together in new ways and in situations where collective action was not possible before. ICTs (particularly mobile ones) enable large groups of people who do not know each other to form groups that are controlled by no single person yet operate as if they have their own mind. This is possible because of the immediacy and many-to-many nature of digital network connections and Reed's law, which shows that the power of networks increases exponentially with an increase in members. By accelerating the velocity of information in ad hoc networks, these technologies allow swarms of people to exhibit "emergent properties." In other words, in the absence of imposed centralized control, autonomous subunits that are highly connected can demonstrate webby nonlinear causality of peers influencing peers

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<sup>37</sup> Stross, "Cellphone as Tracker: X Marks Your Doubts."

which bubbles into collective action or intelligence.<sup>38</sup>

Rheingold describes the autonomous but inter-networked squads of demonstrators that protested the meeting of the World Trade Organization in the fall of 1999 at the “Battle of Seattle” as an example of this kind of mobilization. They formed what was referred to as the ‘Direct Action Network,’ participants encouraged each other to form affinity groups that were connected by an improvised communications network of cell phones, radios, police scanners and portable computers. These self-sufficient, small, autonomous teams of people came together because they shared certain principles, goals, interests, plans or other similarities that enabled them to work together well. This approach generated unusual flexibility, mobility, and resource sharing.

“If a call went out for more people at a certain location, an affinity group could assess the numbers holding the line where they were and choose whether or not to move. When faced with tear gas, pepper spray, rubber bullets and horses, groups and individuals could assess their own ability to withstand the brutality. As a result, blockade lines held in the face of incredible police violence. When one group of people was finally swept away by gas and clubs, another would move in to take their place... No centralized leader could have coordinated the scene in the midst of the chaos, and none was needed - the organic, autonomous organization proved far more powerful and effective. No authoritarian figure could have compelled people to hold a blockade line while being tear gassed - but empowered people free to make their own decisions did choose to do that.”<sup>39</sup>

The emergent organizational power of information technology not only facilitated the organization and convergence of more than 40,000 protesters on Seattle; it allowed the unarmed protesters to act more effectively against a centralized and well-equipped governmental force. Although the WTO smart mobs started recruiting protesters months in advance, the reaction time of protesters can be startling. In the Philippines, 20,000 text-message driven demonstrators gathered in 75 minutes and over a million gathered in four days to protest the halting of the impeachment trial of President Estrada.

The upshot of such forms of organization is that mobile digital networking technology

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<sup>38</sup> Rheingold, 178

<sup>39</sup> Ronfeldt



makes it easier and more cost-effective to mobilize groups of like-minded people and to start snowballs of large-scale emergent behavior; the many rapid connections being constructed between us can serve as a catalyst for mass mobilization. This has important and relatively clear-cut implications for regime stability. Furthermore, the increased many-to-many communication that comes from such technology could have a significant impact on the deliberative element of democratic meaningfulness.

The impact of increased connectivity on regime stability and democratic meaningfulness can be explored without much theoretical background; on the other hand we must turn to social choice theory in order to unlock the normative significance of increased information *to* and *about* users by connecting these concepts to multidimensionality.

## II. What Is Social Choice Theory?

Social choice theory is defined as “a theory about the way the tastes, preferences, or values of individual persons are amalgamated and summarized into the choice of a collective group or society.”<sup>40</sup> As it pertains to democratic theory, social choice theory is largely the study of voting. William Riker, one of the most important and controversial social choice theorists, notes that the study of the actual mechanism of voting has long been trivialized by democratic theorists and assumed out of intuition to be a logical and meaningful method for articulating the voice of an electorate. Through logical and mathematical proofs, the startling inquiries of social choice theorists like Riker call into question the accuracy of this intuition.

The most basic social choice challenge, the Paradox of Voting, was first elucidated by the Marquis de Condorcet in 1785 before being repopularized by Duncan Black in the mid 20<sup>th</sup> century. Condorcet noticed that, in a decision of three or more voters among three or more

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<sup>40</sup> Riker (1982), 1

alternatives in a series of pairwise comparisons (a voting mechanism now known as the Condorcet procedure), transitive individual preferences could yield an intransitive and thus indeterminate social choice. This paradox was later generalized by Kenneth Arrow when he proved through his impossibility theorem that *no* method of amalgamating individual preferences can simultaneously satisfy reasonable conditions of fairness and thereby produce meaningful and consistent results.<sup>41</sup> The power of this finding is most clearly elucidated by Shepsle and Bonchek in *Analyzing Politics* when they give an example of a case in which seven prominent mechanisms of social choice (simple plurality voting, plurality runoff, sequential runoff, Borda count, Condorcet procedure, and approval voting) each produce a different outcome from the same set of individual preference profiles.<sup>42</sup> As this demonstrates, it may in fact be the choice of aggregation mechanism rather than the voice of the electorate that determines the outcome of a “social choice.”

While it is clear why one might want to manipulate the selection of which mechanism of social choice to use, Allan Gibbard went on to prove that, within any one non-dictatorial voting scheme with at least three possible outcomes, there can be circumstances in which an individual can manipulate the result through misrepresentation of his preferences.<sup>43</sup> Furthermore, Riker contends that in any voting method one has the potential to manipulate via agenda manipulation as well.<sup>44</sup> In order to approach the study of such manipulation, Riker coined the term “heresthetic” which he contends ought to have been (but was not) invented by the ancient Greeks

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<sup>41</sup> These conditions include universal admissibility of preference orderings (allowing for individuals to hold any set of preferences), monotonicity (ensuring that voting for an alternative or raising its valuation cannot cause it to become a loser), pareto optimality (that any unanimous winner must be chosen), independence of irrelevant alternatives (the principle that a change of an individual’s preference for some third alternative does not affect the social preference ordering over a given pairwise comparison), and nondictatorship (that no one individual can have his way regardless of the preferences of others).

<sup>42</sup> Shepsle and Bonchek

<sup>43</sup> Gibbard, 358. Note: For large electorates such individual circumstances will be exceedingly rare, but a group of individuals may be able to affect the result by voting strategically.

<sup>44</sup> Riker (1982), 137

to accompany the study of rhetoric. Riker defines heresthetic as “the manipulation of the structure of tastes and alternatives within which decisions are made, both the object structure and the structure as it appears to participants.”<sup>45</sup> Fundamentally, the difference between the two is that rhetoric works to alter outcomes by changing voters’ preferences whereas heresthetic works to alter outcomes without seeking to change these preferences. The apparent ubiquity of the opportunity to practice heresthetic explained by Condorcet, Arrow, Gibbard, and Riker and the resulting arbitrariness of social choice cast a shadow of doubt and chaos upon democratic theory.

These startling theories were qualified by the work of Harold Hotelling, Duncan Black and Anthony Downs who built on each other’s work to demonstrate that with single-peaked preferences and a unidimensional spatial model of voter evaluation (such as the traditional left-right dimension of politics) there will always be a unique Condorcet winner. Furthermore this unique outcome will be the normatively appealing ideal point of the median voter.<sup>46</sup> This model carried with it reassuring implications about the meaningfulness and stability of democratic social choice; however, the respite from theoretical crisis was short-lived. These conclusions unravel if one begins to consider politics as being more appropriately modeled by a multidimensional issue space. One might consider such a model if one thought the field of political competition were better modeled by the dimensions of, say, economic and social issues or if issues like tariffs were more accurately modeled as a pluralistic concern that hurt and helped a variety of interests than by the model of a unique ideological spectrum.<sup>47</sup> Furthermore, Benjamin Ward went on to prove that distributional issues are inherently multidimensional in

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<sup>45</sup> Riker (1993), 55

<sup>46</sup> Green and Shapiro, 151-152

<sup>47</sup> Green and Shapiro, 155

majoritarian democracies if each actor cares only for his or her particular share since this creates a dimension for each participant.<sup>48</sup>

So it appears that, at least theoretically, we are forced to confront multidimensionality. What does multidimensionality imply in practical terms? “Unless very strong symmetry conditions apply to the array of voters’ ideal points, no equilibrium will exist. Given an opposing candidate’s platform, one always can find a platform that will garner a majority of votes.”<sup>49</sup> As multidimensionality increases, so too does the probability of disequilibrium of the outcomes of social choice processes and the potential for heresthetical manipulation of these outcomes. As is apparent from the tone of the language used to describe this situation, most social choice theorists assume, at least implicitly, that multidimensional disequilibrium is normatively undesirable.<sup>50</sup> I will weigh in on the normative impact of multidimensionality in Section 2, but first must connect this backdrop of social choice theory to the rise of information technology.

### III. How is the Emergence of Information Technology Increasing Multidimensionality?

After having explored the worlds of social choice and information technology separately, one can draw the connection between the two. The most important connection is through the concept of multidimensionality. There are three ways in which information technology increases the multidimensionality of a society’s political arena: the fragmenting effect of long tail media, the subversion of top-down information institutions, and the ability to more easily mobilize and target small and geographically dispersed groups. The first two sources of multidimensionality stem from the increased flow of information *to* voters while the third source is made possible by increased connectivity *to*, and information made available *about*, voters. I

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<sup>48</sup> Frohlich and Oppenheimer, 126

<sup>49</sup> Green and Shapiro, 155

<sup>50</sup> Miller, 734

will discuss each cause of multidimensionality in turn but should preface this analysis with an empirical note on dimensionality.

In the context of social choice theory, a “dimension” should be thought of as any of the relevant and empirically significant component aspects of a decision that impacts the utility or preference of a voter. Keith Poole and Howard Rosenthal, in one of the most comprehensive studies on the topic, analyzed roll call votes of the US congress going back to 1789. They recognize that dimensions are an empirical issue and use a complex algorithm to rank legislators on one, two and three dimensions by sorting and re-sorting them to maximize the predictive ability of their model.

“That is, if a senator voted Yea on a roll call, we would like the corresponding ideal point to be as close as possible to the Yea outcome and as far as possible from the Nay outcome. Of course we have to trade off the senator’s probabilities on this particular roll call against her probabilities on all the other roll calls. We continue the described iterations until we find that the locations have stabilized.”<sup>51</sup>

This study is relevant in that it highlights the behavioral and empirical nature of social choice dimensions. Although Poole and Rosenthal find a unidimensional model powerful enough to describe roll call votes (with the exception of two periods of race-driven Euclidian dimensionality) the kind of analysis they perform is difficult to replicate when studying an entire electorate. Measurement, confounding variables and sheer computational magnitude are all obstacles to a similar study of the general election votes of individual citizens.

While I do not have the resources or statistical sophistication to be able to confirm the empirical impact of ICTs on multidimensionality, there is anecdotal evidence of its effect. One example is a particular family of traditional Republicans who, despite their location on the traditional unidimensional political model, voted for Clinton in 1996 because of his advocacy of

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<sup>51</sup> Poole and Rosenthal, 24

stem cell research and their family history of diabetes.<sup>52</sup> The introduction of this issue dimension, which was at that time independent of the mainstream left-right spectrum of politics, had the effect of allowing Clinton to pick up a small pocket of voters who would have otherwise swung the other way. Given such anecdotal confirmation of the real-world impact of multidimensionality, I am encouraged to extend the concept through theoretical hypothesis until empirical confirmation is possible. This is the approach I have taken in the formulation of the three following ways in which information technology may increase multidimensionality.

#### *A. Cause #1: Fragmented Long Tail Media*

The dimensions that a person considers in a particular decision are not fixed but are instead influenced by his personal perspective and social context; the more similar the perspective of two individuals, the more similar will be the set of dimensions they consider relevant to a particular decision. If media can influence the way individuals evaluate concepts through framing and priming (as is supported by a vast communications literature<sup>53</sup>) and if technology is fragmenting media consumption (as is outlined above) then information technology is increasing the number of evaluative dimensions and therefore increasing multidimensionality.<sup>54</sup>

As discussed above, the explosion in choice and ease of filtering powered by long tail forces have both diversified patterns of information consumption and diminished the prevalence and potency of mass culture. These two components have subtly different ways of effecting dimensionality.

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<sup>52</sup> Anecdotal evidence provided by Dr. Jack Nagel

<sup>53</sup> See “Framing/Priming: A Selected Bibliography.” [http://www.wlu.ca/lispop/rres/fram\\_prim.htm](http://www.wlu.ca/lispop/rres/fram_prim.htm)

<sup>54</sup> It is worth reemphasizing that empirical rather than conceptual dimensions are what make the difference in social choice analysis. While I do not set out to evaluate the empirical significance of the increased conceptual dimensions created by information technology, it is my hypothesis that such an empirical examination would reveal increased empirical dimensions as a result of increased conceptual dimensions.

Consuming different sources of news leads to exposure to different issues, facts and dimensional priming. When I get my news from a personalized Google Reader page and you get yours from an issue primed Reddit blog news feed, we are less likely to agree on the relevant political dimensions than in the days in which we both received our news and analysis from Walter Cronkite. The way people consume political information has the most straightforward effect on one's set of conceptual dimensions.

Cultural fragmentation has the same effect through a less direct mechanism. A decrease in mass culture reduces shared experiences and therefore diminishes the proclivity to interpret the same information in similar patterns; when people have fewer shared cultural experiences, they are likely to have fewer shared values and patterns of evaluation. Its not that we haven't always had fragmented interests, just that now technology has enabled us to satisfy and reinforce our differing cultural tendencies.

By creating splintered informational and cultural contexts, both the diversity of political information and the fragmentation of cultural content consumption encourage a proliferation of evaluative dimensions.

### *B. Cause #2: Subversion of Top Down Information Institutions*

The changing economics of information distribution have eliminated the power of economies of scale to create information-centralizing choke points. The bottom-up participative nature of today's information distribution and consumption landscape are undermining the profits and power of groups that rely on this strategy. This most clearly applies to record labels, newspapers, movie distributors and television broadcasters but there are two types of top-down institutions that are even more relevant: political parties and oppressive regimes.

“The big losers in the present-day reshuffling and resurgence of public influence are traditional institutions that have served as the main intermediaries between the government and its citizens: the political parties, labor unions, civic associations, even the commentators and correspondents in the mainstream press.”<sup>55</sup> Consider the following explanation of how parties are being undermined by Daniel Finkelstein, writer for the British newspaper *The Times*.

“Think why the modern political party was created, and why it replaced the chaos of 19th century political groupings. It was a response to scarcity. The expense of producing political propaganda and the difficulty of distributing it by winning space in a small number of media outlets, meant that parties had to be tight, uniform, well disciplined bodies. But now such tightness will become less necessary and less easy to maintain.”<sup>56</sup>

What affects dimensionality is not that the party structure has become less relevant in terms of distributing information but that smaller scale forms of political organization and advocacy have become increasingly viable and potentially influential.<sup>57</sup>

Just as information technology has drastically reduced the cost of organization and targeted marketing, so too have long tail economics lowered the barrier significantly distributing political information. As Peter Ferdinand explains, “Because [online] techniques are relatively cheap, they have enabled individuals and groups who would otherwise have been unable to compete for lack of funds to make a more dramatic impact.”<sup>58</sup> Since political activists are no longer forced by economies of scale to combine issues and coalitions into large groups in order to afford information distribution, they can organize on more particularistic issues. Just as the iTunes Store can unbundle the sale of albums into individual songs because of the decreased costs of distribution so too can distributors of information and aggregators of political will unbundle platforms into smaller sets of issues.

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<sup>55</sup> Grossman, 16

<sup>56</sup> Finkelstein, “Economics of Abundance.”

<sup>57</sup> I should add that I do not foresee information technology as being able to wholly undermine the existence of the political party because they add value in ways other than in simply creating information economies of scale. For example, parties simplify the cognitive task facing voters.

<sup>58</sup> Ferdinand, 7



An example of the successful use of such a strategy is the gubernatorial campaign of Jesse Ventura. Running on a third party ticket with a shoestring budget, Ventura was able to win because of the reduced financial barrier to entry and the ability to target nontraditional issue combinations.

“The primary mode of communication for the campaign was the Internet – a web presence, ‘JesseNet’, and a web based bulletin board. Phil Madsen, Jesse Ventura’s web creator, explained that the web-site’s total cost was roughly the start-up cost of \$200.00 and a monthly fee thereafter of \$30.00. Overall, Ventura spent \$650,000 on his campaign while his opponents spend a combined \$15 million. Most of their money went to television advertising. But Ventura won the race.”<sup>59</sup>

While his opponents hammered age-old partisan platform packages through the mass media, Ventura targeted a group of issues that didn’t fit into the institutional political compromises of the two parties.

“In a series of polls, *Wired* found that “netizens” – registered voters with email access—were fiscally conservative and socially libertarian. Yet neither party was likely to nominate a candidate with this mix of views. Ventura actively appealed to these netizens, bringing record numbers of younger voters to the polls and dramatizing the changed fortunes of third parties in the digital age.”<sup>60</sup>

An increase in the number of political groups and campaigns priming new sets of issues, especially particularistic issues, works to increase multidimensionality.

“Because the Internet will lower the obstacles to grass-roots collective political organization, it will speed up the process of intensification of group-centered, pluralistic politics. The result may be a political system in which ... government officials increasingly hear from and respond to new kind of groups – those without large, stable memberships or affiliations with established institutions.”<sup>61</sup>

“The [long tail’s] Economics of Abundance suggests to companies they should ‘try everything’ to see if it works. I think political movements will start doing the same... A new era of much more decentralised, disorganised, experimental politics is just starting.”<sup>62</sup>

Parties are not the only top-down institutions that are being undermined in a way that increases dimensionality. Oppressive political regimes often try to control agenda dimensionality

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<sup>59</sup> Stromer-Galley, 44

<sup>60</sup> Jenkins, 3

<sup>61</sup> Ferdinand, 180

<sup>62</sup> Finkelstein, “Economics of Abundance.”

and the information available to their populace through censorship and centralized media control. The Internet's technological architecture and the decentralized forms of communication it enables have begun to erode this power.

Unlike mass media, which are broadcast from a centralized source and often conveyed via circuit switching (a technology for transmitting information over a network that relies on dedicated paths that fail if any node is compromised) the Internet does not suffer from concentrated choke points. "Its own architecture, which was designed to enable the US to withstand nuclear strikes where any particular transmission station could have been knocked out, can be very effective in preventing censorship."<sup>63</sup> The only way to censor would be to significantly restrict the routes through which traffic could travel (thereby significantly reducing speed) or intensely monitor the receivers of information.

The anonymity of the Internet goes a long way in preventing this latter technique. Every device on the Internet must have an Internet Protocol (IP) address in order for its packets to be routed. People seeking Internet anonymity have an interest in hiding this address so that their online activity (say, speaking out against a repressive government) cannot be associated with their location or identity. Under the current Internet Protocol, users can maintain anonymity through the use of a proxy server, a special type of Internet server that connect to remote hosts (a web site, for example) on behalf of a user in order to transmit the proxy's IP address rather than the real user's. This anonymity makes it difficult for governments to remotely track and interfere with the activity of Internet users.

An example of the difference between censoring mass media and the Internet is the case of the Serbian radio station B92. The radio station sought to present alternative views of

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<sup>63</sup> Ferdinand, 11

Serbia's domestic policies, particularly those having to do with Kosovo. This brought them under official pressure from the government. Ultimately, their transmitters were cut off.

“The station, however, had established itself as the first ISP [internet service provider] inside the country and it responded by sending its broadcasts abroad over the Internet and then having them rebroadcast back into Serbia from sympathetic stations in Montenegro, and later by CNN, the BBC and others. However much pressure the regime continued to put on the station, it could not stop the flow of news.”<sup>64</sup>

The Democratic Party of Serbia, which was banned by Milosevic, used a similar strategy to avoid censorship; they sent the text of their platform abroad so that it could be rebroadcast back to the country from a mirror site on the Internet. “However critical the Democratic Party may have been of the regime, the latter could not prevent it from doing so because of its Internet presence.”<sup>65</sup>

The ability of individuals and groups to evade censorship and communicate their views to others increases the number of issues that can be placed on the agenda and concerns that can be expressed and understood. By introducing more content and interests into the political arena, it is likely that ICTs increase the evaluative dimensions in a population and therefore multidimensionality. Although not every population will be able to express their increased dimensionality through social choice aggregation mechanisms like voting, this phenomenon can still play an important role. Expanding conceptual dimensionality beyond what a regime would prefer likely increases popular frustration with a government that does not solicit the input of its citizenry. As we will see, this can have powerful effects on regime stability.

The Internet's subversion of top-down institutions such as political parties and oppressive regimes serves to increase multidimensionality. How else do information technologies affect dimensionality?

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<sup>64</sup> Ferdinand, 14

<sup>65</sup> Ferdinand, 15

*C. Cause #3: Easier targeting and mobilization of small and dispersed groups*

There are two ways in which information technology has made the mobilization of small and dispersed groups easier and more cost effective. The first way is through the ability to “microtarget” voters in developed democracies. The second is through through the new organizational structure of a smart mob.

Just as information technology has allowed for increased knowledge about consumers and more specific target marketing of commercial goods, so too has this technology made it possible to better understand and target voters. Why is targeting voters important for politicians, what technologies are enabling this practice and how does this increase multidimensionality?

In order to win a political competition in a democracy as diverse as the United States, a politician or party must put together a coalition of minorities, or small groups that share similar values on issues of importance to them. In pursuing this coalition, competing campaigns must make the most efficient use of their limited resources to attract more voters than their competition. One source of efficiency is in targeting potential voters that are going to be most likely to be persuaded into turning out and voting for a particular candidate. Among the voters most likely to fall in this category are cross-pressured voters who have conflicting predispositions about the competing parties. The question is: how does one effectively take advantage of these voters’ sensitivity to specific issues?

In his *Economic Theory of Democracy*, Anthony Downs concludes that political actors ought to be ambiguous about controversial issues in order to most effectively compete for swing voters without alienating their political base. There is a certain degree of risk involved in taking a clear stance because one is likely to lose voters along with gaining them.<sup>66</sup> What this theory assumes is that any policy stance made by a politician will be equally broadcast to each voter.

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<sup>66</sup> “Ambiguity thus increases the number of voters to whom a party may appeal. This fact encourages parties in a two-party system to be as equivocal as possible about their stands on each controversial issue.” Downs, 136.

This was a reasonable assumption in 1957 but in today's information distribution landscape, there is a superior strategy to Downsian ambiguity: capturing swing voters through targeted and explicit stands on controversial issues.

This strategy relies on a relatively new technologically enabled tactic called microtargeting in which campaigns can use vast data sets to profile, analyze and target potential supporters. Although some of the tactics of microtargeting were used as early as 1992 it was first implemented on a significant scale in the 2004 presidential election.<sup>67</sup> On November 19, 2004 in a speech described as “boastful and at times revealing,” Bush campaign manager Ken Mehlman revealed the “unusual methods” that Republicans used to get out the vote: “We acquired a lot of consumer data... Based on that, we were able to develop an exact kind of consumer model that corporate America does every day to predict how people vote - not based on where they live but how they live.”<sup>68</sup>

In 2003, the Republican National Committee retained the firm TargetPoint Consulting (TPC) to use data-mining techniques to create better voter lists and more effective messaging for direct voter contact programs. TPC developed MicroTargeting, a custom and proprietary segmentation model protocol that analyzed vast databases of demographic and consumer information, assigned a partisan probability score to every voter, and ranked them from most profitable to least profitable.<sup>69</sup> These voters could then be targeted through selective campaign messages in a way never possible in the broadcast age. Although digital delivery of campaign messages is becoming increasingly widespread, this microtargeting is most often carried out through more traditional methods: direct mail, robocalls and knocking on doors. The difference is that each voter contacted is more likely to be convinced since each piece of communication

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<sup>67</sup> Vander Veen, “Zeroing In.”

<sup>68</sup> “Bush’s Secret for Victory.” *Political Wire*.

<sup>69</sup> “2004 Presidential Election: MicroTargeting.”

can be custom tailored to the voter's issue profile. Since these targeted messages are so efficient, each dollar spent goes farther in producing results.

The targeting data turned up interesting insights: Coors beer and bourbon drinkers skew Republican while brandy and cognac drinkers tilt Democratic. College football TV viewers were more Republican than those who watch professional football. Gin or vodka? Ford or BMW? Perrier or Fiji water? It seems odd to be targeting political messages around commercial habits but one can't argue with the results: Matthew Dowd, chief campaign strategist for Bush-Cheney '04 estimated that, in part through the work of TargetPoint and other research, the Bush campaign and the RNC were able to quadruple the number of Republican voters who could be targeted.<sup>70</sup> Given its success in 2004, both parties and almost all US legislators have adopted similar campaign techniques.

The most important part of this trend, and the part most relevant to this analysis, is that, unlike Downs' ambiguous broadcast strategy, Microtargeting allows for "dog whistle" politics in which a politician can cost-effectively target small groups of cross-pressured swing voters by delivering a message exclusively to them. The exclusivity of the message medium reduces the likelihood that the politician will be punished by those on the other side of the issue. This in turn reduces the risk he faces in taking controversial stances on wedge issues.<sup>71</sup> Take the 2004 presidential contest as an example of how microtargeting encourages the raising of cross-cutting and polarizing issues: television advertising by the 2004 presidential candidates contained almost no references to divisive issues like gay marriage or abortion, while much of the direct mail communication was focused on these issues.<sup>72</sup>

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<sup>70</sup> Allison, "Why Might Karl Rove Be Smiling?"

<sup>71</sup> Hillygus, 11

<sup>72</sup> Hillygus, 12

As an aside, it is worth noting that these channels are not perfectly exclusive nor perfectly targeted and so candidates still face the risk of their appeals being publicized by the opposition if such publicity would hurt the candidate in the eyes of the broader public. The ever decentralized and watchful long tail of media reinforces this risk. However, this risk does not neutralize targeting as a tactic because there is a middle ground between Downsian ambiguity and extreme or inconsistent explicit campaign appeals. Furthermore, any counter-publicity tactic would have to overcome the cost of giving an opponent attention and the risks of negative campaigning. Although publicity risk serves as a boundary on how extreme targeted claims can be, the use of targeted appeals is still possible and powerful.

Just as technology made it economical to go after profit from many small groups of customers through niche products, so too has it made viable a strategy that tries to aggregate the votes of a number of small issue groups; the long tail of votes has been made accessible. There is evidence of this strategy being used as far back as 1993 when Bill Clinton and his political advisor Dick Morris discovered small pockets of voters who felt strongly about issues that were relatively unimportant to other citizens. They “developed into an art form the identification and espousal of such small issues... each influencing relatively few voters but with the potential in the aggregate to swing a close election.”<sup>73</sup> One such issue was the question of research on embryonic stem cells. At the time only 9% of respondents to a CNN/USA Today poll were following the issue “very closely” while 56% “didn’t know enough to say” when asked their opinion.<sup>74</sup> Until 2004, when it became associated with high profile “sanctity of life” concerns, this was a perfect long tail issue because its relative obscurity meant that there was little risk of palpable short-run backlash. This was especially when the case because positions could be delivered through targeted media.

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<sup>73</sup> Nagel, 146

<sup>74</sup> Hillygus, 2

The long tail wedge issues that are made accessible by microtargeting are inherently multidimensional; they are explicitly designed to draw swing-voters that a politician is currently losing in a unidimensional competition but who may defect if he considered the wedge issue. “Rather than assuming that voters can be arranged along a single left-right dimension with pivotal voters being moderate, this strategy recognizes that voters vary in the policy issues they care about.”<sup>75</sup>

The stem cell example is particularly interesting because it served as a multidimensional issue for two elections before being absorbed into the traditional ideological spectrum when President Bush called the issue “one of the most profound of our time” in a special address to the nation in August of 2001.<sup>76</sup> Since the association of stem cells with “sanctity of life” concerns was not an inevitable or necessarily intuitive bundling of issues, it is reasonable to think that this association came about through strategic rhetoric. Absorbing new issues into the established dimension makes sense as a response to an opponent who has stolen voters through an orthogonal issue. By tying this issue to other traditional issues on which the retaliating party can win, they can counter the temporarily profitable position of the first party. As Poole and Rosenthal note in their study of congressional role call votes, a second dimension of party loyalty can be significant.<sup>77</sup> The effectiveness of this strategy rang clear in the previously detailed anecdote of the conservative family some of whom voted for Clinton in 1996 due to his advocacy of stem cell research; come 2004 members of the same family had trouble giving money to the Juvenile Diabetes Research Foundation without earmarking their money for non stem cell initiatives because they had come to associate the issue with abortion.

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<sup>75</sup> Hillygus, 10

<sup>76</sup> White House Press Release, “President Discusses Stem Cell Research.” August 9, 2001.

<sup>77</sup> Poole and Rosenthal, 6 This dimension is highly correlated with the traditional ideological dimension so it does not add a lot of explanatory power to their broader model but in case of such orthogonal issues it can mean a lot.



If this is the normal progression of orthogonal issues (being taken advantage of temporarily and then nullified by absorption into the traditional political dimension) one can view the competition for these votes as analogous to the competition for profits in the market: Political entrepreneurs identify pockets of voters who care about orthogonal issues, profit temporarily from the lack of political attention being paid to the issue and the lack of opposition, and then see profits diminish as competition from the second party eliminates the profit opportunity. This profit can be eliminated either through matching on the issue or by redefining it such that it collapses onto the existing spectrum in a way that convinces people to switch positions. Increased information on voters and an increased ability to target them will increase the number of identifiable orthogonal issues, which creates more temporary opportunities to take advantage of multidimensionality. If the response cycle does not shorten by a great enough amount to counter the increased flow of orthogonal issues, multidimensionality as whole will increase.

The connection between the rise of microtargeting and multidimensionality is well summarized by Dr. D. Sunshine Hillygus of Harvard University: “Recent changes in the amount and type of information available about the mass public has increased the use of wedge politics and contributed to more fragmented and polarized issue agendas as candidates now micro-target different issue messages to different groups of voters in an effort to win over cross-pressured swing voters.” I would add that the raising of these issues explicitly aims to add evaluative dimensionality as a means of heresthetic. Since information technology facilitates this technique, this is another way in which it adds to multidimensionality.

As mentioned in the introduction to this paper, the connections I make between ICTs and multidimensionality are largely theoretical rather than empirical. One proposed method for further empirical investigation of the topic would be to examine how quickly political systems

fragment after the fall of an authoritarian government by examining the party system or by doing content analysis of salient issues. By examining cases from before and after the rise of information technology, such a comparative methodology could find an empirical relationship between technology and multidimensional fragmentation. Measurement of multidimensionality and fragmentation would be the largest challenge to such an empirical inquiry, requiring intimate knowledge of the subtleties of many stories of democratization, the methodological sophistication to be able to quantify such information and the statistical talent to be able to distinguish signal from noise. For these reasons, I have limited this section largely to laying the theoretical foundation of empirical hypotheses.

To summarize the previous three subsections, information technology increases multidimensionality through fragmenting the consumption of political and cultural information, by lowering the costs of grassroots issue advocacy organization, and by providing the data and analytics to evaluate and target voters for heresthetical communication. What is yet to be explored is how information technology affects regime stability and democracy through increased connectivity and multidimensionality.

## *Section 2: Impact of Information Technology on Regime Stability and Democracy*

After having addressed social choice theory, information technology and multidimensionality, I can now turn to the broader and more fundamental analysis of this inquiry: the effect of information technology on regime stability and democracy. The two overarching effects of ICTs that will affect these two goals are increased connectivity, as discussed in I.C, and multidimensionality, as defined in II-III. I will address each of these two subjects in turn. For each I will explore the philosophical rationale of the normative desirability of these ends and then show how information technology works both towards and against these goals.

### I. What are the effects of Information Technology on Peaceful Regime Stability?

#### *A. The Normative Desirability of Peaceful Regime Stability*

Thomas Hobbes, whose masterwork *The Leviathan* rivals in significance the political writings of Plato, Aristotle, Locke, Rousseau, Kant and Rawls, is famous for the early development of what has come to be known as “social contract theory.” Hobbes sought to determine the rational principles for the construction of a civil order that would not be subject to instability from within.

Having lived through the period of political disintegration culminating in the English Civil War, he came to the view that the burdens of even the most oppressive government are “sensible, in respect of the miseries, and horrible calamities, that accompany a Civill Warre; or that dissolute condition of masterlesse men, without subjection to Lawes, and a coercive Power to tye their hands from rapine, and revenge.”<sup>78</sup> To Hobbes, a state of peaceful regime stability was of utmost importance since it removed man from a state of nature defined by “no place for

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<sup>78</sup> Lloyd; Hobbes, Chapter 18

industry, because the fruit thereof is uncertain; and consequently no culture of the earth; ... no commodious Building... no Arts; no Letters; and which is worst of all, continuall feare, and danger of violent death; And the life of man, solitary, poore, nasty, brutish, and short.”<sup>79</sup> In this tradition of valuing peaceful stability, Max Weber has defined the “state” as a “human community that (successfully) claims the monopoly of the legitimate use of physical force within a given territory.”

Independent of the other potential normative goals of a state, it is easy to see how order and stability are desirable. Hobbes and Weber give credence to this view in their writings yet the sentiment is intuitive: all else being equal, one ought to prefer the peace and efficiency of stability over the violence and uncertainty of chaos. How does information technology interact with this normative goal? As we will see, it both furthers and detracts from the maintenance of stable regimes.

### *B. Multidimensionality as a Force of Stability*

The argument that information technology is a driver of stability comes both from the previously described concept of increased multidimensionality and the striking tension that Nicholas Miller identifies between collective rationality and political stability. Miller, a professor at the University of Maryland Baltimore County, observes that the preference patterns (including multidimensionality) that are identified by social choice theory as causing collective irrationality in the form of policy instability are essentially those recognized by pluralist theory as promoting regime stability. In other words, the same circumstances that social choice theorists interpret as

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<sup>79</sup> Hobbes, Chapter 13

preconditions for disequilibrium, such as cross-cutting issues and dispersed preference intensities, are taken by pluralists as preconditions for political stability.<sup>80</sup>

The logic for this assertion is that these pluralistic characteristics and the resulting state of policy disequilibrium cause moderate attitudes (through a diversity of interactions and social pressures), moderate behavior (through the cyclical reality that “those who are enemies in one situation are sometimes required to act as allies in another situation”) and a continued incentive for losers to participate in the system (through continued hope in the success of political strategems).<sup>81</sup> Consider the social choice alternative of a collectively rational equilibrium of policy: given that preferences change only very slowly, if a society were arranged such that it saw politics unidimensionally and could accurately aggregate preferences, there would be a consistent policy outcome and therefore consistent losers. This would lead losers to seek change not *through* the system but *of* the system.

“Precisely because social choice is *not* stable, i.e., not uniquely determined by the distribution of preferences, there is some range for autonomous politics to hold sway, and pluralist politics offers almost everybody hope of victory... This induce[s] losers to continue to play the political game, to continue to work within the system rather than to try to overthrow it.”<sup>82</sup>

Even in recognizing that cyclical politics are imperfect, Miller identifies with the sentiments of Hobbes and Weber in the preference of its resultant stability over the alternative of chaos: “pluralist politics is somewhat inefficient in economic terms. But the state of affairs associated with severe political instability is far more profoundly inefficient.”<sup>83</sup>

The degree to which information technology increases multidimensionality and unstable pluralist politics is the degree to which it furthers the cause of political stability. Since the first section of this inquiry hypothesizes that information technology does indeed increase

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<sup>80</sup> Miller, 734

<sup>81</sup> Miller, 736

<sup>82</sup> Miller, 742-743

<sup>83</sup> Miller, 744

multidimensionality, I submit that it may therefore be a force for peaceful regime stability as well.

### *C. Increased Connectivity as a Force of Chaos*

At the same time that information technology serves as a force for political stability through increased multidimensionality, it can also serve as a force for chaos through its subversion of top-down institutions and its facilitation of the organization of smart mobs of protestors, revolutionaries and terrorists. I've already explained how information technology can fuel smart mobs and the subversion of top-down institutions and so in this section I will use examples and case studies to demonstrate how such trends have caused chaos and instability.

An example of chaos resulting from the technological subversion of a top-down institution is the case of the *Zapatista* movement in Mexico. The insurrection by the Zapatista National Liberation Army (EZLN) erupted on New Year's Day 1994, when roughly two thousand armed insurgents occupied five towns and a city in the highlands of Mexico's southernmost state, Chiapas. Over the next few days, the EZLN declared war on the Mexican government, vowed to march on Mexico City, proclaimed a revolutionary agenda, began an international media campaign for sympathy and support, and invited foreign observers and monitors to come to Chiapas.<sup>84</sup> What was remarkable about this movement was the use of the Internet to gain international leverage against the government via the Internet.

“Extensive use of the Internet allowed the *Zapatistas* to diffuse information and their call throughout the world instantly, and to create a network of support groups which helped to produce an international public opinion movement that made it literally impossible for the Mexican government to use repression on a large scale... Without the Internet connections, there seems little doubt that the Chiapas guerillas would have been destroyed by the Mexican army far from any prying eyes.”<sup>85</sup>

“What began as a violent insurgency by a small indigenous force in an isolated region

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<sup>84</sup> Ronfeldt, 1-5

<sup>85</sup> Ferdinand, 13

was thus transformed and expanded, within weeks, into a... highly disruptive movement that engaged the involvement of activists from far and wide and had both foreign and national repercussions for Mexico... Mexico, the nation that gave the world a prototype of social revolution early in the 20<sup>th</sup> century, has generated an information-age prototype of militant social netwar on the eve of the 21<sup>st</sup> century.”<sup>86</sup>

Although this particular movement did not result in widespread civil war, it demonstrates how information technology circumvents top-down information control and fuels chaotic activism. In addressing how the *Zapatista* movement affected the Mexican government, Ronfeldt and Arquilla concede that while this particular ‘netwar’ challenged Mexico’s systematic stability it did not jeopardize it. What is important, however, is their statement that if anything were to truly challenge Mexican stability it would come in a similar form. “The serious risk for Mexico is not an old-fashioned civil war or another revolution—that seems unlikely. The greater risk is a plethora of social, guerrilla, and criminal netwars. Mexico’s security in the information age may be increasingly a function of netwars of all varieties.”<sup>87</sup>

The argument that information technology threatens the stability of oppressive regimes through subverting their top-down methods of information control is further (though implicitly) supported by the attitude of other authoritarian governments regarding such technology. “The approach taken by most authoritarian states to the Internet confirms to a degree the arguments of those emphasizing the medium’s inherent democratizing properties. Adopting a defensive posture, non-democratic regimes have sought to limit rather than promulgate the Internet’s spread across society.”<sup>88</sup> Why would regimes seek to limit information technology, which has appealing economic characteristics, if not out of concern that it might threaten the stability of their regime? This reaction has an even deeper implication for stability via what Christopher Kedzie calls the Dictator’s Dilemma.

“Economic efficiency and political efficacy are positively related to each other [and to

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<sup>86</sup> Ronfeldt, 3-4

<sup>87</sup> Ronfeldt, 153

<sup>88</sup> Oates, 11

military power] and negatively related to authoritarian control... National economic competitiveness requires free access to information networks and computer technology... thus squelching new information technologies arguably degrades a nation's political or military position... Totalitarian societies face a dilemma: either they try to stifle these technologies and thereby fall further behind in the new industrial revolution, or else they permit these technologies and see their totalitarian control inevitably eroded."<sup>89</sup>

By choosing to suppress information technologies in order to maintain top-down authoritarian control in the short-term, regimes weaken their economic and military power, thus increasing discontent and reducing the ability to forcefully suppress destabilizing forces in the long run. In this way, the ability to undermine top-down institutions may double cause authoritarian regime instability.

These arguments along with the case of the *Zapatistas* demonstrates how information technology threatens stability through the subversion of top-down institutions. I will now examine how the enabling of smart mobs can have a similar result.<sup>90</sup>

The smart mobs of Indonesia and the Philippines serve as striking examples of how information technology facilitates the organization of groups that threaten regime stability. Led by B.J. Habibie, Indonesia's minister for Research and Technology, and the promise of information-led economic development, the government of Indonesia facilitated the establishment and expansion of the Internet within its borders in the mid 1980's. By 1996 a rich culture of online information exchange, discussion and connectivity had formed. "The Internet had been embraced by the technophilic developmentalists in the New Order government, personified by B.J. Habibie, by big business, and also by students and the professional middle classes."<sup>91</sup>

When the Thai financial sector collapsed in July of 1997, Indonesia was hurtled into a

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<sup>89</sup> Kedzie, 105, 109-110

<sup>90</sup> These examples of smart mobs serve as dual examples since they also constitute the subversion of top down information institutions; they rely heavily on peer-to-peer digital communication within systems of political control maintained by complex systems of propaganda and censorship. Hill, 119

<sup>91</sup> Hill, 124



financial crisis. Within twelve months the Rupiah depreciated more than 80 percent and the inflation rate rose to roughly 13 percent.<sup>92</sup> The financial crisis stirred up latent antigovernment sentiment and shifted the focus of relatively unfettered discussion on the Net to political issues. The concept of people's power that originated in the Philippines reverberated through Indonesian chat rooms and mailing lists. This discussion turned into action.

“Bypassing the government-controlled television and radio stations, dissidents shared information about protests by e-mail, inundated news groups with stories of President Suharto's corruption, and used chat groups to exchange tips about how to resist repression by the government's troops. In a country made up of thousands of islands, where phone calls are expensive, the electronic messages reached key organizers.”<sup>93</sup>

In March of 1998, Suharto stood for “reelection” for the seventh time, running unopposed as he had in past years. Protests and riots coordinated largely via the Internet sprang up throughout the country in what is now known as the Indonesian Revolution of 1998. Weakened by dissension in his party and the military, Suharto stepped down on May 21 to be replaced by none other than B.J. Habibie, the very man who had brought the Internet to Indonesia.

This is not the only case of a government being toppled through the facilitation of smart mobs. On January 16, 2001 senators loyal to President Estrada of the Philippines vetoed the unsealing of incriminating bank documents for use in his impeachment hearings. As described previously in this paper, opposition leaders responded by sending text messages. Within seventy-five minutes 20,000 people dressed in black had converged on the EDSA highway, the site of the 1986 “people power” revolution that had toppled the regime of Ferdinand Marcos. Over the course of four days, over a million Filipinos joined in the protest. These demonstrations became known as “People Power II” and resulted in the fall of Estrada's government on January 20<sup>th</sup>.

While smart mobs in Indonesia and the Philippines both had democratic motives and outcomes, not all smart mobs are of this nature.

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<sup>92</sup> Hill, 124

<sup>93</sup> Hill, 130

“The points of translation between virtual freedom and constitutional, electoral democracy are neither direct nor essential. If the Internet has provided a space for like-minded citizens of the world to come together in defiance of powerful capital and powerful governments, then it has done so even-handedly – giving as much to liberal democrats struggling against dictators and moderate nationalists seeking self-determination as to right-wing racist and religious extremists of every variety.”<sup>94</sup>

Smart mob tactics have been used by Chechen rebels in Russia and FARC guerillas in Colombia and the U.S. State Department's Office of the Coordinator for Counterterrorism has put out a report warning against the use of such tactics in the current war on terror.<sup>95</sup>

The cases of the *Zapatista* movement, Indonesia, the Philippines, and terrorist smart mobs demonstrate how information technology can be a force for regime instability through the subversion of top-down institutions and emergent networked organization. What is important to note is that, although ICTs caused regime instability, neither in Mexico, Indonesia nor the Philippines was such instability violent. Although there are still concerns of inefficiency due to instability, if smart mobs can bring about instability without much violence, perhaps some of the normative concerns that Hobbes raised can be qualified. This concept will be further explored in the normative analysis of section three.

We have seen how information technology can work both towards and against the normative goal of regime stability. I will now demonstrate how ICTs can have a similarly ambiguous relationship with democracy.

## II. What are the effects of Information Technology on Democratic Meaningfulness?

### *A. The Normative Desirability of Meaningful Democracy*

John Locke, an important social contract theorist, developed an alternative to the Hobbesian state of nature. He argued that a government could only be legitimate and meaningful

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<sup>94</sup> Ferdinand, 126

<sup>95</sup> Rheingold, 162; Ronfeldt

if it received the consent of the governed and protected the natural rights of life, liberty, and property. Despite the nastiness that accompanies civil war, Locke reasoned that if such consent was not given citizens had a right and in some cases an obligation to rebel.

In his work *Liberalism Against Populism*, William Riker describes three properties that constitute the kind of normatively desirable liberal democracy supported by the Lockean perspective on government: participation, liberty and equality.

Participation is meant to restrain oppressive rule, or rule that would violate Locke's law of nature, by subjecting rulers to popular judgment. Note that in order for participants in a democracy to be able to pass popular judgment, the process by which opinions are formed and the mechanism by which they are articulated must be accurate. Locke takes democratic voting to be such a mechanism. Furthermore, participation is meant to have a philosophically positive element in and of itself: taking responsibility for one's self is tantamount to self-control, "and self-control is a necessary instrument of that human dignity and self-respect that moral philosophers of almost all persuasions have regarded as the best human achievement."<sup>96</sup>

Liberty, in the tradition of Locke, is considered to be one of the natural rights inherent to human life, independent of citizenship. Furthermore, Liberty is necessary to organize participation in government in that the liberty to pursue one's goals protects those individuals who form factions and vote against the government.

The moral significance of equality, whether that means equality before the law, economic equality or educational equality, is that denying it denies some people the self-control that leads to self-respect and self-realization.

Taken together, these elements of democracy and their accompanying normative significance represent the normative import of democratic meaningfulness. How does

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<sup>96</sup> Riker, 6

information technology interact with this normative goal? Just as with regime stability, information technology both furthers and detracts.

*B. Increased Connectivity as a Force for Meaningful Democracy*

There are two ways in which information technology is increasing the meaningfulness of democracy: it increases social capital through a revitalized public sphere and it breeds increased accountability through increased scrutiny of public officials. These result in enhanced participation, liberty and protection of equality.

The German philosopher and sociologist Jürgen Habermas is best known for his concept of a public sphere, a space within a society independent both of state power and private, corporate influence, within which information can freely flow and debates on matters of public, civic concern can proceed.<sup>97</sup> This space is meant to be a mechanism through which civil society can formulate and articulate its interests and is thought to be a normative cornerstone of democracy. Habermas argues that, after the thriving public sphere of the western 18<sup>th</sup> century coffeehouses, industrialization, centralization, and commercialization of the media eroded the discursive public sphere. What effect does the evolution of media in the digital age have on this diminishing public sphere?

According to David Hill and Krishna Sen, “It is easy to see the internet as a foil to commercial and state controlled media—a medium not owned by anyone and so where everyone can speak—and thus a space where public opinion can be formulated, debated, expressed without being overwhelmed by commercial or state intervention.”<sup>98</sup> Stromer-Galley adds:

“The network of networks and its associated characteristics of lowered cost, increased volume, directionality, targeting, velocity, and convergence... suggests that the final product can be an environment in which strong democracy is supported... The

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<sup>97</sup> Hill, 127

<sup>98</sup> Hill, 120

characteristics of the media that comprise the Internet suggest, if applied properly, a more democratic turn in the political sphere of daily life.”<sup>99</sup>

Furthermore, information gathering, which is easily facilitated and often engaged in online, has been positively linked with the production of social capital and time spent online is associated with higher levels of civic engagement.<sup>100</sup> Thus, ICTs have enhanced participation by drawing more voices into the court of public opinion.

Christopher Kedzie and Janni Aragon set out to investigate whether there is an empirical relationship between international communication technologies, democracy and democratic change. Citing communication as the most important force for organizing political and social behavior, they argue that

“By increasing communication, the proportion of public to private information grows... The communication of disparate views increases the issues and groups around which deliberation occurs, improving the civic virtues, citizenry and the polis... When people learn that there is an alternative to their way of life, revolution becomes possible... Information technologies promote democratization by diffusing liberal ideas throughout the globe.”<sup>101</sup>

With this social capital causal mechanism as a hypothesis, Kedzie regressed democracy ratings for selected countries against correlates for democracy, including electronic network connectivity, drawn from historical data. “Despite the inherent limitations of statistical analyses, several analytic perspectives, every model, set of statistical tests, and functional form in this study is consistent with the hypothesis that interconnectivity is a powerful predictor of democracy, more than any of democracy’s traditional correlates... Moreover, tests of alternative causal explanations invariably fail.”<sup>102</sup> This empirical insight lends support to the theoretical logic of how ICTs can increase democratic meaningfulness through an invigorated public sphere

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<sup>99</sup> Stromer-Galley, 55-57

<sup>100</sup> Oates, 5-6

<sup>101</sup> Kedzie, 107-109

<sup>102</sup> Kedzie, 122

and how they can improve the prospects for global democratic liberty and equality. How else could information technology serve democratic meaningfulness?

The second way that information technology increases the robustness and meaningfulness of democracy is through the increased accountability that comes from a more watchful, viral and decentralized media. There are fewer places to hide fraud, corruption or bad behavior from the disinfecting sunshine of publicity when public figures have not only the career media to hide from but also an army of amateur bloggers, photographers and video journalists.

The aforementioned George Allen “Macaca” video is the perfect example of this phenomenon. As Time Magazine’s James Poniewozik notes “[Allen] seems, in retrospect, almost pitiable, like the first proud, doomed lion ever to stare down a hunter with a rifle... In Washington or Hollywood, the days when you could expect your bad decisions to disappear into the mists of time are disappearing. Somebody’s watching.”<sup>103</sup> Representative Mark Foley fell to a similarly tech driven scandal when he was caught sending suggestive emails and instant messages to a former Congressional page. This episode highlighted the increasingly comprehensive and verifiable digital behavior trail left in today’s wired world.

This increased scrutiny will bring to light more cases of bad government and bad character than ever before. It will help to identify and weed out politicians who, through their policies or actions, prove themselves to be unfit to lead. It will serve as a form of negative reinforcement to condition the remaining politicians to avoid the risks of acting in ways that they would prefer to hide from the electorate. This accountability extends even to authoritarian regimes as with the case of the EZLN in Mexico. “Information technologies are shattering states’ privacy and rendering governmental methods open to the scrutiny more characteristically associates only with democracy. The increase in transparency works to mitigate the harshness of

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<sup>103</sup> Poniewozik, 64

world anarchy by opening new avenues for the evaluation of credibility and intent.”<sup>104</sup> Although the character issues and evaluative criteria primed by such shocking and filter-free media as YouTube videos, and muckraking blog posts may distract from more substantive policy issues and civil debate in what Harris and Halperin call “Freak Show” politics, they also work to decrease corruption and increase accountability, both of which have positive normative implications for democracy.<sup>105</sup>

As we have seen, information technology serves the purpose of meaningful democracy through strengthening public sphere participation and equality and through increasing the accountability of elites to the governed. In what ways can the same technology have opposite effects?

### *C. Multidimensionality as a Force for Democratic Meaninglessness*

There are two ways in which information technology works against democratic meaningfulness: its fragmenting and mediating effects may stunt true deliberation and the multidimensionality it increases may cause less meaningful social choice aggregation in the form of increased cyclicity and arbitrary interference.

As mentioned in Section 1, the emerging long tail of media has a fragmenting effect, allowing consumers of information to find media that are better tailored to their individual preferences in a way that erodes mass culture. While self-selecting Internet communities such as MoveOn.org and RightMarch.com can provide email lists, forums, discussion groups, and chat rooms that offer opportunities for valuable deliberation, they often function as enclaves: distinctly bounded groups functioning within a broader deliberative ecosystem.<sup>106</sup>

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<sup>104</sup> Kedzie, 108

<sup>105</sup> Halperin

<sup>106</sup> Landry, 44

Some argue that “deliberating enclaves,” groups of like-minded individuals who talk amongst themselves, can incubate new ideas until they are strong enough to enter the wider public sphere.<sup>107</sup> Without insulated beginnings, it is said, some valuable ideas can be stifled in general debate. Good examples of such enclave-germinated ideas are the antislavery and Civil Rights movements. However, deliberating enclaves do not always produce representative ideas and they face the ever-present danger that group members will develop and move to positions that would fail the test of more open deliberation. This danger is even greater for Internet enclaves because “real-world interactions often force us to deal with diversity, whereas the virtual world may be more homogeneous ... in terms of interest and outlook.”<sup>108</sup> People with assured political convictions tend to select sites that support their convictions in an effort to ensure that they can ‘trust what they read.’ One study concluded, “far from fostering deliberative political discourse, most of the surveyed websites sought to consolidate speech power and served to balkanize the public forum.”<sup>109</sup>

Sunstein argues that self-selecting groups that share similar views breed polarization in deliberation. “After [such] deliberation, people are likely to move toward a more extreme point in the direction to which the group members were originally inclined...[Current research] supports the general view that many people are mostly hearing more and louder echoes of their own voices.”<sup>110</sup>

Benjamin Barber reinforces this concern with fragmentation and explains how it hampers deliberation. “Segmentation and narrowcasting is good for marketing but deadly to common deliberation. Specialization and niching helps politics of special interest and nondeliberative

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<sup>107</sup> Sunstein, 76

<sup>108</sup> Sunstein, 53

<sup>109</sup> Sunstein, 59

<sup>110</sup> Sunstein 60, 65



polling but hurts national common civic identity and makes democracy problematic.”<sup>111</sup> In addition to the fragmenting nature of the new long tail media, Barber further asserts that the inherent nature of digital communication is antithetical to deliberation. He argues that computer-enabled digitized media are characterized by speed (which rushes the natural pace of deliberation), reductive simplicity, solitude (the anonymity of which runs contrary to the public nature of deliberation), and an increasing emphasis on images over words (which leads to interpretation by emotion rather than by *logos*).<sup>112</sup>

In these ways, the nature of digital communication and its fragmenting effects impede meaningful deliberation and therefore meaningful democracy. By examining the social choice implications of increased multidimensionality, we will encounter another conception of meaningfulness that is affected by ICTs.

As described earlier in this inquiry, increased multidimensionality multiplies the likelihood of disequilibrium, cycles, opportunities for manipulation and arbitrary interference. This diminishes the meaningfulness of democracy as a true instrument of social choice: When the outcomes of voting vary with the mechanisms used to aggregate preferences, when they can be manipulated through heresthetic and agenda control, and when they are arbitrary relative to the input of voters, a philosophical crisis develops in which we must come to terms with a lessened form of democracy. Riker argues that participation, liberty and equality are all inherently tied to the mechanism of voting. “The democratic method that is supposed to achieve this ideal is, of course, the same three features viewed as means rather than as ends: The method is the process of participation, specifically through voting.”<sup>113</sup> When social choice calls this mechanism into question it undermines the three sources of democratic meaningfulness and thus

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<sup>111</sup> Barber, 44

<sup>112</sup> Barber, 34

<sup>113</sup> Riker, 8

normative desirability. While the empirical connection between multidimensionality and large scale manipulability and disequilibrium is not a settled subject, to whatever extent increased multidimensionality increases such arbitrariness, it decreases the meaningfulness of democracy.

In this section I have explored how information technology can serve to both further and hinder the normative goals of regime stability and democratic meaningfulness. Given these conflicting effects, what can be said of the net normative significance of the rise of information technology?

### *Section 3: Normative Synthesis and Issues Affecting the Future*

In order to evaluate the overall normative impact of information technology, one must weigh its positive and negative effects and make judgments as to the magnitude of each effect. I will address each of the four effects of ICTs in turn (Rikerian logic and democratic meaningfulness, pluralist disequilibrium and regime stability, connectivity and democratic meaningfulness, and smart mobs and regime stability) and evaluate the significance of their effect on democratic and non-democratic states. After considering the balance between the good and bad, I will identify the pressure point issues and trends that could tip that balance in the future.

#### I. Normative Evaluation

The least worrisome threat to democracy is that posed by the logic of multidimensional democratic meaningfulness. Social choice meaningfulness is unknown at worst and unproven at best. While Riker's theoretical arguments as to the meaningfulness of democracy are convincing, empirical confirmation is nearly impossible. Yet even if meaningfulness or manipulability were confirmed, it would be a philosophical rather than a tangible problem. Furthermore, it would only affect those exposed to, and capable of understanding, the argument. Given the tendency towards peace and stability in democratic countries, if self-government through meaningful preference aggregation is simply impossible, as Riker contends, the false popular philosophical status quo may serve a positive normative role. If one prefers as I do a system in which players may sometimes manipulate outcomes to an alternative such as a dictatorship in which virtually no player has the opportunity to influence outcomes, and, if there are no other options that would be preferred to such choice aggregation, the dogma of democratic social choice accuracy and meaningfulness would serve as a noble myth. It would ensure that

the system would not be discredited and replaced with a worse one despite the possibility or reality of manipulation. Democratic meaningfulness, if it can be verified, may be disheartening to those who understand or know about it but it will only have a negative practical impact on society if this knowledge affects stability or some other normatively desirable measure. I recognize that this line of thought is slightly illiberal and applies “ignorance is bliss” logic however if Riker is right, our conception of ‘liberal’ will have to change and we will be forced to settle for the best compromise we can devise. The bottom line is that the threat of democratic meaningfulness is empirically inconclusive, potentially unknowable, and less tangibly consequential than the other effects of ICTs; it is worthy of academic attention, but perhaps not as much normative panic.

The connection between multidimensionality and pluralistic stability as described by Miller further demonstrates how the circumstances of democratic meaningfulness may in fact have positive normative implications. In a choice between chaos of political systems and chaos of policy, I would choose the latter especially since, even in Riker’s worst estimation, social choices are at least sometimes meaningful and therefore the latter alternative is exaggerated. Miller’s argument is the most powerful and intuitive of the four described effects of ICTs. While it too would benefit from some kind of empirical confirmation, it at least serves as a useful theoretical response to the doomsaying of democratic meaningfulness and at best has a tangibly positive normative impact.

The third effect of ICTs, increased social capital and democratic meaningfulness through enhanced connectivity, has promising empirical support in the work of Kedzie and Aragon. Furthermore, it rings true personally and is theoretically intuitive. While some argue that the electronic medium of the Internet is not an ideal public sphere, more scholars see the Internet as a force for social capital and democratic meaningfulness. In surveying some 1,286 respected

technology experts and social analysts, the Pew Internet and American Life Project found that, prompted with the statement that “Civic involvement will increase substantially in the next 10 years, thanks to ever-growing use of the internet,” 42% agreed and only 29% disagreed.

Furthermore, more respondents disagreed than agreed with the statement “By 2014, most people will use the internet in a way that filters out information that challenges their viewpoints on political and social issues. This will further polarize political discourse and make it difficult or impossible to develop meaningful consensus on public problems.”<sup>114</sup> One can reasonably place significant evaluative weight on the positive normative power of the effect of ICTs on democratic meaningfulness.

There are two elements of the fourth effect of ICTs, connectivity-induced regime instability, which must be evaluated separately: the use of connectivity to promote change through terrorism and the use of connectivity to promote change through smart mobs of political demonstrators or revolutionaries.

As for the exclusively violent or terrorist use of connectivity, although the technologies may increase organizational coherence and communication across national borders, information technology does not enhance the core strategy of terrorism. As Paul Reilly notes, “Psychological warfare, a necessary component of ethno-nationalist terror, is effectively conducted through manipulation of the television news flash and the front pages of newspapers... the Internet cannot replicate the shared experience of the mass media.” While the Net may supplement existing relationships between terrorists and the mass media “activities in the offline world [which can capture the attention of the mass media] are more likely to dictate their ability to survive or increase their political influence.”<sup>115</sup> Furthermore, as information technology is enhancing the organizational capabilities of terrorist organizations, so too will it benefit law

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<sup>114</sup> Fox, 7

<sup>115</sup> Reilly, 133

enforcement agencies, a fact that further undermines the impact of information technology on terrorist-driven instability.

In evaluating the second manifestation of connectivity, political smart mobs, there is reason to qualify or even look favorably upon the resulting instability. While not uniformly the case, much instability caused by smart mobs has led to peaceful change and to a more democratic outcome. This was the case in Mexico, Indonesia and the Philippines. Empirical research indicates that harsh authoritarian regimes and coherent democracies have the fewest civil wars while intermediate regimes are more conflict-prone. “In the long run, since intermediate regimes are less stable than autocracies, which in turn are less stable than democracies, durable democracy is the most probable end-point of the process of democratization.”<sup>116</sup> If ICTs diminish the power of authoritarian regimes and increase the ability of citizens to cause instability, and if much of this instability can occur peacefully and yield democratic outcomes, Locke’s concerns may be more relevant than Hobbes and ICTs may lead to a more democratic global political makeup. The stabilizing features of democratic forms of government further reinforce this argument. Although the process of transformation may be difficult, short-term instability can yield long-term stability with the normative bonus of democratic self-government. Taken together, ICT driven instability may under certain circumstances result in a net long-run positive normative outcome.

After evaluating each effect of ICTs in turn, what can be said about their overall normative impact? Given that the two negative impacts of ICTs, Rikerian meaninglessness and connectivity driven instability, can be qualified or compensated for by democratic meaningfulness or stable pluralistic disequilibrium, it is my conclusion that information technology has a positive net normative impact on society. As in any non-Pareto-improving

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<sup>116</sup> Hegre, 33

normative tradeoff, there is always a layer of subjectivity because of differing weights of importance on different normative criteria; one cannot account for these differing preferences. Given this reality, I can only submit my evaluation to the reader in hopes of inspiring further debate and empirical research on the subject.

More important than agreement on the historical impact of ICTs is an understanding of what could affect the normative character of information technology in the future. Trends having to do with the digital divide and privacy are pertinent to this and thereby worthy of attention and concern.

## II. Issues Affecting the Future

Given that the current overall impact of the Internet is a positive one, what issues and trends could threaten this balance? Concerns of a “digital divide” and trends in digital privacy have the potential to negatively impact stability and democratic meaningfulness.

### *A. Digital Divide*

“Habermas comments that a discourse centred concept of democracy demands that all parties that might be affected must be included; that they can interact in a free, equal and easy manner; that there be no restrictions on topics; and that the outcomes can be revised.”<sup>117</sup> Just as deliberative enclaves in a ubiquitous forum can be dangerous in that they support unrepresentative views, so too can the Internet as a whole be dangerous for deliberation if access to the forum is not universal or representative. While the Internet has been providing a new public deliberative space, it is indisputable that this space is not equally accessible.

Patterns of Internet use show a bias for first world, English speaking, and relatively well-

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<sup>117</sup> Thornton, 14

off and well-educated individuals.<sup>118</sup> Pippa Norris, an outspoken thinker about the digital divide, writes:

“It is worrying to reflect that access is overwhelmingly the privilege of the wealthiest citizens in the most advanced democracies... The rise of the virtual political system seems most likely to facilitate further knowledge, interest and activism of those who are already most predisposed toward civic engagement, reinforcing patterns of political participation [i.e. elites]”<sup>119</sup>

Even as the rise of ICTs is facilitating deliberation through means that are more inclusive and robust than the analog public sphere, it is important to make sure that it is not validating the conclusions of its unrepresentative participants as the voice of the rest of society. Further inclusion is necessary, otherwise this bias may threaten the ultimate meaningfulness of the deliberative space. “The promise of a new public sphere depends on whether technical, economic, and cultural barriers to full participation—the so-called digital divide—can be overcome.”<sup>120</sup>

<b>Internet Users and Penetration in Select Countries Worldwide, 2006 (millions and % of population)</b>		
	<b>Internet users</b>	<b>Penetration</b>
US	181.9	63.6%
China	133.5	10.2%
Japan	87.2	68.4%
Germany	39.4	47.8%
UK	35.1	57.9%
South Korea	34.4	70.5%
France	28.7	47.1%
Italy	28.6	49.2%
India	25.5	2.3%
Brazil	21.2	11.3%
Canada	21.0	63.4%
Mexico	20.0	18.6%
Spain	16.5	40.8%
Australia	13.1	64.5%
Argentina	7.9	19.8%
Rest of World	368.0	13.2%
<b>Worldwide</b>	<b>1,080.0</b>	<b>16.6%</b>

Note: eMarketer uses historical data from the International Telecommunication Union (ITU) as a baseline; penetration figures are based on population estimates from the US Census Bureau's International Data Base (IDB); an Internet user is defined as someone who uses the Internet at least once per month  
Source: eMarketer, January 2007

080259 [www.eMarketer.com](http://www.eMarketer.com)

In addition to how the digital divide affects deliberation, one must also consider its impact on the socio-political landscape. The benefits of increased information efficiency,

<sup>118</sup> Thornton, 15-20

<sup>119</sup> Oates, 4

<sup>120</sup> Jenkins, 8



productivity and organizational coherence that come with information technology will only serve those who have access. Furthermore, in the information age, skilled labor is a gross complement to capital whereas unskilled labor is a gross substitute.<sup>121</sup> As the cost of information capital has been declining and is becoming more widely utilized in today's economy, those without the skills or resources to interact with information technology are going to face a diminished demand for labor. ICTs may be providing a competitive advantage to those with access that will allow them to widen the gap between have's and have-not's. "More subtle shifts towards greater elite control of society through the new technologies cannot be entirely ruled out."<sup>122</sup> If the digital divide causes a widening of the gap in socio-economic status and political influence, it could increase the risk of domestic instability.<sup>123</sup>

In order to provide the most meaningful deliberative space and to serve the democratic value of equality, it is important that policy makers take steps to spread Internet penetration, computer literacy and technical skills as widely as possible. The normative value of the Internet is modeled by a network effect in which the value of the network increases faster than the rate at which the number of members increases. We do ourselves a service by promoting the use of information technologies and risk compromising the democratic value of the technology by allowing its user base to remain so demographically biased.

### *B. Privacy*

As more and more information is pouring on to digital information networks, threats to privacy are increasing. In Section 1, I discussed how increased information about users could be

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<sup>121</sup> See Ehrenberg, *Modern Labor Economics*

<sup>122</sup> Oates,<sup>12</sup>

<sup>123</sup> See Karl "Economic Inequality and Democratic Instability"

used by marketers and politicians to target consumers and voters. What if such information were used for more nefarious purposes?

Michel Foucault once wrote of the relationship between knowledge and power: “There is no power relation without the correlative constitution of a field of knowledge, nor any knowledge that does not presuppose and constitute at the same time, power relations.”<sup>124</sup>

Foucault popularized the concept of the Panopticon, an all-seeing, big brother state named after an 18<sup>th</sup> century architectural design for a jail by Jeremy Bentham. The structure allowed for a handful of guards to see all the prisoners from above without the prisoners being able to see the guards in return. This created a state of “conscious and permanent visibility.” Instead of using force to control the prisoners, the structure allowed for a form of knowledge-based power through constant observation; it is not necessary to constantly surveil someone who believes that they are under constant surveillance.<sup>125</sup> Foucault argued that the same concept of information-based control could be used by a government.

“Just as the ability to read and write and freely communicate gives power to citizens that protects them from the powers of the state, the ability to surveil, to invade the citizens' privacy, gives the state the power to confuse, coerce and control citizens. Uneducated populations cannot rule themselves, but tyrannies can control even educated populations, given sophisticated means of surveillance”<sup>126</sup>

The amount of information that is becoming available through the convergence of information technologies allows for an unprecedented amount of what Gary Marx calls ‘dataveillance.’ “The surveillance state that Orwell feared was puny in its power in comparison to the panoptic web we have woven around us... Orwell didn’t take into account the possibility that computing and communication technologies would seduce consumers into voluntarily trading privacy for convenience.”<sup>127</sup>

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<sup>124</sup> Quoted in Rheingold, 188

<sup>125</sup> Rheingold, 189-190

<sup>126</sup> Foucault, 290

<sup>127</sup> Rheingold, xxi, 186

“The image of the average urbanite is caught on closed circuit television 300 times per day.... Every telephone call, credit card transaction, mouse-click, email, automatic bridge toll collection, convenience market video camera and hotel room electronic key collects and broadcasts personal information that is increasingly compiled, compared, sorted and stored by an unknown and possible unknowable assortment of state security agencies and people who want to sell something.”<sup>128</sup>

As mobile technology becomes more prevalent, even more information will become available as we broadcast clouds of data while moving from place to place.

As we continue to allow the amount of privacy we can expect to erode, we open ourselves up to a normatively negative transition of the role of information technology from supporting democracy and associated freedoms, to enabling an oppressive panoptic state.

Foucault argued that “visibility is a trap,” and we must make sure to be wary of it. Internet users and policy makers must keep this concept in mind as the trends toward diminished privacy continue.

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<sup>128</sup> Rheingold, 185

### **Conclusion**

Information technology is causing enormous changes in today's society. It has drastically increased the amount of available information by increasing information *about* users, the flow of information *to* users and the flow of information *between* users through digital connectivity. This has resulted in a fragmenting long tail of media, a subversion of top-down institutions and has made for easier identification and mobilization of small and geographically dispersed groups. These trends have had both positive and negative normative implications of regime stability and democratic meaningfulness; however, since the two negative impacts of ICTs, Rikerian meaninglessness and connectivity driven instability, can be qualified or compensated for by democratic meaningfulness or stable pluralistic disequilibrium, it is my conclusion that information technology has a positive net normative impact on society. If this is to continue to be the case, users and policy makers must be mindful of issues that could affect this balance such as the digital divide and issues of diminishing digital privacy. So long as there is a continued focus on monitoring the normative implications of contemporary information technology, we will be able to understand and shape the way this technology affects our society.

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