The Creation of Value: The Broadband Value Circle and Evolving Market Structures

Jonathan Sallet

April 4, 2011
Executive Summary

The traditional value chain is a hierarchical ordering of inputs that results in the ability of one firm—a manufacturer of automobiles, for example—to offer a finished product directly to consumers. The market is characterized by two distinct lines of business relationships: the vertical relationship between input suppliers and product manufacturers, and the horizontal relationship across the market in which the manufacturers compete against one another.

Although the traditional value chain has not been replaced, today’s broadband marketplace is witnessing the rise of an alternative structure—the “value circle.” The value circle describes a world in which multiple companies, not necessarily in the same product markets, are able to offer competing packages of value to consumers. Thus, in the wireless broadband market, firms that manufacture devices, supply connectivity, engage in e-commerce, create software, or provide search are all creating new economic surplus in a market in which they simultaneously compete, cooperate, buy, and supply from one another. From this new circular structure the following tenets have emerged:

- many companies, traditionally associated with different product markets, can nonetheless offer competing combinations of value directly to the same audience of users;
- bargaining among companies divides new consumer surplus in ways that reflect the ability of companies to create value, play the “central” role in their composition, and reach directly to consumers;
- the market is dynamic and swift, with competing combinations of value changing in rapid succession;
- the purchaser/creator at the center of the circle plays a fundamental, and not simply passive, role in the formulation of new value propositions;
- all of the players are making strategic decisions amid conditions of deep uncertainty; and
- Consumers, because they place value on the new value propositions, benefit directly from new forms of value, embodied in additional choices in the marketplace.

The value circle is an additional tool for business strategists and policymakers to understand the velocity and seeming chaos of important markets. This paper focuses on two markets: wireless broadband services, where the transformation from the value chain to the value circle is complete, and video entertainment programming, where indicia of the value circle are apparent.
Introduction

The creation of value is the core function of a marketplace. In today’s Internet marketplace, the creation of value proceeds in a way that belies traditional understanding, crosses traditional product-market definitions, and upends traditional views of hierarchical value “chains.” It provides businesses with the opportunity to experiment in the creation of new value propositions and it provides consumers with additional choices and new forms of value.

The cause of this change is a new form of economic organization, the Broadband Value Circle—a world in which broadband connectivity is the glue that permits multiple firms, once walled off from one another in distinct product-market categories, to compete, cooperate, buy, and supply products and services from one another in order to satisfy customers that are able to buy from any one of them. The Broadband Value Circle forces them to innovate and to learn how to get one step ahead of mutating competitive offerings. It forces them, very often, to provide differentiated “combinations” of value simultaneously. And for firms struggling to integrate multiple products into new value propositions, it challenges existing business models and encourages new ones.

The emergence of the Broadband Value Circle has implications for businesses, policymakers, and for further research.

- The Broadband Value Circle provides a simple way to map, and therefore analyze, what businesses know instinctively—that competition is coming at them from all directions and that their creation of value propositions must, therefore, meet consumer demands and span multiple product markets.
- For policymakers, the dynamic nature of the Broadband Value Circle means that competition and regulatory analysis must comprehend the true nature of competitive entry and market discipline. Rapid change creates uncertainty, which puts a premium on governmental oversight that is flexible and responsive, not rigid and preemptive.
- For the purposes of further research, it will be important to ask whether other markets, beyond those studied here, can be usefully understood through the prism of the Broadband Value Circle. Potential examples include journalism, healthcare, and express delivery services.

To give one paradigmatic example of the Broadband Value Circle at work, consider the introduction of the iPhone in 2007. Before the iPhone, it was common to believe that upstream device manufacturers were beholden to downstream wireless networks, which had direct customer relationships. (As we will see, this is the common dilemma of an “ingredient” manufacturer.)

The advent of the iPhone changed that. Apple created new economic surplus that was divided in two ways. Consumers benefited, of course. And Apple and AT&T bargained over the division of the remainder. In other words, the wireless network gained additional traffic and revenue
associated with that incremental gain, but the division of profits between Apple and the wireless network is a critical outcome of the market transformation discussed herein.³

Initially, we would expect Apple to gather a larger share of the consumer surplus than did the device manufacturer in the pre-iPhone world. That’s its reward for differentiation and success. To put it another way, we would expect the bargaining power to shift to the advantage of Apple, and in a manner directly connected to the fact that consumers now “want” to establish a direct commercial relationship with the company that manufactures the iPhone. Call it brand loyalty.

The success of such new offerings encourages rival packages of value, which, if successful, will also generate additional economic surplus to be divided between consumers and the business participants.

Now reproduce this shift multiple times over and add other complementary product markets, such as operating systems, apps stores and applications, content, and the like. Watch companies arriving from all directions, from Google’s operating system, mobile apps, and new devices from BlackBerry’s family of devices to Motorola Mobility’s new tablet to Amazon’s new Kindle to Sprint’s 4G network. In other words, a number of participants are engaged, simultaneously, in the formulation of one or more combinations (as BlackBerry did when it offered the Torch phone exclusively on AT&T, and the Storm exclusively on Verizon).

The creation of the Broadband Value Circle requires a suitable environment. A critical ingredient has been the advent of modularity,⁴ in the sense that users can mix and match products that work together via standard interfaces. In the same way that all appliances can plug into standard electrical outlets, all Internet users can send e-mail to one another, regardless of the computer they are using or the network via which they are connecting to the Internet.

Modularity increases efficiency through standardization. With standardized interfaces, devices made by different manufacturers can work together. This is analogous to the standardization in electrical outlets. Because devices are interchangeable, companies have an incentive to innovate within the established paradigms, just as appliance manufacturers can create new products, secure in the knowledge that electrical outlets are standardized. The disadvantage of modularity is that the scope of innovation may be limited: companies have no incentive to invent an improved electrical outlet.

Modularity also increases competition. Because many different products are compatible, competing products can be delivered from any source, including within the same firm. Examples in the wireless broadband market are evident in the offering by broadband networks of competing devices, operating systems, software, and applications, all simultaneously.

The ability to mix and match allows firms to take advantage of familiar economic principles. Similarly, the opportunity to serve multisided markets and the network effects that derive from
adoption by users are critical ingredients of business-model innovation. Traditional economic principles, like economies of scale and scope, are critical to the ability of a firm to become more efficient and to lower costs.

Just as important are the economic ingredients that connect separate pieces of a value proposition. The traditional bundling of products is obvious in offerings like the “triple play” from cable operators that includes Internet access, pay television, and voice communications. But, as we will see, goods can be complementary even if they are not sold as a bundle; the relationship between a home computer and a broadband Internet connection is a familiar example. That is why this paper uses the term “package” to describe products that are so tightly complementary of one another that the presence of one has a direct impact on the purchase of the others.

The presence of these economic principles is critical to the ability of dynamic competition to spur the creation of a value circle. But these principles do not, by themselves, tell us which firm will be most adept at creating a successful business strategy. Success depends on the ability of firms to create compelling value propositions, in league with other companies, and to experiment with business models that can deliver new forms of value.

This article will first review the traditional value chain hierarchy, then, using the example of the iPhone in 2007 and 2008, explain the transformation to value circle. Next, the article will visit two markets in which the concept of the value circle can illustrate the new terms of competition—video entertainment programming and wireless broadband, circa 2011. Finally, the article will offer preliminary thoughts on the implications of the value circle for both business and public-policy audiences.5

II. From Industrial to Innovation Ecosystems

A value chain describes the manner in which a firm structures its activities in a particular sector for its competitive advantage, typically depicted in a fashion that emphasizes the purchase of inputs and the supply of its outputs to customers.6 A simple example concerns the supply of raw materials. Iron ore is the primary raw material for the production of steel. Thus, iron-ore companies supply iron to steel manufacturers in a vertical relationship: one supplier to one purchaser.

That the relationship is straightforward does not limit the ability of the firms to bargain with one another. For example, the quadrupling of the price of iron ore between 2003 and 2008 and the shift to different, more volatile pricing of iron can be expected to have immediate impacts on the business of steel manufacturers, potentially changing the relationship in the next links of the value chain—between steel manufacturers and their customers in the automobile and appliance industries.7 Or the nature of the product can be changed for mutual advantage. Thus, “[b]y agreeing to deliver bulk chocolate to a confectionary producer in tank cars instead of solid bars, for example, an industrial chocolate firm saves the cost of molding and packaging
while the confectionery manufacturer lowers the cost of in-bound handling and melting.”

In the classic twentieth-century value chain—automobile manufacturing being a paradigmatic example—the relationship between companies was straightforward. The automobile manufacturer “created” the value proposition by bundling characteristics that represented a series of complementary product markets. The manufacturer created a value proposition, as the direct relationship with the customer, and chose the upstream provider—in this example, the maker of windshield glass. The glass maker did not have a direct relationship with the consumer purchasing a new car.

Of course, competition could exist in each of the product markets. For example, the windshield glass company could provide to multiple manufacturers and each manufacturer could choose between multiple windshield glass manufacturers. But the nature of the relationships was still relatively simple. From the manufacturer’s perspective, the competition came from other horizontal competitors, not from its own suppliers, with which it had a vertical relationship. The customer could choose, but from a well-defined choice of suppliers (although some suppliers, like the classic General Motors, offered many models with differentiated brands and product features). Later in the twentieth century, more competition came to the market in the form of non-U.S. companies such as Toyota, which was itself a manufacturer, but not because an upstream provider, like the windshield glass company, decided to create a direct relationship with the customers and become a consumer-facing automobile manufacturer itself.

The concept of the value chain derived from the fact that specialized functions were being carried out in a more efficient manner. And the manufacturer itself became dramatically more efficient—witness Henry Ford’s introduction of the twentieth-century assembly line. The result was lower costs in the creation of the product, lower prices to consumers, a concomitant boost in consumer demand, and great financial reward for the automobile manufacturers.

During the course of the twentieth century, the operation of the value chain continued to be improved and refined. “Lean manufacturing” and “just in time” inventory improved the efficiency of production. Companies such as Toyota and Walmart cut costs along the value
chain by seeking out the most efficient suppliers and eliminating waste in their own operations. And, the arrival of mass computing and the Internet introduced powerful new tools for efficiency.

Nonetheless, the basic roles did not change. A manufacturer’s supplier was still a supplier, not a competitor, or a customer, or a purchaser. And the calculations of business strategy vis-à-vis the value chain were, thus, similarly straightforward—buy cheap and smart, add more value than your competitors, through innovation, quality, customer service and/or brand, and make your relationships with customers “sticky” so that, over time, they return to you again and again. Walmart and Target are both good examples, as was Dell when it improved its value chain model by lowering its distribution costs. Thus, costs were cut, productivity was improved and, from the equipment manufacturer’s perspective, differentiation was established vis-à-vis a relatively well-defined group of competitors. ¹¹

An upstream provider faced its own challenges as an ingredient provider, whose creation of value is “funneled” through the downstream consumer company. (This is the dilemma noted above that was expressed by device manufacturers in the pre-iPhone wireless industry.) That is not necessarily a problem with competitive markets—manufacturers can vigorously compete against one another. It is a “problem” of dividing economic surplus if the ingredient manufacturer believes that it is producing or can produce greater value in the final product than its consumer-facing customer appreciates or the consumer recognizes. Catching the consumer’s attention requires differentiation of some sort, which in turn creates economic surplus, which in turn must be divvied up among the various sellers at different stages of the process.

The classic solution was invented by Intel with its “Intel inside” branding campaign. In the 1990s, there were only two significant manufacturers of microprocessors for personal computers, Intel and AMD. Intel was concerned that consumers failed to place sufficient importance on the choice made by the PC manufacturers, like Dell or HP, of the microprocessor—a challenge heightened by the reality that the microprocessor, unlike the Windows operating system, was not even visible to the end-user. To avoid the pitfall of “commoditization,” Intel launched the “Intel Inside” brand in 1991, with a prominent label on the computers themselves, in order to influence retail decision making. Intel was not competing against the PC manufacturers; rather, its brand campaign was designed to boost Intel’s importance in the value chain while aiding the PC manufacturers in their own marketing. The importance, for our analysis, is what Intel did not do. Intel did not attempt to compete directly against its own customers through the creation of an Intel-branded computer. And, while there may be sector-specific reasons for that decision, the outcome was a traditional one in the classic value chain. Suppliers, even powerful suppliers, did not risk their downstream commercial relationships by forward-integrating into the retail market. Other examples of branded ingredients following the strategy of building strength without competing against customers include Gore-Tex in outdoor wear, Corning’s Gorrilla Glass for tablet computers, and Dolby in audio equipment.
There are examples within the traditional value chain where limited instances of deviation have occurred. Looking again at the automobile manufacturer, consider the relationship of the tire manufacturer and the automobile manufacturer. The automobile manufacturer has a direct relationship with the customer, but the tire manufacturer may also have a direct relationship with the customer. Because tires do not last the life of a car, vehicle purchasers will at some point face the decision of which tires to purchase to replace the worn tires on their vehicle. Should consumers elect to purchase Bridgestone tires, for example, they may form a loyalty to the Bridgestone tire brand. The next time consumers are in the market for a new car, they may negotiate Bridgestone tires as part of their purchase package. Thus, by availing itself to consumers, Bridgestone has made itself more valuable to the automobile manufacturer and may have more bargaining power than it would have had in the traditional value chain. But, and this is important, a tire manufacturer is not likely to displace the automobile manufacturer as the prime focus of consumer attention and loyalty when an automobile is purchased.

II. From Value Chain to Value Circle

The business arrangements that accompanied the introduction of the first two versions of the iPhone in 2007 and 2008 tell an important story of the changing dynamics that created the Broadband Value Circle.

Understand, as background, the traditional arrangement between a device manufacturer and a wireless network provider before the first iPhone came to market in 2007. The wireless carrier would subsidize the retail price of the cell phone, lowering the cost to the customer. The wireless carrier was perceived to be the entity setting the terms of the ultimate sale, combining network access with the device. Device manufacturers complained that, as upstream providers, they were disadvantaged in dealing with the customers and that the wireless carriers were exerting too much control over the retail presentation. This is a common view of any ingredient provider, which grows out of the traditional structure of a hierarchical value chain.

As a computer manufacturer, Apple already had a direct retail presence; the first Apple retail store was opened in the United States in 2001 and the iPod/iTunes package, compatible with personal computers, had been introduced in the same year.

The introduction of the 2G iPhone in 2007 signaled a dramatic shift in business arrangements. For the first time, a device manufacturer received a share of the ongoing revenue generated by its (then-) exclusive wireless carrier, AT&T; the percentage was determined by the continuing stream of revenue derived from connectivity. At the same time, though, Apple did not receive any subsidy for the purchase of the iPhone, which was sold for $399 by the end of 2007. By one calculation, Apple reportedly received about $831 for each 8GB iPhone it sold at the end of 2007—$399 for the device plus $432 in ongoing revenue from the provision of wireless connectivity ($18/month of which was paid to Apple by AT&T over a two-year period). The iPhone 2G was available in both AT&T and Apple retail stores upon its introduction, as well as online through Apple.
This arrangement seemed to mark a profound change in the relationship between device manufacturer and wireless network. For essentially the first time since the mass adoption of cell phones, a device manufacturer was willing to forgo a subsidy and, instead, bet that the value of the device would be sufficient to support the full retail price. Apple made the bet and won. Consumers lined up days in advance to buy the first iPhones, and *Time* magazine named the iPhone “Invention of the Year.”

On July 11, 2008, Apple introduced the first 3G iPhone, with access to a 3G network and GPS capability. But, surprisingly, the business arrangement shifted back, seemingly to the traditional model. Apple gave up any right to continuing income from AT&T and now decided it would take a subsidy for its device. For an 8GB model, Apple would receive $466 from AT&T and sell the device at a retail price of $199, for a total of $665, which is $166 less than it had previously received, since it had now forgone any share of the ongoing connectivity revenue.

To observers at the time, it was relatively easy to see why this would benefit AT&T, which was trading the cost of the device subsidy for the right to capture the entire stream of future income that would come from the use of its wireless network, priced then at $39.99/month for unlimited data access for residential customers. And AT&T obtained an extension, through 2010, of its exclusive arrangement with Apple. The business advantage seemed palpable; for example, in the third quarter of 2008, shortly after the introduction of the 3G model, AT&T reported that it sold 2.4 million 3G iPhones, about 40 percent of them to new AT&T wireless customers.\(^\text{14}\)

The mystery was why Apple would retreat to the traditional model. After all, Apple seemed to be getting less money and returning to a business model in which AT&T took more risk but also reaped more reward. Theories to explain Apple’s decision abounded. Did Apple believe the market would not bear a retail price of more than $200? Was the original $499 price acting as a “price umbrella” for its competitors’ prices? Was Apple trying to build brand loyalty that would translate into computer sales?

Remember this, though: The day before the introduction of the 3G iPhone, Apple opened something called an “apps store,” which was accessible through iTunes and through the new 3G iPhone.

You know the rest of the story, which is illustrated in the wiki-chart below (http://en.wikipedia.org/wiki/File:AppleAppStoreStatistics.png). Within a year, the Apple apps store offered more than 50,000 apps and had facilitated more than 1 billion downloads. In January 2011, just over three years later, those totals had risen to approximately 10 billion downloads and more than 300,000 available apps.
Apple had not traded future income for a device subsidy. Rather, the return of the device subsidy enabled Apple to sell the iPhone at a lower price and attract more users—users who would then download apps. Thus, Apple traded future income based on data usage for a device subsidy and 30 percent of the revenue it could receive from the sale of apps, reportedly totaling $30 million in the first month of operation alone; within two years, apps store revenue was estimated at about $1.4B, resulting in revenue to Apple of about $420 million.\(^\text{15}\) Even then, the full value of the bargain may not be reflected in that figure. Availability of apps may make the iPhone more valuable to consumers as a stand-alone purchase, improve customer loyalty, and pave the way to additional Apple devices—it is hard to imagine the successful introduction of the iPad without a robust supply of apps awaiting its arrival.

What has Apple done? From one commentator’s perspective, circa 2008, “the iPhone’s new business model [was] an aggressive attempt to place Apple at the center of the consumer wireless market, increase the company’s competitive power and diminish the role of the wireless carriers.”\(^\text{16}\) Put another way: appeal directly to the customer, create economic surplus, and figure out how to redistribute that surplus to its advantage, perhaps by commoditizing complements such as the wireless networks. And then use its newfound bargaining power to create the next round of innovation.
Think about the business arrangement this way. Were customers buying an Apple device, with the AT&T network as part of the package, or vice versa? The evidence suggests Apple was the draw. According to one analysis, Apple stores sold seven times as many 2G iPhones in the first months after its introduction than did AT&T stores, another analyst reported that AT&T paid Apple an additional $100 for every phone sold through an Apple retail store, creating an incentive for Apple to succeed as the primary retail outlet.

Apple stepped out of the shadow of an ingredient brand in order to stand alongside AT&T in its relationship with customers. It had become, simultaneously, a supplier to AT&T (when iPhones were sold in AT&T stores), a customer of AT&T (when iPhones were sold in Apple stores), and a competitor to AT&T (when consumers were deciding whether to purchase from Apple, either in a store or online, or AT&T).

Has it worked? Consider the following:

- Apple’s brand is estimated to have increased in value by 32 percent between 2009 and 2010, for a total of just over $83 billion. In the same period, AT&T’s brand value increased 10 percent to a value of almost $24 billion.
- One 2009 study asserts that “only 1% of a person’s likelihood to recommend the iPhone can be explained by their satisfaction with AT&T.”
- By one estimate, Apple’s gross revenue from apps could equal $2 billion in 2011, about the same size as the estimated online advertising market for 2011. And the size of the total apps market is estimated to grow almost sevenfold from 2010 to 2013.
- Since 2006—the last year Apple did not have the iPhone and iPad—through 2010, Apple’s revenues have more than tripled, from $19.3 billion to $65.2 billion. The iPhone accounts for $25.2 billion of that growth, i.e., 55% of the growth. The iPad, a related product which was sold in 2010 for the first time, accounts for another $5 billion or 11% of the growth from 2006-2010. If one looks only at the last two years, the impact is even more extreme. The iPhone accounts for 67% and the iPad another 18% of Apple’s revenue growth from 2008-2010.
- The impact on Apple’s net income has been even more extreme. Net income since the end of 2006 has grown by more than 600%, and in the last two years it has grown by nearly 130%.
- Since the end of 2006, Apple’s stock price has more than quadrupled.
- Of course, not all of that is attributable to the relationship with AT&T. While the iPhone till recently was sold in the US only through AT&T, it was also sold by many other cellular operators throughout the world. The Americas only account for 38% of Apple’s sales, so clearly not all of the benefit that Apple derived from the iPhone can be attributed to AT&T.
- Bernstein Research estimates that AT&T has nearly 21 million 3G iPhone subscribers, and describes the benefit of the iPhone to AT&T by saying: “The past three years will be remembered as AT&T’s iPhone era. By the end of 2009, the iPhone was arguably accounting for more than all of AT&T’s wireless growth.”
The reward to AT&T, however, is less apparent than it is to Apple, because the wireless segment has only a partial impact on AT&T’s overall earnings and stock performance. During 2006-2010, AT&T Wireless grew revenues by 56% from $37.5 billion to $58.5 billion and operating income by 130% from $6.6 billion to $15.3 billion. However, during that time AT&T as a whole grew revenues by only 6% from $117.1 billion to $124.3 billion and shrank operating income by 6% from $24.4 billion to $23 billion, thanks to loss of wireline access lines and the impact of the recession on AT&T’s business revenues.\textsuperscript{27} Not surprisingly, AT&T’s stock is down nearly 20% since the end of 2006, despite the strong performance of the wireless segment.\textsuperscript{28}

The iPhone experience from 2007–2008 is powerful precisely because it indicates the shift from value chain to value circle. Let’s chart the difference. Here is a very simple depiction of an Internet value chain:\textsuperscript{29}

![Value Chain Diagram]

Note that the user is geographically located very close to some companies, farther away from others, and very far away from others still. One might quarrel with the chart, but the point is that all value chains are linear—they describe a world in which some product markets have considerably easier access to the customer than others, and in which, therefore, the problem of being an ingredient is omnipresent. Nevertheless, something looks awry in this presentation. Firms that are far away from the user—search and content providers, located in the left-hand box in this example—nonetheless have powerful consumer presences.

That is because the market has transitioned to a value circle. Multiple companies that are not normally thought of as competitors but as complements, and that do not technically operate in the same product markets, challenge one another through the creation of competing value propositions offered to the same set of consumers.

A critical reconfiguration turns a value chain into a value circle. It is the ability of firms located anywhere along the value chain to approach customers directly and attempt to catalyze a new form of consumer surplus, which is not limited to their products alone. Part of that ability stems from economic forces—like modularity, interoperability, and common standards—that permit different products from different product markets to be “mixed and matched.”
part arises from the fact that the essence of “value” in the broadband market is shared widely among different firms delivering complementary products, such that success in one product market can shape the nature of demand in another product. Still, another part is a function of consumers themselves becoming participants in the value systems, creating content as well as consuming it. The outcome is fluidity and dynamism.

In the traditional value chain, all firms can be innovators in their space but they do not need to move outside of their assigned sphere of influence to be successful. Unlike the windshield manufacturer, the device manufacturer in the wireless marketplace can, and does, appeal directly to consumers in a way that shapes the purchase of the other components of the new “package.”

So a key difference between cars and the ecosystem is that a windshield manufacturer cannot easily compete with the manufacturer of automobiles. By contrast, Google, Apple, and others often can and do. With many roads to the consumer, many paths can be blazed.

The simple diagram below is intended to make plain the essential shift in geometry: The consumer in the center of the circle is only one degree of separation from all the players on the circumference of the circle, increasing the consumer’s ability to choose and, concomitantly, the ability of multiple companies to offer the consumer new value propositions. Being unable to reach the circumference of the circle (think of Motorola before its recent division into two companies, separating consumer devices from equipment) is a significant business handicap.

Consider the multiplicity of relationships depicted here:

- The iPhone, with AT&T as a provider of connectivity and the iPad, with connectivity provided by AT&T and Verizon and every WiFi hotspot
- BlackBerry, serving simultaneously as the exclusive supplier of different products to three networks: a flip smartphone to Sprint, a smartphone to AT&T, and an iPhone competitor to Verizon
- AT&T, a “supplier” to Apple but a creator of combinations that include devices from Motorola
- And, coming soon, Google Voice teaming up with Sprint to allow consumers to use their Sprint mobile phone number as their Google Voice number.

We might instead characterize all of these companies as direct competitors, each aiming to establish the primary connection to the end-user in an effort to commoditize its complements, thereby capturing a larger share of the available economic surplus.

The value circle describes a marketplace in which multiple players in separate product markets are capable of competing against one another—and capable of shifting roles quickly, while playing different roles simultaneously. A company’s supplier today may be its competitor and customer in tight sequence, or at the same time.

In essence, all of these players are bargaining constantly (or deciding expressly not to bargain) with the other players to determine roles in the value proposition of the combination of characteristics offered to a consumer. This is not to say that there are no longer value chains. Rather than defining which company provides the “ingredients” and which (consumer company) defines the “recipe,” the value chain here simply describes the relationship of companies within any value proposition. For example, Sprint is the consumer-facing company in the provision of 4G services, with HTC, the manufacturer of the EVO, upstream. But Sprint is upstream (and hidden from view) in the Kindle value chain.

Two important conclusions follow:

1. **Packages of value consisting of complementary products are being assembled, deconstructed, and reassembled without the requirement that firms specifically enter one another’s product market.**

It is not necessary to the analysis that we view product markets as collapsing into one another. It is, however, important to understand that, at a minimum, these product markets are complementary of one another. Remember that a product market consists of goods that are substitutable for one another such that a rise in price in, say, Cheerios, will shift demand to, say, Rice Krispies. By contrast, the mobile phone and the wireless network do not have to be seen as occupying the same product market; they are certainly complements in which each increases the value of the other.

Apple never went into the business of operating wireless broadband. Likewise, Amazon never built a wireless network, despite selling a package that combines the e-reader Kindle with the branded Whispernet 3G for no additional charge. Amazon’s basic description does not state, nor need it, that Whispernet is the Sprint or AT&T networks. Nor did Google need to
purchase a wireless network in order to offer the “carrier-independent”\textsuperscript{32} Nexus S smartphone, which, once purchased from Google, can be used on multiple wireless networks (although, at the time of launch, on only one, T-Mobile’s 3G network).\textsuperscript{33}

In this market, the “unit” of consumer satisfaction is much more a package of complementary products than a single product standing alone. This is important because the complementary package is what allows, for example, a bookseller to offer wireless connectivity to a customer without building the wireless network itself.

For example, let’s assume that maximum benefit to a consumer from the use of an HTC smartphone requires three additional things: a wireless network, an operating system, and apps. These are all complementary goods. So the addition of one adds value to the others. This set of complementary products constitutes a “package.”

It does not matter whether the consumer can assemble each piece of the package individually or whether the consumer makes a single- or multiple-purchase decision. The value circle is agnostic as to whether the pieces of the package are integrated (for example, through the use of a proprietary operating system). It is also agnostic as to whether the consumer technically makes a single-purchase decision (Kindle with Whispernet) or multiple decisions (as when a device is compatible with multiple wireless networks). What is important is that a firm constructs a value proposition that requires the participation of other firms and that these firms bargain with one another to divide the economic surplus that successful innovation delivers.

In the automobile example discussed above, the revenue from the purchase of a car is apportioned by the manufacturers to all the other firms on the value chain. The value circle does not necessarily operate that way. A consumer who buys a book from Amazon on her iPad using the AT&T wireless network engages in three separate transactions with three separate revenue streams, three price points, and three consumer relationships. But, and this is the critical point, the transactions are interdependent, and this interdependence—the shared value arising from the use of a package of complementary products—is what firms can bargain over. The bargaining may involve specific terms of a contractual relationship, such as exclusivity rights. It may involve payment from one firm to another for the ability to gain access to the package. It may be the purchase or subsidization of another firm’s product for the ability to engage in joint marketing.

It may also take the form of integration or contracts that reach across product markets, such as through the use of a proprietary operating system or a device manufacturer’s decision to make a device that is offered only on a designated network. Operation of the value circle does not require that a consumer be able to create every possible combination of products; rather, the critical dynamic is the ability of the market in its totality to introduce new packages of value to the marketplace that consumers regard as improvements on past packages.

Business success in this marketplace is desirable (for consumers), necessary (for investment), and transient (as each winning combination is challenged by another). In this world, a value
creator is a player with a direct relationship to the consumer that has the ability to create a “combination” of characteristics from multiple product markets where the combination creates a new value proposition for the market. The implication of being a consumer-facing value creator is that such a company can attempt to determine what other companies play which roles in the new value proposition; the value creator may be able to bargain, therefore, to capture a larger share of the new economic surplus.

2. Consumers benefit from the introduction of new forms of value.

The consumer stands at the center of the circle. As a matter of geography, that is because the circumference of the circle identifies the firms that are able to approach the consumer directly. As a matter of economics, that is because the consumer directly benefits from additional value propositions that can be created.

Consumers benefit when they trade money (and their time) for a new package of products that they prefer over older or other alternatives. The traditional economic measure of benefit to consumers, consumer surplus, calculates the difference between the maximum that a consumer would pay for a good or service and what the consumer actually paid. That difference is the benefit obtained by the consumer from the transaction. Consumer surplus fuels the marketplace: if the price of the good or service were equal to or greater than the maximum price a consumer would pay, then the market would be feeble or nonexistent. (Consumer surplus is not the only form of economic benefit; the remainder of the surplus is captured by the producer or divided among producers.)

The best method of calculating consumer surplus is to measure the demand curves of consumers. By doing so, economists can analyze the data of purchases either made or not made in order to estimate demand, and they can ask consumers directly what they would have been willing to pay. Although such data-intensive analysis is beyond the scope of this paper, a rough impression of consumer benefits can be deduced from the adoption and use of new goods and services. Benefits, in this sense, include, but are not limited to, lower prices, improvements in quality, and advances in innovation.

Take this example. At one time, the only form of telephony available to consumers was by wireline. The introduction of wireless service fulfilled a need that the market had not previously met. And wireless use skyrocketed. In the fifteen years from 1995 to 2010, wireless subscriptions in the United States increased by a full order of magnitude, from 28.1 million to 292.8 million, growing from 11 percent to 93 percent of the population. In those fifteen years, the revenue derived from the provision of wireless telephony and data rose from $16.5 billion to $186.1 billion. That level of increased spending by consumers and businesses would not have occurred but for substantial consumer benefits provided by new services to meet communication needs that wireline services did not.

Consumers value what they buy, or they would not purchase the package in the first instance. When consumers purchase a good for less than the amount at which they value the item, they
receive a surplus between the amount they would have spent and the value they attribute to the item. iPhones became widely popular when released by Apple, demonstrating that consumers value the iPhone. Although consumers had the ability to use their money to purchase different mobile devices, the utility and enjoyment gained as a result of their purchases of the iPhone was greater than the next best alternative—say, the BlackBerry.

Consumer surplus is further demonstrated through consumers’ willingness to purchase higher priced goods when a less expensive alternative is available on the market. Consider broadband adoption in the United States. In 2000, just 4.4 percent of American households had broadband Internet service, despite 51 percent having computers at home. By 2010, that gap had almost disappeared (assuming every broadband home had a computer): 71.1 percent of American homes had computers and 68.2 percent had broadband Internet service. Put another way, 96 percent of households with computers had broadband Internet access —this, even though, in 2009, the average price of broadband was $49, five times more than the average price of slower, dial-up access. When such a high percentage of people pay more for a more expensive product, the logical conclusion is that they are enjoying incremental benefits that exceed the incremental price.

Benefits to consumers derived from consumer surplus is also demonstrated by the willingness of many consumers to pay more than the market price to purchase smartphones and to upgrade to newer versions of these devices, rather than use the less expensive alternative, a basic phone with no media capabilities. Although the average price in 2010 of a smartphone was $332, and the average price of a basic phone was $61, smartphone ownership still increased 10 percent from December 2009 to December 2010. During the same period, 47 percent of mobile users also used mobile media, an increase of 7.6 percent. A recent comparison showed that it would cost consumers more to purchase the individual components of a smartphone—including a cell phone, music player and GPS unit among other features—than it would to purchase a smartphone and enroll in the least-expensive data and voice plan with a two-year contract. Under the smartphone contract, the consumer would pay approximately $1,800 over 24 months, whereas a consumer could expect to pay as much as $1,999 if he or she purchased the components separately.

Not all economic surplus inures to the benefit of the consumer; indeed, producers need to capture surplus to be rewarded for innovation. In the broadband market, device producers introduced tiered pricing for data storage capacity to successfully capture some of the surplus that would otherwise benefit the consumer. For example, Apple sells an 8GB iPod touch for $229, a 32GB iPod touch for $299, and a 64GB iPod touch for $399. Although additional memory may not cost a great deal, Apple is able to charge higher prices for larger capacity iPods and thereby capture some of the consumer surplus from consumers who are likely to use and want the iPod more.

The consumer benefits are important, as well, for what they tell us about the changed bargaining power of firms. How do we assess the strength of the relationships that customers form with companies, and the subsequent impact on bargaining power? One approach,
illustrated above, is to measure the economic performance of the companies and, to the extent possible, the products directly. Another is to think of these relationships from the perspective of brands, the intangible financial asset that helps assess the strength of customer loyalty and future financial success. According to one ranking, the 100 most valuable global brands in 2010 included:

- #1 Google
- #3 Apple
- #14 BlackBerry
- #15 Amazon
- #20 Verizon
- #22 AT&T
- #43 Nokia
- #55 T-Mobile
- #68 Samsung

Nine brands. An accurate description of the nine would include one search engine, one computer manufacturer, one e-retailer, one electronics company, two mobile device manufacturers, and three broadband networks.

An equally accurate description would be this: Nine companies, each with an opportunity to establish itself as the main attraction for consumers seeking an overlapping package of services. Each able to connect with customers directly, each able to create a value chain positioned “behind it,” and each able, therefore, to seek a greater share of consumer surplus created by new combinations.

III. Case Studies: Video Programming and 4G Wireless Broadband

This section will use two case studies—the distribution of video programming and the wireless broadband services market circa 2011—to illustrate the six key attributes of the Broadband Value Circle identified above.

The goal is not to provide a complete analysis of the market for video programming and wireless broadband services—each would be a book-length project. Rather, we will examine each to test the proposition that the Broadband Value Circle, with these characteristics, provides a basis for analysis.

To say that the value circle is a new market architecture is not to say that long-established economic principles fail to govern. If anything, the value circle confirms the belief that competition serves consumers’ interests and firms are profit maximizers. The companies operating along the circumference of the circle grapple with the factors that have been long identified as important to technology-based companies—primarily, the elimination of double marginalization in the value chain so as to maximize extractable surplus.
These case studies employ two additional principles. The existence of multisided markets is an old phenomenon that has attracted a great deal of recent comment. Such markets are of particular interest in understanding business-model experimentation in the distribution of video entertainment programming. The ability of products and services to “fit” together through common interfaces, standards, and designs is an established means of lowering transactions and switching costs, but the new “mix-and-match” ecology of wireless broadband plays an important role in understanding the distinction between “coordinated” and “integrated” innovation by firms.

— Video Programming Distribution

The wireless ecosystem has made the journey from value chain to value circle. This section will ask: Is that also true of the distribution of video entertainment programming, which includes short-form and full-length television and motion pictures?46

Certainly, change has been afoot. In March 2011, Netflix, which distributes video entertainment programming online, announced that it had licensed the exclusive rights to a new television show, House of Cards, starring Kevin Spacey—the sort of program that traditionally has been the domain of premium channels such as HBO. Said Netflix’s head of content, “Just a couple years ago, this would be completely unheard of.”47 Time Warner Cable recently gave television streaming capabilities to its television and internet customers, a move met with opposition from the television industry. Melinda Witmer, executive vice president at Time Warner Cable said, “[i]n fairness, truthfully, to all the executives in this industry that are trying to run businesses that are part of this ecosystem, it is exhausting—exhausting—keeping up with everything that is changing rapidly.”48 As a result of the pushback Time Warner Cable faced from media companies, it pulled MTV and FX from its app.49

New forms of business-model innovation, of which Netflix’s entry into original television programming is but one example, have brought significant changes in the traditional model of content creation and delivery. New forms of distribution have appeared. Parse them into three groups: Pirated material, which is illegal, has profligated (and, although important, not a subject of further discussion). Some business models, notably search, are seen as “profiting” from underlying content without being licensed as a distribution channel. (Also not discussed herein, this and the previous point are often emphasized by industry observers of the adjacent market for the distribution of music.)

The third model, and central to the analysis herein, is the rise of alternative, primarily Internet-based distribution channels, among them Amazon, Apple, Hulu, Netflix, and Redbox.

Recall for a moment the key dynamic of the value circle in wireless. Firms found it to their advantage to move away from being just an ingredient provider and toward the ability to attract customers directly through the offering of packages of value. Hence, Apple’s success and Nokia’s struggles. To the same point, companies with direct customer relationships, such as the wireless carriers, worked hard to maintain their value in the eyes of the consumer and
avoid becoming an ingredient provider. What we have seen so far, and will see in the final section, is the challenge for firms, such as Nokia and Motorola, that were unable to move closer to the consumer alongside Apple, Google, and the others. Staying outside the circle meant that they were playing the more traditional role of potentially commoditized ingredient providers, and thus faced the traditional challenges of an upstream position in a value chain. The result: A churning sea of business-model experiments, in which companies play multiple roles with one another, all simultaneously.

When compared to wireless broadband, the first question is whether content creators can be “trapped upstream.” Content creators have traditionally created the “products” that appeal directly to consumers. Whether moviegoers know which studio produced Casablanca, Chinatown, or Avatar is less important than their desire to see a specific film. At the same time, no single studio produces all of the content that any consumer is likely to watch, even where studios, such as Disney, or television networks, such as the Syfy channel, create a brand for delivering certain forms of content. Thus, the traditional assumption that there must be a distribution channel between the content creator and the customers, an aggregator of content that serves up content from multiple producers. A movie theater serves this function as does a cable operator. It may be, therefore, that any single studio would be unsuccessful in moving to the circumference of the circle because consumers don’t actually know which studios produce which programming and don’t want to go to the trouble of learning. Conversely, avoiding the circumference of the circle risks the ingredient challenge, as well as double marginalizations that shrink extractable surplus. What we are observing in video markets today is an increase in the number of outlets for such materials. Increased competition in the downstream increases economic surplus and allows either the upstream or ingredient providers to capture more of it.

The shift arises from the creation of new distribution channels. Think of Apple’s iTunes, Amazon’s new streaming video service, Hulu (and HuluPlus), Netflix, and Redbox. They can either complement or compete against traditional distribution models and they can advance, or hinder, the ability of content creators to capture a larger share of economic surplus. How? They may undermine the traditional bundling of content (through cable operators, for example) and erase the traditional product differentiation in the creation of content (in which “new” is always better than “old”). At the same time, they may offer a different form of support by supplying “long tail” demand, while delivering packages of older content (such as an entire series of a television program) that spur demand for newer episodes. Moreover, other distribution channels may appear that have their own consumer relationships, such as the manufacture of devices that combine Internet connections with traditional television displays.

The question boils down to the division of economic surplus, a division that needs to be measured not only with reference to the past flow of profit but also to the competitive alternatives that exist in the marketplace of today and tomorrow. Think of these questions:

- Do the content creators need to establish new direct customer relationships in order to avoid the risk of commoditization?
• By contrast, is the competition for the creation of alternative distribution channels so intense that distribution becomes the element that will be commoditized?
• In either case, is vertical integration becoming a more important business-model strategy?

As an initial matter, it is important to understand the choices available in the structure of distribution channels, which is informed by consideration of the economic principle of two-sided markets.

— Two-Sided Markets

Two-sided markets are familiar. The “sides” are audiences and the concept simply encapsulates the economic truth that a firm able to simultaneously provide value to multiple audiences must decide how best to maximize its total revenue through the terms of its offerings to each audience. Take these twentieth-century examples. Newspapers charged both advertisers and subscribers, but kept subscription charges low enough to ensure a large consumer audience, which maximized value to advertisers. Broadcast TV stations gave away programming to consumers in order to build a large mass audience for advertisers. The market was two-sided even though TV programming was “free” because the economic purpose of free broadcasting, from the broadcasters’ perspective, was to build the audiences that would support advertising revenue.

The common denominator: The operator of the “intervening platform”—newspapers, websites, real estate brokerages, credit cards, etc.—desires to deliver value to multiple audiences by acting as a necessary enabler, while structuring access and usage to its services in a manner that will maximize its revenues. The critical characteristic of two-sided markets is the firm’s ability to play a “Coasian” role in connecting multiple groups of people at a low, but not zero, cost—a cost that can then be recovered, with a profit.

Think again of a newspaper. The potential for profit in this marketplace derives fundamentally from the imperfections of the real world as against the perfect world envisioned by the Coase Theorem. In the world of Coasian efficiency, advertisers (say, the local pharmacy) can find customers and customers can, in turn, find the pharmacy without having to rely on the presence of a newspaper. In the real world, however, the transaction costs of doing so—of the pharmacist identifying and calling every potential customer one by one—are just too high. The newspaper creates a marketplace that significantly reduces those transaction costs. As such, the businesses and customers who want to “meet” each other will find it rational to pay some sum (a subscription or advertising fee), in principle up to the amount of the transaction cost they believe they are saving, to obtain access to the newspaper.

The print edition of The New York Times is a real-life example. It sells advertising to companies that want to reach readers, and sells newspapers to readers who want to read the news. The New York Times generates two streams of revenue from two different demand curves—readers’ subscriptions and advertisers’ fees. It has to decide how much to charge readers for a
subscription, by calculating the demand curve of readers—without so limiting its audience as to
be less attractive to advertisers. It has to decide how much to charge advertisers—and how
much advertising it can sell—without so cluttering up the paper that it no longer appeals to the
readers who are motivated to buy and read the paper principally for the news. The demand
curves are interdependent. The New York Times’ move in early 2011 to an online subscriber-
fee model is an effort to apply this traditional model to the Internet. So was the debut of News
Corp.’s iPad-only newspaper, The Daily, which charges a subscription price while selling
advertising space.

Google has made a different choice. Google could charge a penny per search—and probably
garner a lot of revenue. But it has decided instead to provide free access to its search engine,
which yields an audience of great value to its advertisers—for which they pay.

Nintendo has yet a different model. Its gaming consoles garner two revenue streams—one
from game developers who pay for the opportunity to be “on” the console and another from
gamers who purchase the machine. It would be perfectly reasonable to ask: why shouldn’t
Nintendo give away its consoles to gamers and charge higher fees to the people who write the
game software? Or, alternatively, charge gamers twice as much for the console while
subsidizing the developers who design the games that make the machines so attractive?

The current competition in video content distribution is a striking example of competition
between one-sided and two-sided business models. Consider the examples in the following
chart—a baker’s dozen of providing video programming to consumers.

One-Sided and Two-Sided Market Examples in Video Distribution

<table>
<thead>
<tr>
<th></th>
<th>One-Sided Consumer Charge</th>
<th>Two-Sided Charging One Side</th>
<th>Two-Sided Charging Both Sides</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amazon OnDemand</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apple iTunes</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blockbuster</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Network TV</td>
<td></td>
<td>Over-the-Air</td>
<td>Advertisers/Cable Operators</td>
</tr>
<tr>
<td>Cable Networks with “TV Everywhere”</td>
<td></td>
<td>Advertisers/Cable Operators</td>
<td></td>
</tr>
<tr>
<td>Cable Operators</td>
<td></td>
<td>Advertisers/Consumers</td>
<td></td>
</tr>
<tr>
<td>Hulu</td>
<td>X</td>
<td></td>
<td>Advertisers/Subscribers</td>
</tr>
<tr>
<td>HuluPlus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Netflix</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Redbox</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>YouTube</td>
<td></td>
<td></td>
<td>Advertisers</td>
</tr>
<tr>
<td>Walmart/Vudu</td>
<td>Walmart - DVDs &amp; Vudu - Streaming</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Some of these companies, such as iTunes, Netflix, and Amazon, operate in a one-sided market, charging consumers a fee for programming and not attempting to convert the size or demographics of that consumer audience into a resource for other direct revenue streams. In making this choice, iTunes has decided upon a value proposition that offers content without advertising for a fee, a value proposition that is founded on the one-sided nature of the offering—one set of customers, one basic demand curve.

Hulu has taken a quite different approach, offering streaming video with embedded advertising that is free to consumers, and so paid for entirely by advertisers. Here there are two audiences whose demand is critical to the success of the Hulu business model, but basic Hulu (like Google search and twentieth-century broadcast stations) has determined to seek revenue from only one side. Note the subtle difference between iTunes and Hulu—both have only a single stream of revenue, but Apple has eschewed providing value to advertisers; Hulu’s “free” offering to customers exists to build demand for advertisers.

But HuluPlus, which offers programming not available on Hulu and which is the only way to access Hulu content with an iPad, operates like Nintendo, charging a subscription fee and also earning advertising revenue. Indeed, the HuluPlus model is the most prevalent among these dozen means of distribution. Cable networks, such as ESPN, garner revenue from both advertisers and cable operators, such as Comcast. Similarly, Comcast and other cable operators receive revenue from both advertisers and consumers.

Which means that consumers are presented with concrete choices between business models. Both Netflix and HuluPlus offer streaming subscriptions to consumers for $7.99/month. HuluPlus offers newer programming and includes advertising in its programming. From a consumer’s perspective, is the “cost” of watching ads greater than, equal to, or smaller than the benefit of new programming?

Another example of the impact of two-sided market models occurs in the well-known fights over “retransmission consent,” which are contests between two businesses, each with a two-sided business model. Fox Sports was unavailable during the first two games of the 2010 World Series to customers of Cablevision because federal law gives broadcast stations the ability to charge cable operators for the right to use their programming, even though such programming is broadcast for free over the air. Broadcast stations are shifting from the twentieth-century model of a two-sided market that sought revenue from only advertisers to a two-sided market in which both the cable systems pay and advertisers pay. That is not surprising since pay TV is purchased by about 106 million of the estimated 116 U.S. households that have television. With broadcasters observing that cable operators can charge a subscription while paying cable networks for access to their programming, the idea of charging both sides of the market is obvious, especially when the broadcast station, as in the case of Fox, is owned by News Corp., a company that owns both cable networks and broadcast stations. Such companies are seeking to charge for all of the content—cable and broadcast—that they provide to cable operators.
Cable operators are operating a two-sided market supported by advertising and consumer subscription fees, and they would presumably prefer to pay less, rather than more, for content. In 2009, according to estimates by In-Stat, cable operators received about $65 billion in subscriber revenue, $24 billion in advertising revenue, and $11.5 billion in direct fees from, among other sources, premium channel subscriptions. Of that, cable operators paid about $22 billion to content creators, including $1.3 billion in retransmission rights. That is a small contribution to TV network revenue, which, in 2009, was about $47.2 billion ($45.9 billion coming from advertising), but important to an advertising-based business model that is estimated to be steadily decreasing over the next four years.\textsuperscript{54}

— Applying the Broadband Value Circle

We know that the operation and use of the two-sided markets is an important part of business strategy in the distribution of video programming. But the traditional use of two-sided markets operates within the dynamic of the Broadband Value Circle and its six basic tenets. Here we will look to see whether the six elements of the Broadband Value Circle apply, in all or in part, to video entertainment programming.

First, many companies, traditionally associated with different product markets, can offer competing value propositions directly to users, all based on video programming. Each of the following kinds of companies (and the graphic is merely illustrative) has a value proposition that is built upon video programming, but which approaches the consumer from distinct angles.

The Broadband Value Circle as Applied to Video Programming
The distribution of television shows used to follow a straightforward value-chain path. Studios produced programs, distributed them to broadcast networks (sometimes these were vertically integrated) that sent them along to local television stations, which then broadcast locally into simple devices (televisions) that were located in people’s homes. This was the world of I Love Lucy and The Beatles’ inaugural performance on The Ed Sullivan Show. Once broadcast, this content evaporated into the thin air from which it had arrived—unavailable to consumers to watch at any other time, unless rebroadcast.

Today, what choices are available to consumers? Consider “A Very Glee Christmas,” which premiered on the Fox network December 7, 2010. As Fortune magazine recently noted, the episode was also available for viewing, in different time windows with different fee arrangements, over Fox.com, Hulu, Comcast’s Xfinity, Amazon.com, iTunes, and Netflix.55

In this world, how will consumers decide what package of content/device/distributor they most value? In particular, will they replace the traditional model of buying a package of content through a cable TV operator?

This is the “cord-cutting” discussion: whether consumers will cut off their cable subscriptions and use the Internet alone. But the decision today is not merely binary choice between cable and Internet (or use of the Internet to substitute for some cable content, a concept that has been labeled “cord-shaving”56). As noted above, the traditional approach is to assume that consumers wish to patronize an aggregator, a venue that provides content from multiple sources. That can be a movie theater, a television network, or an online service. That view would counsel against the ability of any single content creator forming a strong relationship with customers who presumably don’t want the content of just one movie or television studio. But that assumes that aggregation is a time-consuming, costly task that must be intermediated through the erasure of Coasian costs. In a world of applications, is that still true? Why can’t the iPad be the aggregator, and the job of collecting content simply be the task of collecting applications from various content providers in a single “entertainment” folder? ABC Television has launched just this kind of iPad app, which provides direct access to selected ABC programming. And Hulu is a venture jointly operated by studios as a distribution channel of their own content, thus achieving both distribution and a closer connection with the consumer. Even closer is the existence of a vertically integrated firm that owns both content and distribution, such as, in various ways, Disney, News Corp., and Viacom. As with the wireless market, the presence of a distribution channel operated or controlled by the content creator does not preclude simultaneous distribution of the content over other channels and simultaneous licensing of competitive content from another content creator. Moreover, studios are trying new methods of direct distribution. Warner Bros., for instance, has just become the first studio to rent a film (The Dark Knight) through Facebook, “a way of skirting those middleman distributors” like Netflix.57

On the other hand, consumers may not know or remember which film or television program is created by which studio, which suggests that aggregation could be as easily introduced through a search function as through an aggregation of programming in a traditional cable model.
Netflix uses search in this fashion. And if search is king, then, voilà, the idea for Google TV, an Internet and search-enabled device.

That is not to ignore the devices themselves. Samsung offers devices that play video on a television, a tablet, and a smartphone. That’s a potential hardware ecosystem in itself, which Samsung is empowering by allowing its hardware devices to share content with one another, by opening its own media store with movie and TV content, and through the creation of its own apps for its televisions, including the offering of games and video content. Similarly, Microsoft’s Kinect provides a device-focused value proposition that may be easier to use, such as through voice recognition, and connects to Netflix and the Windows Media Center.

The potential for simultaneous and multiple distribution channels can also challenge existing arrangements. Like the Glee example presented above, here are different ways that a viewer can watch 30 Rock today. Assuming, for the moment, you are indifferent to whether you see new or older episodes, the list includes at least:

- The NBC television network, its website, and its broadcast stations
- Cable operators, including their own Internet offerings
- Hulu.com
- Netflix (streaming or DVD)
- Amazon.com
- iTunes
- Walmart

Consider a cable operator’s perspective. Its cable network is a distributor of content of 30 Rock. At the same time, that cable operator is competing with Hulu.com’s distribution of the “same” content, with Walmart’s subsequent sale of that content on DVD, and with Netflix, with its blend of rental DVDs and streaming video.

The cable operator can be simultaneously a supplier of TV content, an Internet competitor to its own traditional cable network, and an Internet competitor to its supplier’s own Internet distribution site. Given these complexities, it is not surprising that the nation’s largest cable operator, Comcast, chose to purchase the creator and owner of 30 Rock, NBC Universal. For distributors of television programming in Comcast territory, like satellite television systems or Verizon FiOS, the competitor is now also a supplier. 58

But that’s not the end of the distribution alternatives. How do you find a video on the Internet? Try searching 30 Rock on Google and you might see two paid ads, one from NBC and one from Amazon, both generating revenue for Google. Or you might navigate to the NBC site through Facebook’s 30 Rock page, on which Facebook also sells advertising. In fact, in 2011, Facebook is poised to pass Yahoo! to be the second most popular method, after Google, for finding video on the Web. Or wait for Google TV to become a robust mechanism for leaping from television to content (as Netflix is also attempting with its “one-button” capability on hardware devices), or use a gaming console.
That said, not all distribution channels are equal. Beyond the obvious “bricks v. clicks”
distinction—which may go to consumer convenience—buying environments may not all be
equal. To date, Netflix has established a very attractive mechanism; YouTube, less so. Is that a
matter of convenience, clutter, or business model (subscription fee versus advertising
supported)? And the ability to target, through tools used by companies as distinct as Amazon,
Google, Netflix, and iTunes, may be important in providing consumers with personalized
recommendations that increase the frequency and/or value of transactions. A critical
question: How much bargaining power can be created through the invention of an alternative
retail space, as opposed to the creation of content, a device, or a different mechanism of
distribution?

The ability of a non-content provider to become the gateway to content depends on the nature
of entertainment content. The nature of content is a critical variable in understanding the
appearance of multiple value propositions built around different product markets. If content is
highly differentiated, then content owners would seem to have a distinct advantage in
determining who can distribute their content. On the other hand, if various forms of content
are easily substitutable for one another, simple economics suggests that more avenues of
distribution would come to market and, more importantly, the winning “combination” of
content and distribution might not be the one that is most rewarding to content owners.

Understanding the bargaining inherent in this world requires a closer look at the product being
delivered. Just as there can be no market for mobile broadband without broadband
connectivity, there can be no market for video entertainment programming without the
programming itself. That is important because, if content is not king, then alternative forms of
value, such as distribution models, broadband connectivity, or retail relationships have a
greater opportunity to employ content as an input into their own business models.

In fact, a key question for commercial relationships in 2011 is precisely this: To what extent do
consumers differentiate between content based on its age? The video market operates on the
simple principle that “new” content is fundamentally more valuable than “old” content. Thus,
timing is believed to be important to business models as reflected in “windows” of release. A
classic example might be a film that is first released theatrically, then made available for
ownership on DVD and through on-demand cable services, then available for DVD rental, then
over premium cable channels, and finally through online streaming. The theory of product
differentiation here is not based on any change in the content. It is based on the fundamental
view that a “new” movie is a different product than an “old” one and, therefore, different
forms of value exist during the initial theatrical release, the subsequent transactions window
and, finally, the pay window that includes outlets like Netflix. That makes release windows an
important basis for bargaining and value creation. For example, Blockbuster, although in
bankruptcy at the end of 2010, was perceived by some to have a potential advantage over
Netflix, which has to wait an additional 28 days before it can offer a film on DVD. But what if
consumers are less sensitive to the difference between new and old content than traditional
models assume? For lower fees, consumers may be satisfied with older content. This is
precisely the argument made, for example, by defenders of Netflix who argue that for a fee of $8/month, the flow of older content will, nonetheless, satisfy a growing customer base.

The foregoing discussion does not suggest that content is anything but a critical factor—it is, still, the product that defines the market (much in the way that wireless broadband connectivity defines the market discussed above). But changed consumer behavior provides a basis for companies like Netflix, which seems successful, and Walmart, which seems less successful, to make the relationship with customers preeminent in the creation of value propositions.

Nor should this be taken as a conclusion that all kinds of entertainment content would be treated the same way, even by consumers with greater indifference to the age of content. *Dancing with the Stars* and other competitions may be much more differentiated from their previous seasons than television dramas because the fact of competition, as with sports programming, may create a temporal currency that creates a short window of maximum consumer benefits.

The point is simply that the creation of content becomes another basis, and not the exclusive basis, for bargaining, and a potential way to shift bargaining power. Just as the Broadband Value Circle predicts, Time Warner, owner of Warner Bros. studio and cable networks, sees online distributors like Netflix as simultaneously “potential partners” and “competitors to us and other content companies.” This is consistent with the description of a value circle as a place in which many companies, traditionally associated with different product markets, can offer competing value propositions directly to the consumer.

Second, in applying the tenets of the Broadband Value Circle to video programming, we consider the effect of the market on bargaining among companies. Here, evidence suggests that companies are dividing new economic surplus in ways that reflect their ability to create value propositions, play the “central” role in their composition, and reach directly to consumers consistent with the definition of the value circle. At the beginning of 2005, the year YouTube was created and iTunes began to support video, essentially no one was watching video programming on the Web; now, it is ubiquitous.

So, what form is the bargaining for that consumer surplus taking? To sharpen the point, consider Netflix, which was one of the hottest stocks of 2010, up 219.9 percent for the year 2010. Netflix’s success was fueled by its adroit transition from supplying DVDs, a declining technology, to supplying streaming video, with DVD as an adjunct. It introduced a plan by which consumers can have access to its streaming content for only $7.99/month and raised its subscribership to about 19 million by the end of 2010. According to one study, Netflix alone accounts for about 20 percent of all U.S. Internet traffic during prime-time hours through its supply of streaming content. Another study concluded that, in the first two months of 2011, Netflix “accounted for 61% of all digital movie watching (including both downloads, like iTunes, and rival streaming services).”
Netflix’s success fueled both discontent and skepticism. Hulu executives were reported to be “very upset by NBC Universal’s decision [in October 2010] to offer episodes of Saturday Night Live to Netflix the day after they air.” According to The Wall Street Journal, movie and television studios have a “big worry that the company could end up dominating the electronic distribution of movies and TV the way that Apple Inc.’s iTunes dominates music.”

Critics of the current Netflix business model contend that its success is built on fees for content that are too low to last. For example, in 2008, Netflix obtained online access to the Starz channel content for $25 million, but then paid $1 billion in 2010 to Epix, a pay-TV service operated by Viacom, Lionsgate, and MGM, for access to their television and film libraries, and will have to renegotiate the Starz deal in 2011. In 2010, however, Netflix closed content agreements with content providers that include Disney, NBC, and Warner Bros. In early 2011, Netflix entered into an agreement with CBS, a transaction that bolstered the view that deals would be made, and that they would advantage, not disadvantage, content creators by offering a new outlet for older material; in CBS’s case, that includes such television series as Cheers and Star Trek. Netflix further grew its streaming capabilities in April 2011 through an agreement with 20th Century Fox, allowing subscribers instant access to “Glee” and “Sons of Anarchy,” as well as older Fox content.

Indeed, Netflix, in early 2011, depicted itself as a producer of value to content creators, not a competitor to their new offerings:

> Our primary strategy is to offer complete previous seasons of shows rather than offering those shows the day of, or a few days after, broadcast, during the critical ratings and revenue window. This is in the best interest of content owners and is consistent with our desire to offer a very low-cost service for consumers. As with theatrical ticket sales, VOD and the 28-day DVD sale window, this allows studios to capture the market for those most interested in seeing content right away. You will occasionally see us offering shows the day after broadcast, as we do with “Saturday Night Live,” or 15 days after broadcast, as we do with Disney Channel programs, but it doesn’t represent a change in our overall TV strategy.

On the other hand, Netflix’s decision to obtain an exclusive license for House of Cards looked like competition, not cooperation, suggesting to one observer that Netflix either wishes to become the next premium channel, à la HBO, or that it was seeking greater leverage in its content negotiations with studios; if it doesn’t get what it wishes, Netflix “can threaten to make 10 more House of Cards series and put a real dent in HBO, or your cable company.”

As another commentator said, “It’s hard to know which platforms will emerge as dominant ones as newer and newer technology is introduced into the marketplace, so most content creators will likely do what they can to deliver that content to a consumer in every possible way that the consumer wants it.” Or, to put it in the language of bargaining, “[s]ome media executives hope that competition for content among tech companies will inspire an arms race that will bid up the value of their offerings.”
Netflix has its own competitors. In February 2011, Amazon announced that it would provide free streaming video to customers who purchase its “prime” shipping package that, for $79/year, provides free two-day shipping for Amazon products. Redbox is joining the fray as well, leading to the inevitable assertions that “[t]he race to the bottom in margins is now in full force in this space,” although the contrary view was also expressed—Netflix has too big a lead to be caught by an online competitor.

At the same time, traditional sources of revenue for studios are either falling or growing very slowly. By one estimate, U.S. box office receipts, video disc sales, pay-TV channel fees, broadcast TV, and video disc rentals will all decrease or (in the instance of box office receipts) increase by no more than 1 percent between now and 2015.

For 2009, the major film/TV studios lost money on theatrical releases, a deficit that was largely compensated for by home video sales revenue, with positive contributions from online downloads and pay-TV licensing. A decrease in video sales, accompanied by a 1 percent increase in theatrical receipts where losses already run ahead of costs, would seem to require a dramatic shift in revenue opportunities.

So the bargaining situation is this: The creators have every incentive to boost the value and revenue of their content, and thus be able to charge more to online distribution channels so that more of the surplus from those new distribution models comes to the content creators. They may even wish to distribute content exclusively themselves. Indeed, from the content creators’ perspective, the distribution mechanisms like Netflix and iTunes may be seen to contribute little of value themselves. As the CEO of Time Warner colorfully described Netflix’s ambitions, “It’s a little bit like, is the Albanian army going to take over the world? I don’t think it is.”

And yet, Netflix and iTunes have distinct bargaining advantages as well. Their strengths are complementary, which is why some industry observers suggested at the end of 2010 that Apple should buy Netflix or in 2011 that Netflix should consider buying Blockbuster. Netflix and iTunes have customers, about 170 million of them at the end of 2010, brand strength, and, in Netflix’s case, it is featured on Web-connected TVs and set-top boxes, and has enjoyed strong adoption of its iPad app. Remembering Clayton Christensen’s classic description of the “Innovator’s Dilemma,” analyst Mary Meeker described Netflix as the kind of company that begins by introducing a product that is neither profitable for incumbents nor demanded by the customers of the incumbent but then proceeds up the value chain, attacking the incumbents directly, albeit with a lower cost structure. Looking forward from the end of 2010, she predicted that Netflix would pass HBO in its number of subscribers in 2012. One investment analysis argues that Netflix, with international growth in subscribers, will be able to afford 60 percent of “desirable” content in five years, or about $2.4 billion in annual payments.

The question of bargaining over economic surplus has additional dimensions. Consider the price of bandwidth. Could last-mile networks capture a larger portion of the value conveyed by the popularity of video programming, and ease the financial burden of additional traffic on their
networks, by moving to more usage-based pricing plans of the kind introduced by AT&T wireless in 2010.\(^78\)

Third, as the Broadband Value Circle’s principles suggest, the market is dynamic and swift, with competing combinations of value changing in rapid succession.

The missing actor in the bargaining discussion immediately above was the cable operators. By some measures, their traditional model is under pressure; cable subscriptions actually declined in 2010. Amid the debate over “cord-cutting,” the attraction of Internet-based video cannot be denied. And about 65 percent of their revenue comes directly from subscription fees (advertising revenue and premium revenue supplies the rest).

Thus, the introduction of “TV Everywhere.” The concept is simple—along with a cable TV subscription comes the ability to access cable content on multiple devices in multiple places. To put it another way, device and geographic mobility are bundled into the cable subscription. In October 2010, Comcast launched such a service, and now an app, Xfinity.\(^79\) But sailing has not been entirely smooth. In early 2011, some cable networks asserted that Comcast lacked the right to make their networks available over the Internet.\(^80\) At least one other cable operator put its own plans on hold precisely because of the inability to secure such content rights.\(^81\) Supporters of the idea include both Time Warner, a content provider, who as previously noted gave television streaming capabilities to its television and internet customers, and Verizon, with its FiOS competitor to traditional cable operators.

One advantage for content creators comes from the combination of the per/film rental price (say, $6 for an HD film), the lower cost of distribution (compared to a DVD), and the retention of the cable-operator platform as a vehicle of direct payment and fees for premium channels, cable channels, and broadcast carriage.

Opinions are divided on the likely success of the idea. One analysis depicts Comcast as “desperately trying to arrest the flight of basic video subscribers to alternative pay-TV service providers or the Internet,”\(^82\) while others suggest that the arrival of TV Everywhere represents the triumph of the cable operators.\(^83\)

Of course, bargaining can be impacted by changes in corporate structure. The recent Comcast-NBCU transaction raises the question whether the vertical interpretation of content creation and distribution will fundamentally shift bargaining power now that content created by NBCU can reach Comcast customers without traversing any other means of distribution.

But that is only a small subset of content creation and delivery. Comcast cable serves about 23 percent of U.S. households with access to cable systems. And those households do not consume content only from Comcast, or even content only delivered by Comcast (to the extent they patronize Apple, Netflix, etc.). Nor do the cable and broadcast channels owned by NBCU deliver only content produced by NBCU itself. Outside of the geographies served by Comcast cable, the distribution of NBCU’s content is, thus far, exclusive of Comcast entirely (in part because Comcast does not distribute its Xfinity online service to nonsubscribers). Moreover, a
series of governmental conditions were placed on the Comcast/NBCU transaction that limit the ability of NBCU to favor Comcast in content delivery.84

To what extent, then, does vertical integration erase or ease the complex interactions between content creators, on the one hand, and distribution channels, on the other? Speaking in early 2011, Comcast executives described the transaction as “transformative to our content assets, as we now have scale in both content and distribution.”85 But holding scale in each does not mean that a new level of scale economies is achievable across content creation and distribution. In their reviews of the transaction, the Department of Justice and the Federal Communications Commission were skeptical that economic efficiencies would be gained through the combination of Comcast and NBCU.86

None of this is to say that the Comcast–NBCU transaction does not make business sense. But it is unclear at the moment whether the transaction by itself dramatically shifts the ability of content creators to capture a greater measure of economic surplus than distribution channels, or vice versa.

The unpredictability of the situation makes the point: No one has yet produced the conclusive “winning” strategy, and those unknowns incent continuing, rapid innovation in business models, as the Broadband Value Circle suggests.

Fourth, the purchaser/creator at the center of the circle is playing a fundamental, and not simply passive, role in the formulation of new value propositions. Consider the evolution of our thinking about the role of individual purchasers of goods and services. In the mid-twentieth century, a consumer was someone who was satisfied with a telephone that came in one color—black—and later was pleased to have the choice whether to rent a standard telephone or a spanking new “Princess” telephone available in five different colors.87 Then came the demanding consumer, shaping demand by insisting that products and services reflect customized tastes. Global companies test products now in South Korea precisely to learn what demanding consumers will require, in markets ranging from appliances to cosmetics to consumer electronics.88

At the center of the Broadband Value Circle, the consumer exerts not just powerful influence in shaping demand, but also acts in a newer role—a co-creator of value. Think of people who move seamlessly from demand to supply and back again. A person who films and posts a parody of 30 Rock on YouTube is a value creator. So is someone who creates a Facebook home page that supports advertising or who comments on (or shares links to) video programming via Twitter. If one stands at the center of the circle, it’s possible to be simultaneously an audience for, a competitor with, and a partner of, Tina Fey. One can watch, create funny videos, or help foster a larger community that boosts 30 Rock. One person—three simultaneous and shifting roles in the Broadband Value Circle.

The fundamental change is this: consumers, especially those who create content, are more than passive recipients and more than demanding patrons. They are active participants in the
world of value creation. They are no longer just “buyers,” and they are more than even “discriminating purchasers.” They are, to no small degree, partners with the businesses. They may not be paid but, as the open-source software phenomenon has so powerfully demonstrated, sustainable political economies can achieve quite remarkable results even in the absence of traditional monetary compensation. They may not bargain collectively, but they can unite—as Facebook has discovered more than once. They may not be seeking capital for innovation investments but, in a real way, they are the capital on which firms are premising their own experiments in business modeling.

YouTube tells the tale. The question isn’t whether the content is as compelling as that created by professionals. The question is whether that content is an economic input to value creation. On the first weekend of 2011, the most watched video on YouTube featured a biting British baby, which had racked up more than 265 million views. Watch it today on your computer and it features advertising, supplied by YouTube’s owner, Google. And, even as YouTube pursues the licensing of professional content and full-length programming, content is being added to its website by amateurs at an astounding rate—by one calculation, 35 hours of video is added to the site every minute.89 The result: About 490 million users in 201090 and advertising revenue estimated at $600 million in 2010,91 as advertisers become more comfortable with having their brands associated with user-generated content.92

Fifth, all of the players in the Broadband Value Circle are making strategic decisions amid conditions of deep uncertainty. First, the pace of change is increasing. As one industry veteran said, when DVDs came out, six months of planning preceded their commercial introduction; now new business models appear almost daily. Second, as a result of the Broadband Value Circle, the number of players who can introduce change has increased. Third, the introduction of new technologies provides additional tools for change. Thus, not only are there more ways in which value is created, but the ability to predict the path of value creation has become much more difficult. That poses challenges to firms whose ability to add up the links of the old value chain into a new value proposition is now more complicated.

Here’s one example. Will consumers want to “own” films as opposed to renting them? Ownership has been a big win for content creators, supplying more profit in 2009 than theatrical distribution, which actually operated at a loss. On the other hand, the growth of Netflix suggests that the disc is dying and that rental is the future. Ownership is a big question since the act of ownership is likely to provide content creators with a larger share of the economic surplus.

Can ownership be detached from the standard disc? And how much does a viewer value owning some movies versus paying a monthly fee to be able to continue to access those movies on demand? Technologists tend to dismiss the distinction as an artifact of limited broadband speeds and broadband quality that will disappear as broadband networks expand. But the difference may look very different to a content creator. For example, on the day that The Kids Are All Right was nominated for an Academy Award as Best Picture of 2010, it could be purchased from Amazon for $18.99,93 or rented either on iTunes for $4.99, or on Redbox for
$1/night, or through Netflix as a DVD for a price that reflects the amortized usage by a customer within a month. Or, put another way, the sale of a DVD for $15 yields profits to the content creator of about $6 to $8.

From a movie studio’s perspective, that is a striking difference in revenue. If price is the driver of decision-making, then the revenue potential shrinks at the stage of the distribution process in which all of these alternatives are available.

In other words, take the inherently dynamic nature of technological change, add the presence of shifting competitive relationships, the ability of multiple companies to create competing value propositions, and multiple end-user roles, and you have entered a world in which uncertainty is a fundamental aspect of strategy.

Sixth, one uncertainty, however, is related to consumer surplus. Because consumers place value on new value propositions, they directly benefit from new forms of value. What configurations of content will provide additional forms of consumer surplus? The question, much like the question about the timing of content, is whether consumers recognize a difference now and, if not, whether the timing of release and the nature of ownership can be changed by the content creation. At the International Consumer Electronics Show in January 2011, six major studios, along with hardware and software companies (but not Disney or Apple) introduced “UltraViolet,” a cloud-based service that will provide “continuing access” to content across devices once a single purchase of the film is made. The potential in this service, as with any cloud-based service, is that additional content can be easily added even after the original purchase is made (say, a video of cast members accepting Oscars months after a film has been released). And Warner Bros. has started establishing apps for movies that aid ownership.

In sum, the video entertainment market is moving much closer to the value circle. But it’s not there yet, and given the degree of uncertainty, it might never make it. To revisit questions set forth at the beginning of this section:

- At the moment, content creators appear to prefer bolstering the traditional means of distribution, through cable operators, over a full-scale shift to the direct distribution of their own content without the use of an intermediary, although the future of online distribution through Hulu, given its ownership, and video-based apps for computing suggests that both paths remain possible.

- The competition for distribution channels is seriously uncertain in two important respects. The extent that Netflix and similar distribution methods will reap larger benefits from the creation of the economic surplus that comes from, say, watching videos on an iPad, is not certain. The ability of any one non-traditional distribution channel (both online and through DVD rentals) to avoid commoditization at the hands of competitors is also uncertain.

- The Comcast/NBCU transaction certainly suggests that vertical integration may be a mechanism of “solving” the dilemma of whether it is the content creators or distributors that are in the best position to capture margin but, of course, vertical integration cannot
be a complete response so long as the distributor simultaneously needs other content and the content creator simultaneously needs other means of distribution.

— **Wireless Broadband**

We started with the introduction of the iPhone in 2007. Now fast forward to the opening month of 2011. What has changed?

- The advent of the 4G networks, although not yet ubiquitous, brings wireless broadband with speeds equivalent to or faster (5–10 megs) than traditional wireline residential connections.
- The introduction of the iPad in 2010 sparked a tablet boom that spawned rival tablets in 2010 and the announcement by Motorola Mobility (the wireless company spun off from the former Motorola) of a 4G tablet in early 2011.
- Google’s Android platform narrowly passes Apple in the share of smartphone subscribers (both behind RIM’s Blackberry system).96
- Apple’s iPhone is available on both Verizon and AT&T networks and the introduction of the iPhone on Verizon sparks competitive responses.
- Consumers continue to supply content to mobile networks, both in point-to-point communications (talk, text, e-mail), and one-to-many communications (like uploading to social networks).

In this section, we will use the evolution of the wireless broadband market to discuss (i) an important economic choice faced by market participants (namely, the decision whether to engage in “coordinated” or “integrated” innovation of the kinds seen in the competition between Android and Apple), and (ii) whether recent market changes reinforce, or contradict, the description of the market as a Broadband Value Circle.

— **Defining the Locus of Innovation: Coordinated vs. Integrated Approaches**

The distinction between “open” and “closed” systems is well known and has proven to be important, especially to the creation of public policy. Recognize, however, that the terms “open” and “closed” tend to view the impact of an economic decision from the perspective of customers and other external actors.

An additional way to view the creation of innovation is to distinguish between “integrated” and “coordinated” innovation. The change in nomenclature shifts from the perspective of the outsider (whether a system is open or closed to participation or use) in order to ask, for a moment, what the decision looks like to the innovator.

In some sense, the traditional, closed model looks like integrated innovation, while the open model implies a form of bargaining between economic actors. But the purpose is not to make a linguistic substitution; it is to introduce new, additional terms in order to highlight that the choice between innovation models has an important managerial dimension that is too often
overlooked. Someone has to “run” a system of innovation. In a sense, coordinated innovation depends primarily on making deals with outside partners, which may be tricky and uncertain but rewarding by including a rich diversity of ideas, whereas integrated innovation depends primarily on making decisions in-house, which may seem far simpler and more certain but risks insularity that can deprive a firm of both innovative progress and the marketplace rewards of wide adoption, including network effects and standards-establishment.

Coordinated innovation is simply an agreement to share something for mutual gain—a win-win agreement where both (or multiple) organizations will be better off than the alternative. It thus requires the conscious conclusion that control over internal processes will produce less gain than bargaining with external players, which might be other companies, universities, research centers, or, in today’s lexicon, “crowdsourcing.”

Coordinated innovation is a strategy available to corporations seeking forms of mutual advantage rather than concentrating on what their own R&D efforts will produce internally. But, in the hands of a business, it isn’t simply a generalized philosophy of “openness” or “closedness” applicable to all aspects of the business model. Rather, coordinated innovation is a tactic to be used as companies bargain their way around the circumference of the value circle.

The ability to bargain for innovation derives from two similarly titled but distinct notions. “Open-source” products, such as software or operating systems, constitute “an experiment in social organization around a distinctive notion of property,” namely, “the right to distribute, not the right to exclude.”97 By contrast, the concept of “open innovation” is quite compatible with the traditional definition of intellectual-property rights. As described by its leading academic exponent, Henry Chesbrough, open innovation is “...the use of purposeful inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively.”98

Open Innovation is a break from the twentieth-century model (think Bell Labs or Xerox Parc) in which R&D was conducted exclusively for a particular corporation through a vertically integrated enterprise. The Open Innovation Model views this approach as suboptimal, even wasteful. As Chesbrough has explained, “... [i]n Open Innovation, useful knowledge is generally believed to be widely distributed, and of generally high quality.”99 Thus, open innovation understands that useful knowledge can come from “the outside” and that, conversely, as Kevin Rivette and David Kline have explained, internal knowledge captured in intellectual property may have a value in the outside world that a firm’s specific business model is not able to capture.100

Companies choose between internal and coordinated innovation. Under the old model, companies resisted open innovation because they were concerned about losing control over their products or capturing a smaller share of the surplus. Now, companies choose whether innovation is internal or external, in a world of bargaining where one can bargain with other companies to create products that work together via mix-and-match technologies.
But the choice of open innovation—or in the example of the Android operating system, open-source—is just that: a choice.

Apple’s strategic choices illustrate this new paradigm. Apple has historically relied upon internal innovation, maintaining close control over its products throughout the distribution chain. The iPhone, for example, though created as part of a collaboration with AT&T (then Cingular Wireless), was developed in-house at Apple. And until recently, the iPhone was available only on the AT&T network. In contrast, other Apple products take advantage of modularity—the iPad can be used on both Verizon and AT&T (and on other networks). iTunes is available on all computers, not just Macs. As these examples illustrate, Apple clearly is making strategic decisions on the best way to establish the primary relationship with the consumer and, ultimately, to capture the greatest share of consumer surplus.

And Apple has been phenomenally successful. Mary Meeker demonstrated that when she compared adoption of the Apple wireless ecosystem with how much time it took for mass adoption of earlier technologies. Her analysis: In the thirteen quarters following the launch of the iTouch/iPhone, Apple attracted 120 million users. Over the same number of quarters, other very successful innovations lagged far behind, including NTT DoCoMo (32 million users), the Netscape browser (27 million) and America Online (9 million).101

Which brings us to the example of operating systems. Apple’s iOS operating system for its wireless devices is an in-house creation integrated with its manufacturing of the devices. You can’t get one without the other. And, with the success of the Apple devices, iOS has undoubtedly proved popular.

By contrast, Google’s Android is a free, open-source, and mobile platform. It offers any device manufacturer the ability to partner with a free and popular operating system; for example, Sony Ericsson announced in 2010 that it would abandon its own operating system in favor of Android. Available on multiple devices across multiple networks, an open-source operating system offers the potential advantage of network effects, as the adoption by users provides additional value to other users and drives more adoption and the advantages, in scale and scope, that network effects can provide.

But providing Android’s free and popular system is not simply an act of beneficence. Morgan Stanley noted in December 2010 that “[o]n an annualized basis, Google is on track to generate $1B+ gross revenue in mobile search/AdMob display/Android Apps, per management. Based on this momentum, Google’s strategic investments in mobile services and the Android operating system are clearly paying off.”102 Android spurs mobile search through Google, which in turn supports search advertising and, in 2009, 97 percent of Google’s revenue was derived from online advertising, including search advertising. Jonathan Rosenberg, SVP Product Management noted that over 300,000 Android phones are being activated per day, which “helped drive a 10X year-over-year increase in the volume of searches from Android devices.”103
That both forms of operating systems can be successful demonstrates an important lesson concerning the nature of business-model experimentation. Advantages accrue to each approach—coordinated and integrated. Consider one trade-off as illustrative. The advantage of the Android for a smartphone or tablet manufacturer is that it is free and scalable beyond the sales of a particular firm – attracting apps developers who might not build to the operating system with a small market share. On the other hand, the risk is equally obvious: The use of the Android operating system deprives a firm of one potential area of differentiation.

Here, for example, is a Best Buy advertisement from early 2011 for HTC 4G smartphones:\(^{104}\)

![Best Buy Advertisement](image)

Both the term “Android” and the logos of the competing wireless networks appear more prominently than the name of the device manufacturer, HTC. To the extent that advertising gives an accurate portrait of the consumer value proposition, it seems that the Android operating system is more important than the device itself. That may or may not be bad for HTC depending on whether it is successful in riding the wave of the Android while escaping commoditization, or better positioned to offer advantages of scale and network effects to consumers because it has effectively outsourced the operating system (and for free).

The important point is that in the world of the Broadband Value Circle, both integrated and coordinated innovation are strategies for conveying value. Pundits may predict the success of one versus the other but, as the shifting market shares in mobile operating systems presumably demonstrate, consumer demand rests less on a theoretical basis and more on which chosen innovation model is successful in creating consumer surplus.
How do the shifts in the wireless broadband marketplace, as they are evidenced in early 2011, demonstrate the continued evolution of the Broadband Value Circle? Consider the main trends introduced at the opening of this section.

In 2011, 4G networks are being deployed by companies that include AT&T, Leap Wireless, MetroPCS, Sprint/Clearwire, and Verizon. Indeed, in January, President Obama used his State of the Union address to call for the deployment of such mobile broadband connectivity to 98 percent of the U.S. population within five years. The advent of 4G networks offers a new competitive dynamic in three distinct, and complementary, ways.

First, as mobile devices, applications, and services become more ubiquitous, and thus more valuable, the increased mobile connectivity delivered by 4G acts as a platform for the creation of additional consumer surplus.

Second, 4G’s potential to substitute, in whole or in part, for wireline Internet access to the home offers additional network inputs into value propositions. That Sprint/Clearwire, for example, has no landline facilities and thus its ability to act as a “new entrant” in the market for residential Internet access is obvious, to the extent that consumers would be willing to use 4G in place of landline connectivity, or that consumers might even view mobility as an advantage over wireline service. The same holds true for other 4G network deployments.

Third, the growth of tablet devices, led by the iPad, creates the ability to substitute for more traditional notebook computers, introducing additional competition and uncertainty. One analysis has suggested that tablets may, in 2011, substitute for about 35 percent of notebook sales.

What ties these together is that mobility is now present as an independent variable in the calculation of value. The attractiveness of connectivity no longer depends just on speed—ubiquity is also important. So, too, the ability to use a device conveniently. And the attractiveness of content.

The improvement in wireless broadband does not tell us who will capture the additional economic surplus, the advantage that faster, mobile broadband delivers to consumers. For that, consider a simplified representation of the Broadband Value Circle, circa 2011:
The Broadband Value Circle: Business Cases Compete

Note the multiplicity of roles. Apple is a supplier to Verizon, and Verizon and AT&T are suppliers to Apple. Google’s Android operating system powers competing devices, including Google’s own Nexus S. A single wireless broadband provider (in this case, Verizon, but the same is true for others) is simultaneously affiliated with competing devices, operating systems, apps stores, and content-delivery systems (like iTunes). Wireless broadband networks, on the circumference of the circle for the delivery of some value propositions, are off the circle and hidden from view in the construction of the Kindle value proposition (Whispernet is the brand Kindle has applied to both Sprint and AT&T wireless connectivity). Content can be delivered through seamless systems, like Apple’s apps store, or from the cloud, depicted here as an aspect of the Google business proposition.

The introduction of the iPhone by Verizon in February 2011 offers a compelling case study of the turmoil in which competition exists and the simultaneously different roles that the same players assume.

Start with the key actors themselves, Apple, AT&T, and Verizon. Consider television advertisements that each ran in the days after the Apple/Verizon announcement.
The iPhone ad ended with this image and the tagline “Two is better than one”.

Two is better than one

The message? According to one technology observer, “The commercial works because Apple emphasizes that the device [sic] on the different networks are the same, you just have a choice now.” Apple may be sending the message that the iPhone is the lead component on the iPhone value proposition, with the mobile broadband network as essentially fungible inputs to Apple.

The wireless broadband providers, not surprisingly, take the opposite stance. AT&T ran a television advertisement showing a harried husband able to talk to his wife and make an almost-forgotten dinner reservation at the same time, thereby touting the fact that (because of its different 3G technical standard) iPhone users on its network can talk and surf the Internet at the same time. In this manner, AT&T differentiates itself with an example of how the device works.

Verizon responded with an advertisement emphasizing the characteristics and geographic reach of its 3G wireless network, asking “does your network work?” and stating that it provides America’s “largest and most reliable network.” Thus, a different form of differentiation.

The arrival of the iPad2 told a similar tale, as AT&T and Verizon offered tiered-data plans with “subtle” differences—one analyst concluded that customers who use little data are likely to go to AT&T, but the highest data users would prefer Verizon. At the same time, additional strategies were also reaching the marketplace, such as Verizon’s introduction in March 2011 of its first 4G Phone.

The Broadband Value Circle describes a world in which players compete, cooperate, buy, and supply from one another simultaneously. That is precisely what is happening in this three-player game: Apple supplies AT&T and Verizon, and both supply Apple even as Apple supports competitive offerings and each network offers smartphones that compete with the iPhone.
Consider AT&T’s strategy in early 2011. In 2010, AT&T activated 15.2 million iPhones. Its mobile division garnered more revenue than its wireline division for the first time as iPhone users paid AT&T almost double the revenue as other users (above $90/month versus $50/month). With one industry analyst predicting that about two percent of AT&T’s customers could switch to Verizon this year in order to connect their iPhone to that network, AT&T fought back on two fronts.

First, AT&T enhanced the value of its iPhone offering, equipping it with a hotspot application.\textsuperscript{113} Second, and equally important, AT&T emphasized its ability to satisfy consumer demand through the provision of iPhone competitors. Thus, Motorola Mobility, which had relied upon Verizon’s backing of its Droid smartphone during the time of Apple/AT&T’s exclusivity, then teamed up with AT&T to announce the imminent arrival of its 4G Atrix smartphone, which AT&T described as its “leading” 4G device and which emphasized differentiation through its dual-core processing power.\textsuperscript{114}

And the core conclusion drawn from the Broadband Value Circle is that the creation of new consumer surplus—here, the new relationship between Verizon and the iPhone, and in late 2010, the iPad—will spark other firms to engage in bargaining and innovation to challenge the transient advantage of the new offering.

With its percentage of the smartphone market in the fourth quarter of 2010 down more than ten percent from a year earlier, Nokia suffered at the rise of the iPhone.\textsuperscript{115} Nokia continued as an ingredient provider, unable to shift, as Apple did, to the front of a value proposition.

The tenets of the Broadband Value Circle would suggest that, in these circumstances, a firm should find partners with which it can create a durable, new value proposition, leveraging its own advantages and adding a new competitive offering to the marketplace.

Consistent with the Broadband Value Circle market structure, Nokia’s CEO Stephen Elop provided exactly this analysis to Nokia employees in February 2011. His observations tell the tale of value creation in the Broadband Value Circle:

- “Apple disrupted the market by redefining the smartphone and attracting developers to a closed, but very powerful ecosystem....”
- “The first iPhone shipped in 2007, and we still don't have a product that is close to their experience. Android came on the scene just over 2 years ago, and this week they took our leadership position in smartphone volumes. Unbelievable.”
- “The battle of devices has now become a war of ecosystems, where ecosystems include not only the hardware and software of the device, but developers, applications, ecommerce, advertising, search, social applications, location-based services, unified communications and many other things.” (emphasis added). Our competitors aren’t taking our market share with devices; they are taking our market share with an entire ecosystem. This means we’re going to have to decide how we either build, catalyze or join an ecosystem.”\textsuperscript{116}
The ecosystem is the circle, and the value propositions are what link it to customers, on the one hand, and to its partners, on the other. And so, not surprisingly, Nokia announced in February that it would join forces with Microsoft, which had encountered its own difficulties in succeeding in the mobile market, by creating “a broad strategic partnership that would use their complementary strengths and expertise to create a new global mobile ecosystem” illustrated by the chart:117

By throwing its support behind the Windows mobile operating system, Nokia hopes to create a third alternative to Apple and Android-based devices through the pooling of capabilities as depicted above.118

IV. Conclusion

This article has described the Broadband Value Circle—a world in which broadband connectivity is the glue that permits multiple firms, once walled off from one another in distinct product-market categories, to compete, cooperate, buy, and supply products and services from one another in order to satisfy customers who are able to buy from any one of them.

As we have seen with examination of both the wireless broadband and video programming sectors, the Broadband Value Circle forces firms to innovate and to learn how to get one step ahead of other firms. As with the wireless broadband providers, firms provide differentiated and competing “combinations” of value simultaneously.

Economic principles underlying business-model creations, such as two-sided market strategies or the choice to rely on coordinated or integrated innovation, take on increased importance, as firms experiment with the best strategy for success.

The rise of new value propositions encourages additional ones as many firms compete, cooperate, buy, and supply from one another, while struggling to integrate multiple features into new value propositions. The “war of ecosystems” is vibrant, quick, and ongoing.
To recapitulate the organizing principles noted at the outset of this article, the Broadband Value Circle describes a world in which:

- many companies, traditionally associated with different product markets, can nonetheless offer competing combinations of value directly to the same audience of users;
- bargaining among companies divides new consumer surplus in ways that reflect the ability of companies to create value, play the “central” role in their composition, and reach directly to consumers;
- the market is dynamic and swift, with competing combinations of value changing in rapid succession;
- the purchaser/creator at the center of the circle plays a fundamental, and not simply passive role in the formulation of new value propositions;
- all of the players are making strategic decisions amid conditions of deep uncertainty; and
- consumers, because they place value on the new value propositions, benefit directly from new forms of value, embodied in additional choices in the marketplace.

This paper argues that the wireless broadband market has moved from value chain to value circle and that the market for video entertainment programming is in flux—with many of the characteristics of the circle already in place.

With this description complete, three areas of further exploration should be noted: economic, public policy, and business strategy.

**Research:** Two obvious forms of additional research would be valuable.

The Broadband Value Circle as described in this paper is descriptive, not predictive, and it does not therefore, seek to explain how economic surplus will be divided among firms or to chart with precision the nature of the changing bargaining relationship between firms. An economic study that models these relationships would provide additional insight into the creation and duration of any bargaining power.

In addition, the analysis here limits the description of the Broadband Value Circle to two (increasingly interdependent) markets: wireless broadband and video programming. The next obvious step would be to see whether the description fits other markets and whether it can be used to predict changes in markets in which the geography of the circle has yet to appear.

Three examples of such an analysis include (i) the future of journalism, in which the debut of *The Daily* and *The New York Times*’ move to a two-sided model for its online content suggest that the same economic forces and market geography are at work; (ii) healthcare services, a market where multiple participants have direct contact with the customer, (including insurers, doctors, pharmacists, and players currently outside the sector, such as broadband networks) and which is a market where information has not flowed easily, nor has any firm or set of firms
established compelling value propositions that combine the features of multiple product markets; and (iii) express delivery services, where companies like FedEx and UPS have had to learn to differentiate themselves against the services of a publicly funded postal service.

**Business Strategy:**

Innovate, connect tightly with the customer, and bargain: These appear to be the central tenets of success in the Broadband Value Circle. The first two are obvious, but the third may be undervalued. One way to think of the creation of a business strategy in this model is to consider a process of **bargaining, experimentation, learning, and adaptation** as a central formula for business success.

Bargaining strategy is itself a topic that has filled many books. One approach is from the perspective of game theory: How can firms operate in a multiplayer market in a manner that allows the firm and its partners to engage in a “win-win” strategy? Win-win doesn’t mean that everyone wins the same amount, but it does suggest that, in the words of Nokia’s CEO, the goal is to “build, catalyze or join an ecosystem.” Except that, in this bargaining space, the object is to engage in multiple ecosystems at once, seek the ecosystem that provides the greatest advantage to the firm, and step nimbly to an alternative platform when advantageous. That is why successful companies may find that bargaining is not complete without continuing experimentation (think Apple TV or the first Google Nexus), learning (as Motorola Mobility did with its creation of Droid), and adaptation (as Netflix did when it moved away from competition with Blockbuster and into streaming video).

**Public Policy:**

The creation of economic growth, the incentivization of innovation, the protection of consumers, the achievement of social goals: all of these public-policy goals depend, in varying ways, on an understanding of market structure and the likely trajectory of market dynamics. Thus, the Broadband Value Circle should be considered by policymakers as well as business people. The biggest implications are likely to arise in the field of economic regulation, including competition policy and other regulatory standards. My past argument in favor of a case-by-case approach to regulation stems directly from the view that calculating the net benefits (or costs) of a prescriptive rule on innovation is difficult where a market is fast-paced, diverse in its value offerings, and uncertain.\(^{120}\) And, as the Department of Justice itself has said, standard antitrust analysis always turns on an understanding of competitive dynamics such as the arrival of 4G wireless broadband.\(^ {121}\) The recent announcement of the AT&T/T-Mobile transaction will provide an opportunity for both the DOJ and the FCC to apply established legal principles to determine the likely economic outcomes of the proposed deal.

* * * * * * * * * * * * *

The arrival of the Broadband Value Circle raises more questions than it answers. But the description of a new “map” of competition can help simplify what may now seem to be a
chaotic collection of diverse industries engaged in a bewildering series of technology introductions. Competition is not random; it is simply, in these markets, organized differently. The new map of market structure offers opportunities for additional research, for public policy that is based on an accurate understanding of the marketplace, and, of course, for businesses to create new forms of value.

1 © Jonathan Sallet 2011. All Rights Reserved. Jonathan Sallet is a partner in the law firm of O'Melveny & Myers LLP. All opinions expressed herein are those of Mr. Sallet and do not necessarily reflect the views of his law firm or its clients. In addition to the many valuable suggestions received by colleagues who reviewed earlier drafts of this article, Mr. Sallet would like to thank Roberto Suro and Jon Taplin of the University of Southern California Annenberg Innovation Lab, George Ford, Anna-Maria Kovacs and Courtney Schmidt for their thoughtful help and suggestions. The original genesis of this article came from work jointly conducted with Professor Steven Weber of the University of California, Berkeley.


3 In a specialized circumstance, the Federal Communications Commission has recently reviewed the relative bargaining power of companies engaged in the distribution of video programming in order to determine the extent in which bargaining would distribute the “bargaining surplus” available for division between two negotiating parties. One perspective on this issue is provided by “[t]he Nash bargaining theory [that] suggests that the lion’s share of the bargaining surplus will go to the party that faces less time pressure to reach an agreement or has greater bargaining skill.” Jonathan Baker, “Comcast/NBCU: The FCC Provides a Roadmap for Vertical Merger Analysis (revised February 18, 2011.) This paper generally assumes that economic surplus will be distributed through bargaining that proceeds on multiple bases, including the extent to which parties have viable market alternatives, without predicting the division of economic surplus, which is an issue deserving of further economic analysis.


5 With rare exception, the market descriptions in this article concentrate only on U.S. markets. A reasonable next step in the application of this analysis would be to expand beyond wireless broadband and video programming both internationally and to other markets.


8 Porter, supra note 6 at 51.

9 See Marius Schwartz & David Eisenstadt, Dept. of Justice, Vertical Restraints, Discussion Paper, Economic Policy Office, at 4(1982) “firms in a vertical relationship engage in complementary rather than competing activities…”; see also Kenneth Glazer, Briar R. Henry, & Jonathan Jacobson, Antitrust Implications of Category Management: Resolving the Horizontal/Vertical Characterization Debate, The Antitrust Source, (July 2004) (Although there is “reason to be generally suspicious of competitors working and communicating with each other …. we have no such concerns about interactions between firms in a vertical relationship with each other. These interactions are and ought to be ubiquitous, and are fundamental to legitimate commerce.”).


17 Prince McClean, *Apple Store iPhone Sales Outshine AT&T by Seven to One*, AppleInsider (Sept. 4, 2007, 2:00 PM), http://www.appleinsider.com/articles/07/09/04/apple_store_iphone_sales_outshine_at_by_seven_to_one.html.
23 *Id.* at 26.
26 Bernstein Research, AT&T: A Fresh Look, Mar. 15, 2011, at 1, 3.
34 This is a simplification, of course. Some benefits may be not be actually captured by the producer (such as in the case of piracy of music or movies); others may be impossible to capture but provide exogenous benefits to an economy (a traditional reason for under-investment in public goods).
35 These methods were used to calculate the benefits of home broadband to consumers in 2009, Mark Dutz et al., *The Substantial Consumer Benefits of Broadband Connectivity for U.S. Households* (July 2009), http://www.compasslexecon.com/highlights/Documents/Consumer_benefits_of_Broadband.pdf.
37 *Id.*
41 *Id.*
Jenna Wortham, For Consumers, Little to Cheer in AT&T Deal, NY Times, Mar. 21, 2011.

Id.


This discussion omits sports programming, simply for the sake of simplicity. Sports programming appears to have its own competitive dynamic as “must-have” programming with limited substitutes. See In re Review of the Commission’s Program Access Rules and Examination of Programming Tying Arrangements, MB Docket No. 07-198, Jan. 20, 2010, http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-10-17A1.pdf (“Vertically integrated cable operators argue that MVPDs are not dependent on vertically integrated cable programming because multiple programming options exist. But that is not always the case. As the Commission concluded in the 2007 Program Access Order, cable operators own programming for which there may be no good substitutes, and this “must-have” programming is necessary for viable competition in the video distribution market.”).


Brian Stelter, Dispute Over Time Warner Cable’s Streaming to iPad Bursts Into the Open, NY Times, Mar. 28, 2011.


Technically, the concept refers to multi-sided markets.


Miguel Helft and Brooks Barnes, Warner Tests Renting Film on Facebook for Web Cash, NY Times, March 8, 2011.

The DOJ and FCC conditions on approval of the Comcast/NBCU transaction contained conditions designed to deal with just this circumstance. They are discussed in Part XX infra.

A related question concerns the purchase “unit” in film that is relatively straightforward. A film can be purchased in different formats and with or without extra content but no one rents “Avatar” in three separate pieces. Television series operate very differently. Producers hope that the “unit” is a season of programming, and presumably their cost structure represents amortization of costs over a season (or more). But the purchase of individual programs may undermine that financial architecture, just as the purchase of individual songs on iTunes is widely lamented by music producers, who have long considered an “album” as an essential unit of distribution. Some believe that the shift to a la carte has the effect of shifting resources from content creation to marketing.


64 Wingfield, supra note 59.


70 Wingfield, supra note 59.


74 In-Stat, “The Battle for OTT Video: redistributing Video Industry Dollars” (October 2010)


84 Among the conditions, as explained in Comcast’s 10-K filed on February 25, 2011 are the following: “(i) we are required to make certain of our cable, broadcast and film programming available to bona fide online video distributors under certain conditions, and they may invoke commercial arbitration to determine what programming must be made available and the price, terms and conditions that apply; (ii) multichannel video providers may invoke commercial arbitration to determine the price, terms and conditions for access to our broadcast stations, cable networks and regional sports networks; (iii) we are prohibited from discriminating against cable programming networks on the basis of their non-affiliation in the selection, terms or conditions for carriage, under a standard that is comparable to existing law; (iv) we must comply with the FCC’s open Internet rules regardless of whether these rules are invalidated in court or otherwise rescinded, and those rules will apply to any set-top box we provide that enables a customer to receive high-speed Internet services; (v) we must satisfy various other conditions relating to our high-speed Internet services, including deploying broadband to certain unserved areas, implementing a program to improve high-speed Internet adoption among lower-income households, offering all our customers a “stand-alone” high-speed Internet service, and maintaining a high-speed Internet service of at least 12 megabits per second across most of our footprint; and (vi) we must renew our distribution agreement with Hulu if the two other broadcast networks use any of our content in their service.”
network owners of Hulu also renew their agreements, and we must relinquish all voting rights and our board seat in Hulu.”

Comcast Q4 Earnings Call, February 16, 2011

Those agencies concentrated on the assertions that (i) reduction of transaction costs would speed the development of new forms of distribution, (ii) costs would be saved through the elimination of “double marginalization” of programming, which occurs where both content-creator and distribution channel gain margins as the result of the distribution of programming (the point made herein to show the bargaining that can occur in the distribution of that economic surplus) and (iii) lower costs as a result of economies of scale and scope. The two agencies did not reach identical conclusions but, on the whole, declined to accord them the weight proffered by Comcast, for example the FCC “found them to be plausible in principle, but in some respects speculative, overstated or unsubstantiated.”


Ashkan Karbasfrooshan, YouTube Foregoing Millions In Bet to Become Video Ad Gatekeeper, Online Video Insider (Dec. 27, 2010), http://www.mediatop.com/publications/?fa=Articles.showArticle&art_aid=141965.


Amazon.com, http://www.amazon.com/Kids-Are-All-Right/dp/B003L20ICE.


Helft, supra note 56.


Kevin G. Rivette & David Kline, Rembrandts in the Attic (2000). Two well-known examples of Open Innovation involve Procter & Gamble and IBM. As noted above, Procter & Gamble has very intentionally thrown its doors open to outside research. Faced with increasing R&D costs but flat R&D productivity at the turn of the century, Procter & Gamble concluded that half of its products should come from outside the corporation, while half would continue to be developed internally. As of early 2006, more than one-third of its products incorporated outside innovation—and the cost of innovation had fallen significantly (Huston & Sakkab 2006).


Google Earnings Conference Call, Q4, Thompson Reuters StreetEvents, at 10, Jan. 20, 2011.


Steven M. Sears, A Research in Motion Tablet Play, Barron’s, Feb. 23 2011.


Id.

111 AT&T, Verizon Square Off in the Battle of iPad2 Plans, Seeking Alpha (Mar. 13, 2011),
http://online.wsj.com/article/0,,SB10001424052748704662604576202422274964148,00.html.
113 Jenna Wortham, As Verizon’s iPhone Sales Begin, Gauging the Effects on AT&T, N.Y. Times, (Feb. 9, 2011),
114 Dan Gallagher, Motorola Shares Up as AT&T Outlines 4G Plan, Marketwatch (Feb. 3, 2011),
115 Steve Lohr, Playing Catch-Up, Nokia and H.P. Try to Innovate, N.Y. Times (Feb. 9, 2011),
116 Chris Ziegler, Nokia CEO Stephen Elop Rallies Troops in Brutally Honest ‘Burning Platform’ Memo?, engadget
honest-burnin/.
117 Press Release, Microsoft News Center, Nokia and Microsoft Announce Plans for a Broad Strategic Partnership to
11partnership.mspx.
118 Phil, Welcome to the Third Ecosystem, Nokia Conversations (Feb. 11, 2011 7:55 AM),
119 Sallet, supra note 2.
120 Id. 
121 Ex Parte Submission of United States Department of Justice, In re Economic Issues in Broadband Competition: