

# THE CREATION OF VALUE:THE VALUE CIRCLE AND EVOLVING MARKET STRUCTURES

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## EXECUTIVE SUMMARY

The traditional value chain is a successive 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. As a matter of both business and public policy, these horizontal and vertical relationships have been viewed as distinct.

Although the traditional value chain has not been replaced, today’s Internet marketplace is witnessing the rise of an alternative structure—the “Value Circle.” The Value Circle describes a world in which multiple companies, quite often starting from very different markets of origin, are able to become active participants in competing packages of value to consumers. Thus, in the wireless broadband market in the United States, firms that were once seen as separately manufacturing devices, supplying connectivity, engaging in e-commerce, creating software, or providing search functions 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 become part of competing combinations of value directly to the same audience of users;
- Those same companies pursue multiple strategies simultaneously;
- The creation of economic surplus, through the presentation to consumers of new value propositions, leads to bargaining among companies as they divide new consumer surplus in ways that reflect the ability of companies to create value, act as the “prime mover” 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, which are manifested in additional choices in the marketplace.

The Value Circle is a 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 but the outcome is not yet certain.

## I. 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 Value Circle—a world in which multiple firms, once walled off from one another in distinct product market categories, 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 Value Circle forces them to innovate and to learn how to get one step ahead of mutating competitive offerings. It forces such firms, 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 Value Circle has implications for businesses, policymakers, and for further research.

- The 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 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 Value Circle. Potential examples include journalism, healthcare, and express-delivery services.

To give one paradigmatic example of the principles of the Value Circle, 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 the direct consumer 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.<sup>1</sup>

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 is 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.

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1. 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*, 25 A.B.A. ANTITRUST 36, 40 (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.

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 acquisition of Motorola Mobility; to new devices from Samsung or Nokia; to Amazon's new Kindle Fire to Sprint's 4G network; to Microsoft's creation of Xbox and acquisition of Skype.

The creation of the Value Circle requires a suitable environment. This article will posit, and briefly review, four critical economic principles whose presence drives the evolution of the Value Circle:

- Independence: The ability to create a product feature that works with other products or product features, but does not require the "permission" of the originator of that product or product feature. Manifestations of independence include modularity, standardization, interoperability and, of course, open-source software. A leading example is email. Any user can send email to any other user regardless of the email program that is used.
- Inter-dependence: The incentive to cooperate and partner results from a set of economic incentives that push firms in the opposite direction. They include virtual network effects which is high complementarity between different markets, and the relationship between firms that serve overlapping two-sided markets.
- Bargaining Power: If only one of the previous principles is present, there is little room for bargaining. If firms were totally independent, then their paths to market would not require any interaction with other firms. If no firm could approach customers without the involvement of a single dominant firm, then competition would be tightly controlled by that firm. But a market environment in which both independence and inter-dependence exist is one that welcomes "mix-and-match" competition where firms have considerable discretion to determine the extent to which they wish to cooperate with other firms. And that leads to bargaining among firms that choose to work together over the economic surplus that their successful value propositions create.
- Consumers: Of course, there is no economic surplus over which to bargain if a value proposition does not create enough value for consumers – consumer surplus – to be

successful in the marketplace. Consumer demand therefore shapes the market in three inter-related ways. First, consumer acceptance, as in all markets, is necessary. Second, consumers are demonstrating a desire to shape demand through their own insistence on mixing and matching products and product features. Third, in a very fundamental way, consumers are part of the value propositions themselves, acting as co-creators of the value provided by, for example, by social networks.

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. The story of the wireless marketplace will suggest that a successful firm is one that can:

1. Directly approach consumers, rather than acting merely as an intermediary;
2. Deliver a “natural” connection between the new value proposition and its “market of origin”;
3. Create a winning “package” with partners who are often competitors; and
4. Successfully bargain for a bigger percentage of the new economic value that it has created for itself and its partners.

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 in wireless markets. Next, the article will use free cash flow analysis as a method to seek empirical validation of the Value Circle hypothesis, first in wireless broadband and then in the marketplace for video entertainment programming. Then, the article will discuss the four economic principles critical to the emergence of a Value Circle. Finally, the article will offer preliminary thoughts on the implications of the Value Circle for both business and public-policy audiences.<sup>2</sup>

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2. 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 industrial markets.

## 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.<sup>3</sup> 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 in that period would 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.<sup>4</sup>

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 confectionary manufacturer lowers the cost of in-bound handling and melting.”<sup>5</sup>

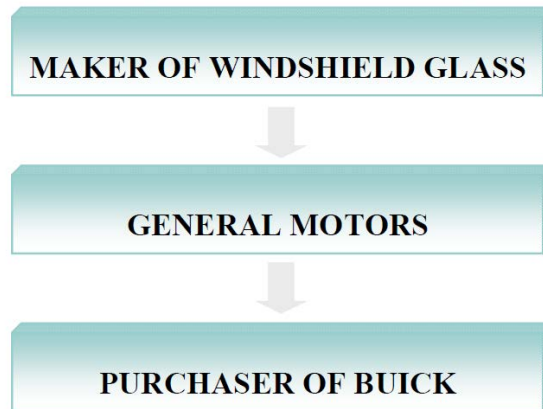
In the classic twentieth-century value chain—automobile manufacturing being a paradigmatic example—the relationship between companies was straightforward. The automobile manufacturer “created” the value proposition by bundling characteristics that represented a series of complementary product markets.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

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3. See MICHAEL E. PORTER, *COMPETITIVE ADVANTAGE: CREATING AND SUSTAINING SUPERIOR PERFORMANCE* (1998).

4. Wim Plaizier & Benoit Nachtergaele, *STEEL’S CHALLENGE: LIVING WITH HIGHER AND MORE VOLATILE IRON-ORE PRICES* (2010), available at [http://www.atkearney.com/knowledge/publications/2010/2010\\_Steels\\_Challenge.pdf](http://www.atkearney.com/knowledge/publications/2010/2010_Steels_Challenge.pdf).

5. Porter, *supra* note 3, at 51.



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.<sup>6</sup>

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,

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6. See MARIUS SCHWARTZ & DAVID EISENSTADT, ECONOMIC POLICY OFFICE, U.S. DEP'T OF JUSTICE, DISCUSSION PAPER: VERTICAL RESTRAINTS 4 (1982) (“[F]irms in a vertical relationship engage in complementary rather than competing activities.”); see also Kenneth Glazer et al., *Antitrust Implications of Category Management: Resolving the Horizontal/Vertical Characterization Debate*, in 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.”).



a concomitant boost in consumer demand, and great financial reward for the automobile manufacturers.<sup>7</sup>

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 Wal-Mart 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. Wal-Mart 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.<sup>8</sup>

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 of 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 ~~if~~ 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”

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7. See F.T.C., GUIDE TO THE ANTITRUST LAWS, DEALINGS IN THE SUPPLY CHAIN: INTRODUCTION, [http://www.ftc.gov/bc/antitrust/supply\\_chain.shtm](http://www.ftc.gov/bc/antitrust/supply_chain.shtm) (last updated July 8, 2008) (“In general, the law views most vertical arrangements as beneficial overall because they reduce costs and promote efficient distribution of products.”)

8. See DONALD SODERQUIST, THE WAL-MART WAY: THE INSIDE STORY OF THE SUCCESS OF THE WORLD’S LARGEST COMPANY (2005) (Walmart is “maybe the greatest example--of the free-enterprise system at work.”); see also CHARLES FISHMAN, THE WAL-MART EFFECT: HOW THE WORLD’S MOST POWERFUL COMPANY REALLY WORKS-AND HOW IT IS TRANSFORMING THE AMERICAN ECONOMY (2006) (discussing the economic effects of Walmart).

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. Intel’s introduction of the “Ultrabook”, trademarked by Intel but manufactured by companies like Sony, Lenovo, Samsung, evidences the same kind of strategy. Other examples of branded ingredients following the strategy of building strength without competing against customers include Gore-Tex in outdoor wear, Corning’s Gorilla Glass for tablet computers, and Dolby in audio equipment.

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.

### III. 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 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).<sup>9</sup> The iPhone 2G was available in both AT&T and Apple retail stores upon its introduction, as well as online through Apple.<sup>10</sup>

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

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9. Saul Hansell, *The \$831 iPhone*, BITS, N.Y. TIMES (Oct. 25, 2007, 12:41pm), <http://bits.blogs.nytimes.com/2007/10/25/the-831-iphone/>; Press Release, Apple Inc., Apple Sets iPhone Price at \$399 for this Holiday Season (Sept. 5, 2007), *available at* <http://www.apple.com/pr/library/2007/09/05iphone.html>.

10. Kevin Fitchard, *Apple Breaks the Rules*, CONNECTED PLANET (Jan 22, 2007, 12:00 AM), [http://connectedplanetonline.com/wireless/marketing/telecom\\_apple\\_breaks\\_rules/](http://connectedplanetonline.com/wireless/marketing/telecom_apple_breaks_rules/).

of the Year.”<sup>11</sup>

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.<sup>12</sup>

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.

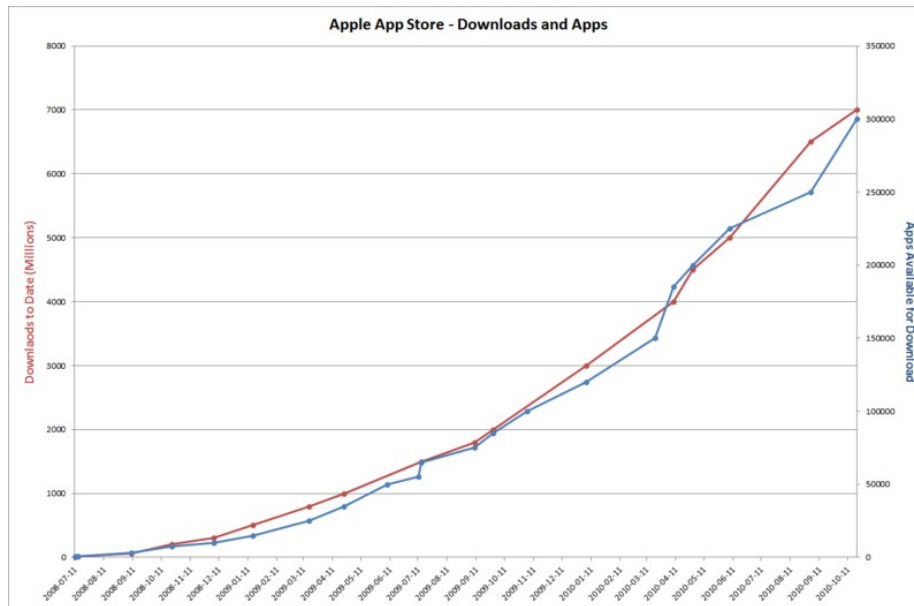
You know the rest of the story, which is illustrated in the wiki-chart below.<sup>13</sup> Within a year, the Apple apps store offered more than 50,000 apps and had facilitated more than 1 billion downloads. In March 2012, just over three years later, those totals had risen to approximately 25 billion downloads and more than 600,000 available apps.

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11. Lev Grossman, *Invention of the Year: iPhone*, TIME (Nov. 1, 2007), [http://www.time.com/time/specials/2007/article/0,28804,1677329\\_1678542\\_1677891,00.html](http://www.time.com/time/specials/2007/article/0,28804,1677329_1678542_1677891,00.html).

12. Press Release, AT&T, Strong Wireless Gains, Sound Operational Execution Highlights AT&T’s Third Quarter, (Oct. 22, 2008), *available at* [http://www.corp.att.com/emea/insights/pr/eng/q3\\_221008.html](http://www.corp.att.com/emea/insights/pr/eng/q3_221008.html).

13. *Apple App Store – Apps and Downloads*, WIKIPEDIA, (July 15, 2010, 10:54 PM), <http://en.wikipedia.org/wiki/File:AppleAppStoreStatistics.png>.



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,<sup>14</sup> and in the second quarter of 2012, the iTunes store earned \$1.9 billion in revenue.<sup>15</sup> 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

14. Tomi T. Ahonen, *Full Analysis of iPhone Economics - It is Bad News*, COMMUNITIES DOMINATE BRANDS (June 22, 2010), <http://communities-dominate.blogspot.com/brands/2010/06/full-analysis-of-iphone-economics-its-bad-news-and-then-it-gets-worse.html>.

15. Phil Hornshaw, *Apple’s iTunes App Store Surpasses 600k apps, \$1.9 billion in revenue for Q2*, APPOLICIOUS (Apr. 25, 2012), <http://www.appolicious.com/finance/articles/11792-apples-itunes-app-store-surpasses-600k-apps-1-9-billion-in-revenue-for-q2>.

carriers.”<sup>16</sup> Put another way: appeal directly to the customer, create economic surplus, and figure out how to redistribute that surplus to its advantage. 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;<sup>17</sup> 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.<sup>18</sup>

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? In the next section we will compare free cash flow figures. But, as a preliminary step, consider evidence of the competitive dynamics in the time period, 2007- early 2011, in which AT&T was the exclusive network for the iPhone in the United States:

- 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.<sup>19</sup>
- 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.”<sup>20</sup>
- From 2006—the last year Apple did not have the iPhone

16. *Apple’s Big Bold iPhone Bet*, DEAL JOURNAL, MEAN STREET, WSJ BLOGS (June 11, 2008), <http://blogs.wsj.com/deals/2008/06/11/mean-street-apples-big-bold-iphone-bet/>.

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\\_att\\_by\\_seven\\_to\\_one.html](http://www.appleinsider.com/articles/07/09/04/apple_store_iphone_sales_outshine_att_by_seven_to_one.html).

18. Katie Marsal, *AT&T Paying Apple \$325 Subsidy on Every iPhone 3G Sold*, MACRUMORS (June 19, 2008 4:07 PM), <http://forums.macrumors.com/archive/index.php/t-503028.html>.

19. *The Top 100*, OPTIMOR, MILLWARDBROWN, [http://www.millwardbrown.com/Libraries/Optimor\\_BrandZ\\_Files/2010\\_BrandZ\\_Top100\\_Chart.sflb.ashx](http://www.millwardbrown.com/Libraries/Optimor_BrandZ_Files/2010_BrandZ_Top100_Chart.sflb.ashx) (last visited May 18, 2012).

20. Doug Helmreich & Phil Doriot, *Smartphone Satisfaction Study 2009: Smartphones, Providers and the Customers Who Love (and Loathe) Them*, (2009), <http://www.cfigroup.se/images/uploads/file/Smartphone%20Satisfaction%20Report%202009.pdf>.

and iPad—through 2010, Apple’s revenues more than tripled, from \$19.3 billion to \$65.2 billion. The iPhone accounted 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, accounted for another \$5 billion or 11% of the growth from 2006-2010.<sup>21</sup>

- Bernstein Research estimated in 2011 that AT&T had nearly 21 million 3G iPhone subscribers, describing 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.”<sup>22</sup>
- The reward to AT&T, however, was 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.<sup>23</sup>

#### IV. WIRELESS BROADBAND

Anecdotal evidence of the Value Circle is plentiful in the mobile space and apparent in the market for video entertainment. This section will employ an additional tool to test the hypothesis that wireless broadband is, and video entertainment may become, a Value Circle.

If firms in the broadband market are finding new ways to create value by assembling complementary products, that value should show up in those firms' bottom lines. One way to test this hypothesis is by analyzing a firm's free cash flow. Free cash flow is an accounting metric that analysts use to measure the health of a business. It is calculated as income from operations minus capital expenditures. If a business were a

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21. Of course, not all of that is attributable to the relationship with AT&T. While the iPhone until 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. APPLE INC., ANNUAL REPORT (Form 10-K) at 33 (2010).

22. BERNSTEIN RESEARCH, *AT&T (T): A Fresh Look...AT&T After the iPhone; Are Expectations Low Enough for a Contrarian Long?*, Mar. 15, 2011, at 1, 3.

23. CREDIT SUISSE, AT&T REPORT 19 (2011).

car and capital expenditure the fuel, free cash flow would then be a way to measure the gas mileage of that car, a proxy for efficiency.<sup>24</sup> Some analysts prefer free cash flow to earnings as a way to understand the strength of a business, on the ground that it provides a more transparent view of the ability to create profits.

That said, it is important to understand two very significant limitations in this context. First, for multi-product, multi-geographic companies, U.S. operations in either wireless broadband or video entertainment programming is only a portion of the free cash flow. Second, the deduction of capital expenditures noted above means that free cash flow at any specific point in time can fail to reflect very useful capital expenditures that have been made, but which have yet to pay off in new revenues.

Nonetheless, the analysis of free cash flow is an objective metric worth applying. As the next two sub-sections demonstrate, free cash flow analysis is consistent with the belief that the Value Circle exists today in the wireless broadband sector and it provides evidence that video programming, although grappling with similar market forces, has not made that same transition, at least not yet.

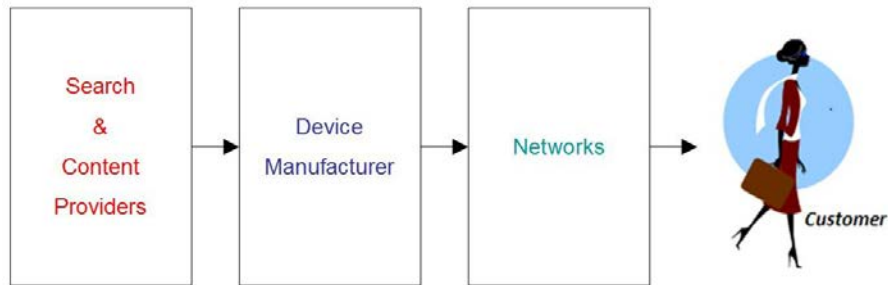
#### *A. The Evolution of the Wireless Broadband Marketplace*

We begin by depicting the wireless broadband market today, five years after the introduction of the iPhone; a time when the industrial organization shifted from chain to circle. Let's chart the difference. Here is a very simple depiction of an Internet value chain:

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24. Analysts like free cash flow because it is simple to calculate and difficult to manipulate. Examining businesses from the perspective of free cash flow is not without its drawbacks, however. Capital expenditures, as reported, include both the money necessary to maintain the existing business, which makes determining how much money is actually being invested in the future of the company difficult. Free cash flow also does not take into account the opportunities that a company has to invest in, and may not indicate when a company is choosing to operate an outdated business instead of investing in a new one.





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.

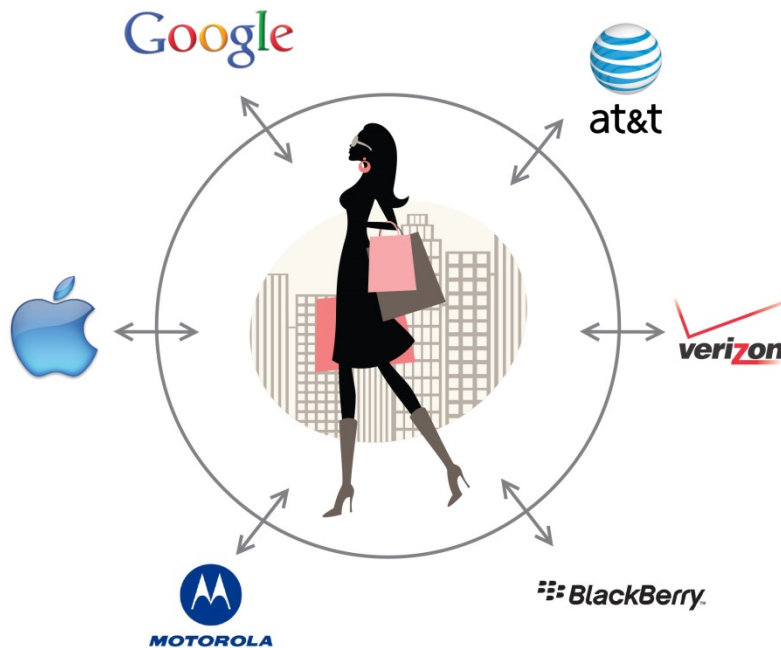
A critical reconfiguration turns a value chain into a Value Circle. It is the ability of firms located anywhere along the value chain to approach customers directly and attempt to catalyze a new form of consumer surplus, which is not limited to their products alone. Part of that ability stems from economic forces—like modularity, interoperability, and common standards—that permit different products from different product markets to be “mixed and matched.” Another 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. These economic principles are discussed in greater detail in Part V. 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 this 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, and the subsequent acquisition of Motorola Mobility by Google) is a significant business handicap. The uncertainty over the future of RIM, the manufacturer of Blackberry, can be understood, in the sense to be: Can it maintain its presence “on the circle”?



We might 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.

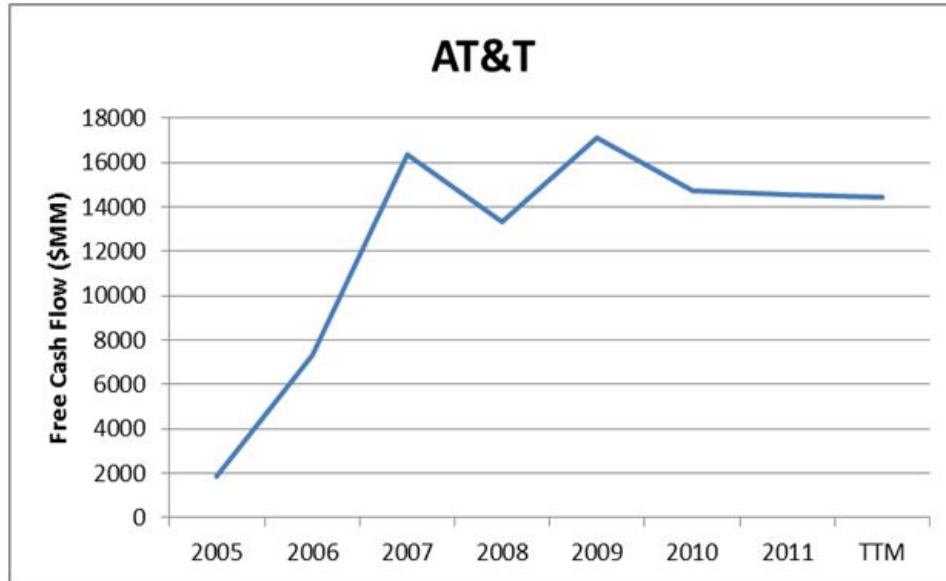
In essence, all of these players are bargaining constantly (or deciding expressly not to bargain) with the other players to determine roles in the value proposition of the combination of characteristics offered to a consumer. This is not to say that there are no longer value chains. Rather than defining 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, before it acquired the ability to sell Apple devices, Sprint was the consumer-facing company in the provision of 4G services, with HTC, the manufacturer of the EVO, residing upstream, but Sprint was also upstream (and hidden from view) in the Kindle 3G value chain.

#### *B. Free Cash Flow Analysis as Applied to Wireless Broadband*

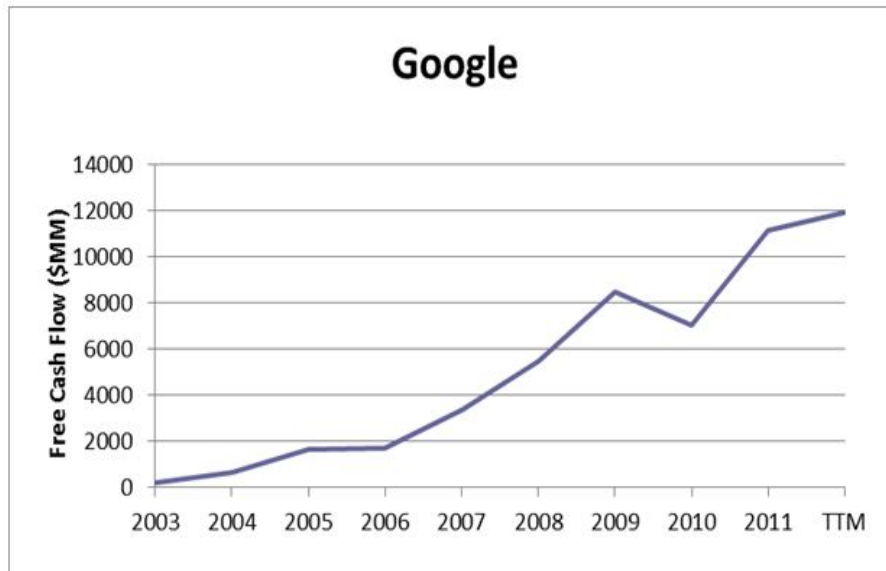
As applied to the wireless broadband market, free cash flow analysis indicates that those firms that approach consumers directly as facilitators of a package have fared far better over the last decade than those firms that have operated more traditionally. This section will review free cash flow performance of some of the leading players on the wireless broadband marketplace.

##### 1. The Challengers

Apple and Google have emerged as clear winners in a Value Circle environment; free cash flow analysis merely provides more detail into well-known stories. In 2007, Apple introduced the 2G iPhone, creating an inflection point in the company's cash flow. The 2G and 3G iPhones both created a tremendous amount of traffic on AT&T's network. Apple partnered with AT&T so the wireless carrier would subsidize the cost of the 3G iPhone, allowing Apple to attract more users to feed future mobile application revenue, the majority of which showed up in 2009 and 2010. In other words, together Apple and AT&T attracted more customers than either of them could separately, creating value which flowed through to Apple's bottom line. The revenue bump from the iPad, launched in January 2010, is also apparent in Apple's free cash flow.



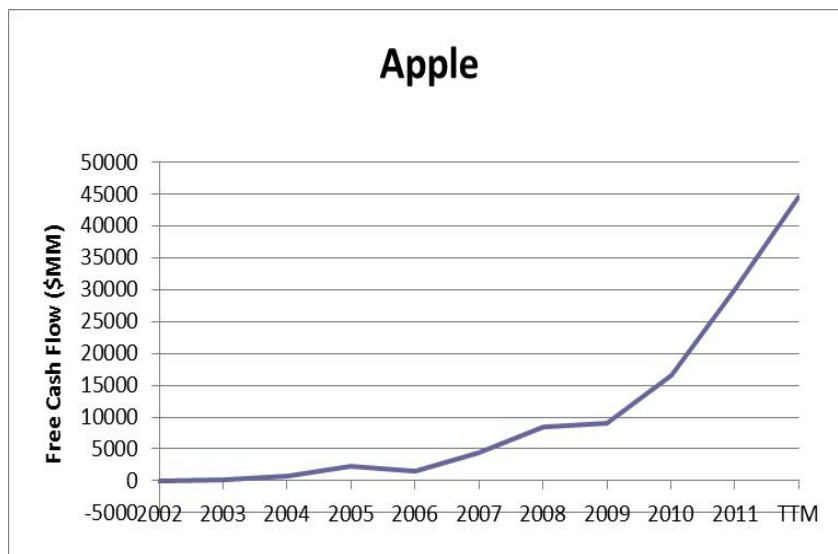
Google also benefited from the rise in mobile applications on smart phones, showing accelerating cash flow growth from 2006 on.<sup>25</sup>




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25. The dip in Google's 2010 cash flows is attributable to a number of acquisitions, categorized as capital expenditures, most notably the purchase of an office building for \$1.8 billion and ITA software for \$700 million.

The company showed early on that it understood the value of offering complementary products, even with competitors. Even though Android competes with Apple in mobile operating systems, in 2007 when 2G iPhone adoption was ramping up Google optimized its site for iPhones to help Google load faster on the device. That optimization helped double the number of Google searches on the iPhone within a month.<sup>26</sup> Google gave away its Android software for free to drive more mobile searches.<sup>27</sup> The primary driver of revenue growth in Google's mobile segment is mobile search.<sup>28</sup> Mobile search has a run rate of \$2.5 billion per year, up from \$1 billion in 2010, making it the fastest-growing portion of Google's advertising business.<sup>29</sup> By realizing the potential to create value, even by helping its competitors in the device and operating system



26. Transcript of Google Q4 2007 Earnings Call (Jan. 31, 2008), available at <http://seekingalpha.com/article/G2591-google-q4-2007-earnings-call-transcript>; Brad Stone, *Apple and Google Fight to Be Top Mapping App*, BusinessWeek (June 14, 2012).

27. Alexei Oreskovic, *Google Jumps As Investors Cheer Mobile Growth*, REUTERS, (Oct. 14, 2011 5:13 PM), <http://www.reuters.com/article/2011/10/14/us-google-idUSTRE79A3ZL20111014>.

28. Greg Sterling, *Will Google See \$6.25 Billion In Mobile Ad Revenue Next Year?*, SEARCH ENGINE LAND, (Oct. 17, 2011 3:58 PM), <http://searchengineland.com/will-google-see-6-25-billion-in-mobile-ad-revenue-next-year-97280>.

29. Oreskovic, *supra* note 27. Google does not break out the revenue per click on mobile versus Display search. However the company all but admitted on its third quarter 2011 call that mobile search brings in less per click than display search. It did so by presenting two facts: first, mobile search is growing faster than display search, and second, that paid click growth rose but revenue growth didn't accelerate as quickly. This means that mobile search is quite likely a drag on overall margins for Google, but that Google believes volume will make up the difference.

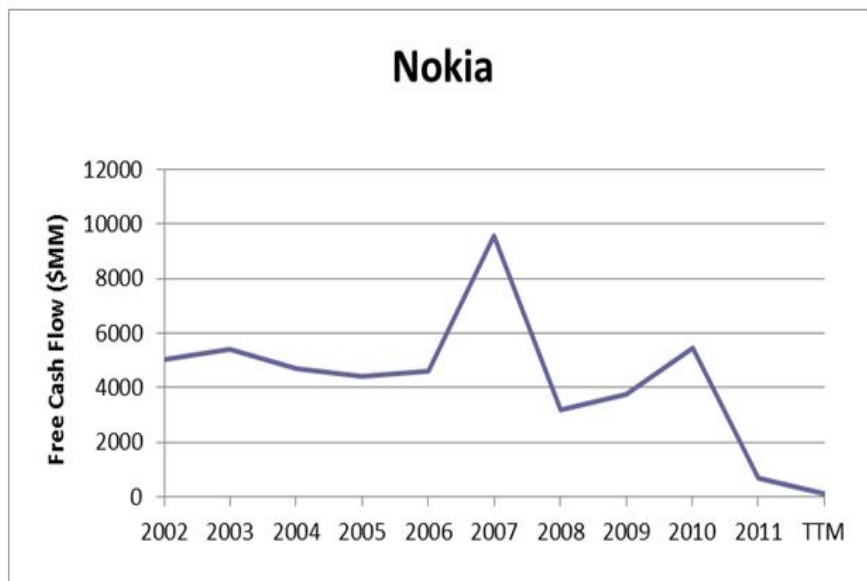
businesses, Google exemplifies the dynamics of a Value Circle industry.

Apple and Google are two well-known firms in their own spaces that increased free cash flow by contributing to a complementary product or package of services that involved players from a different segment of the industry.

## 2. The Challenged

Nokia, Motorola, and RIM, whether intentionally or not, stuck to the traditional value chain model. Tracking the companies' free cash flow for the past ten years tells the story.

Nokia used a value chain model in smart phones and lost badly. In 2007, Nokia's free cash flow hit its apex. It was pushing more phones into developing markets, especially Asia, than any other mobile device maker. Its global device share was 40%, more than three times that of Samsung, the distant number 2.



In 2008, however, Nokia's volume strategy failed. Though Nokia held itself out as the global leader in handsets, its volume business actually hurt margins if Nokia could not get consumers to trade up to higher-end phones. When the attractiveness of Nokia's higher-end phones lost its luster due in large part to the iPhone, Nokia's margins and cash flows declined faster than device volumes. Instead of learning from the iPhone, Nokia seemed to focus first on design, not applications or

partnering with a carrier and not the additional value that Apple offered. When the company did develop a mobile application store, it was unable to translate that store's success into profit.<sup>30</sup> As of May 18, 2012, Nokia's stock sat at around \$2.85, dramatically down from \$40 at its apex and down from its 52-week high of \$8.24. Without a differentiated product package, Nokia has become just another volume player.

Consistent with the Value Circle market structure, Nokia's CEO Stephen Elop provided this analysis to Nokia employees in February 2011. His observations tell the tale of value creation in the 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.”<sup>31</sup>

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 2011 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

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30. Zach Epstein, *Bigger Isn't Always Better: Nokia Ovi Store Apps Downloaded 160% More Than iOS Apps*, BGR (Sept. 7, 2011 2:30 PM), <http://www.bgr.com/2011/09/07/bigger-isnt-always-better-nokia-ovi-store-apps-downloaded-160-more-than-ios-apps/> (showing that Symbian has far and away the most applications). Zach Epstein, *Apple Remained King of App Stores in 2010: Nokia's Ovi Store Revenue Ironically Up 719%*, BGR (Feb. 18, 2011 12:50 PM), <http://www.bgr.com/2011/02/18/apple-remained-king-of-app-stores-in-2010-nokias-ovi-store-revenue-ironically-up-719/> (showing that despite that, Apple's app store reigns supreme in revenue generation).

31. Chris Ziegler, *Nokia CEO Stephen Elop Rallies Troops in Brutally Honest 'Burning Platform' Memo?*, ENGADGET (Feb. 8th, 2011 6:14 PM), <http://www.engadget.com/2011/02/08/nokia-ceo-stephen-elop-rallies-troops-in-brutally-honest-burnin/>.

create a new global mobile ecosystem” illustrated by the chart:<sup>32</sup>



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.<sup>33</sup>

Motorola realized too late that design alone was not enough to compete in the mobile device market. Motorola introduced the Razzr handset in the third quarter of 2004, and it sold very well. In 2006, the Razzr peaked, at which time Motorola mentioned no plans to significantly increase Motorola's value proposition.<sup>34</sup> To be sure, Motorola added functionality and 3G service to its Razzr line, but did not engage carriers to the extent that Apple did. When the Razzr was no longer the smartest phone around, Motorola failed to compete and its cash flows suffered. The company divided into two and Google acquired Motorola Mobility in 2012 for \$12.5 billion to supplement Google's mobile offering and strengthen its patent position vis-à-vis Apple and Microsoft. Such an acquisition is not at odds with the Value Circle hypothesis, however; Google merely found it more efficient to buy rather than partner with Motorola.

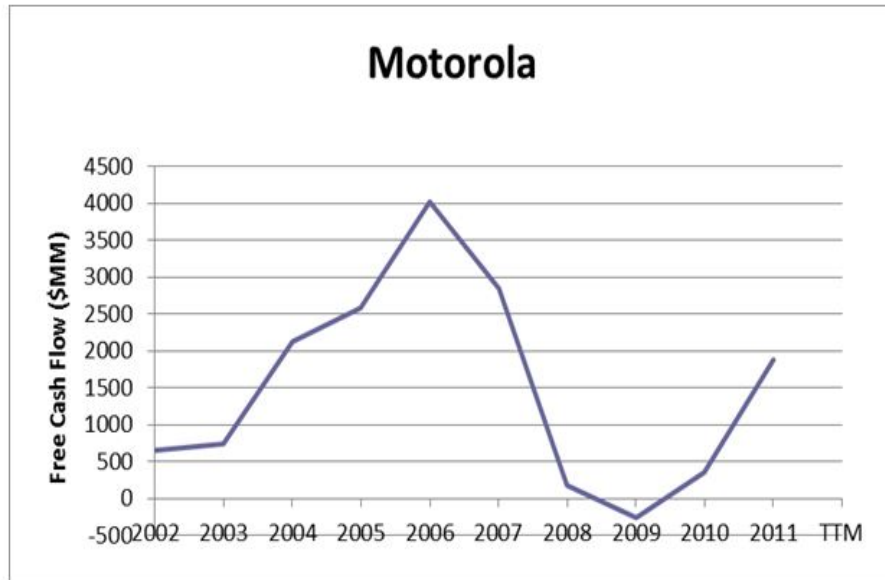
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32. Press Release, Microsoft, Nokia and Microsoft Announce Plans for a Broad Strategic Partnership to Build a New Global Mobile Ecosystem (Feb. 11, 2011), <http://www.microsoft.com/presspass/press/2011/feb11/02-11partnership.mspx>.

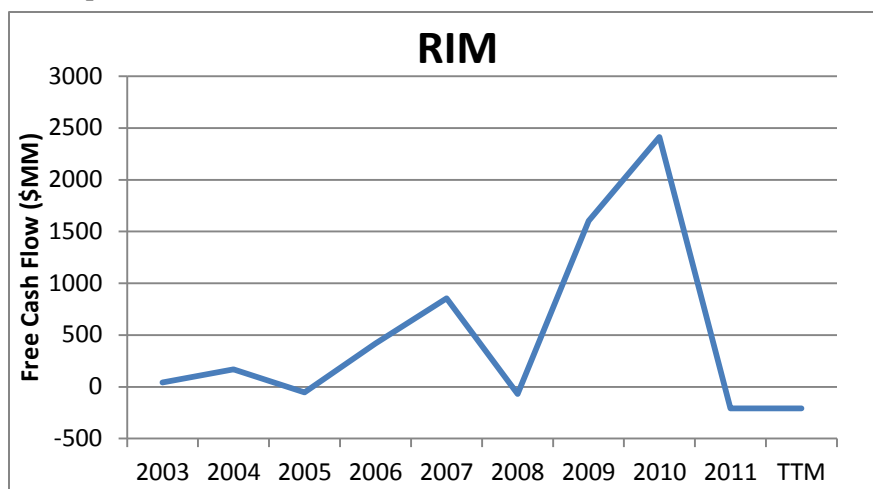
33. Phil Schwarzmann, *Welcome to the Third Ecosystem*, NOKIA CONVERSATIONS (Feb. 11, 2011 7:55 AM), <http://conversations.nokia.com/2011/02/11/welcome-to-the-third-ecosystem/>.

34. Marguerite Reardon, *Is Motorola's Cell Phone Revamp Enough*, C/NET (May 15, 2007 3:16 PM), [http://news.cnet.com/Is-Motorolas-cell-phone-revamp-enough/2100-1039\\_3-6184006.html?tag=mncol;txt](http://news.cnet.com/Is-Motorolas-cell-phone-revamp-enough/2100-1039_3-6184006.html?tag=mncol;txt).





RIM, once at the top of the smartphone market, has similarly struggled to maintain pace with Apple and Google, selling just five percent of all smartphones sold in the United States in the first quarter of 2012 and reporting a net loss of \$125 million in the first quarter of 2012.<sup>35</sup> RIM announced plans in the second quarter of 2012 to refocus on its enterprise business customers in an effort to regain relevance in the smartphone market.<sup>36</sup>



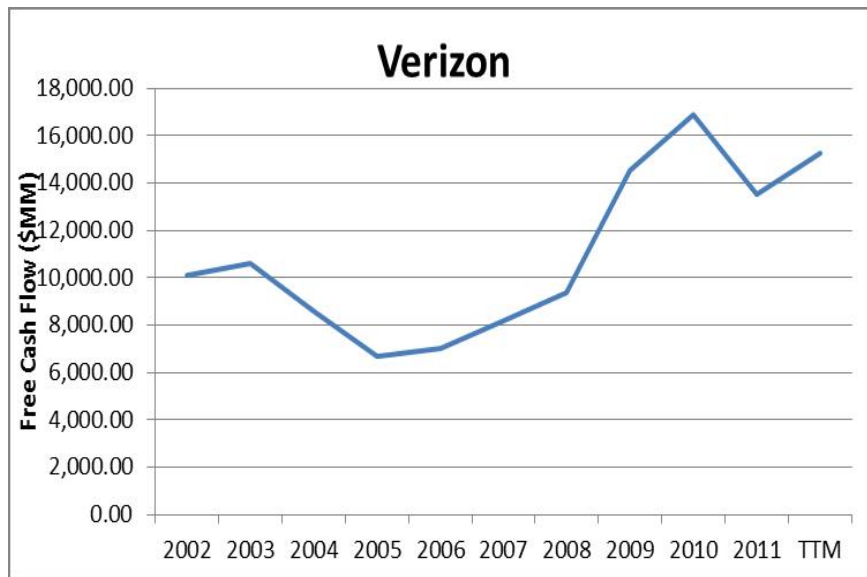
35. *Blackberry-maker RIM Plans New Focus Amid \$125m Loss*, BBC NEWS (March 30, 2012), <http://www.bbc.co.uk/news/business-17557177>.

36. *Id.*

Nokia, Motorola, and RIM's cash flows demonstrate the dangers of a traditional value chain model in a Value Circle would. In an industry where it is no longer just companies that compete, but rather ecosystems comprised of hardware, software, developers, applications and more, firms that fail to create new packages of value with others in the same or complementary industries will likely suffer in the Value Circle.

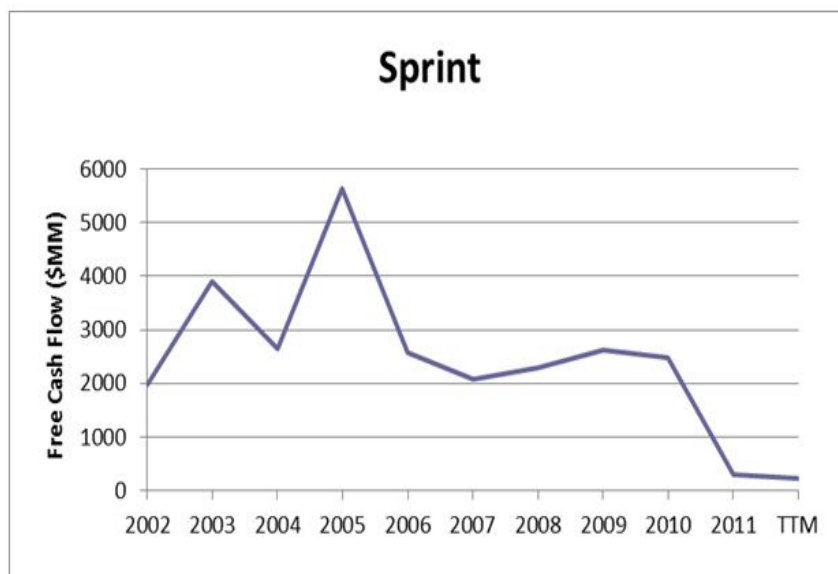
### 3. The Carriers

The years when the iPhone was exclusive to AT&T pose a particularly good test of the value-circle hypothesis. Without the iPhone, Verizon Wireless struck a series of alliances, in order to provide a different package to consumers. Thus, for example, Verizon worked with Google on the adoption of the Android operating system and with device manufacturers, such as Motorola's Droid smartphones, to offer consumers a competing value proposition to the iPhone-AT&T combination. The features of the competing packages were not the same - and this is important - but the terms of competition crossed traditional product market lines. Verizon emphasized the reliability and geographic reach of its mobile network, to give one example. So a hypothetical consumer choosing Verizon-Android-Motorola might well have preferred the iPhone if the choice were solely between the two devices, one against the other, but might have chosen the Verizon package on the ground that he or she preferred the Verizon network, or was attracted to the Google development of Android (a choice reflected in the name of the Motorola device, of course), or both. In other words, the packages were competing and, from 2007-2010 while the Apple exclusivity was in effect, Verizon Wireless was able to be successful in the marketplace.



In 2011, Verizon partnered with AT&T and Apple, even while competing with it, to obtain additional iPhone subscribers but, like AT&T, retaining the interest in device competition.

Sprint had a different experience. It acquired Nextel in 2005, which was not viewed as a successful acquisition. It invested in Clearwire, in order to provide WiMax service for mobile broadband, but then concluded, in 2011, that it also needed to build out an LTE network of its own. It made a \$15.5 billion commitment to acquire the rights to sell the iPhone in 2011, which some observers believed bet the future of the company on this single product line, which Sprint did not, of course, control.



The Sprint experience also brought into focus the question of the relative bargaining power between Apple and the wireless broadband providers. By one estimate, as much of one-third of Apple's US revenues in 2011 came from device subsidies that it was paid by carriers in the United States. Those subsidies could be viewed in two very different ways. From Sprint's perspective in late 2011 and 2012, they were an upfront cost that provided Sprint with an opportunity to match its competitors' device offerings, while differentiating itself through an unlimited wireless data offering. But other observers concluded that the device subsidies were weighing down the profitability of the wireless broadband providers,<sup>37</sup> and there was some suggestion that, in response, carriers were encouraging the purchase of non-Apple devices, presumably to gain bargaining power.<sup>38</sup>

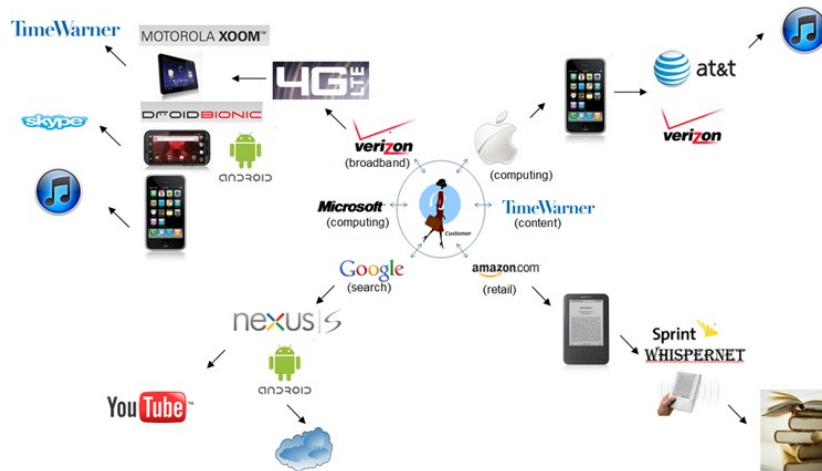
In sum, the free cash flow analysis is consistent with the predictions made by the value-circle hypothesis. Consider the Value Circle chart below, which is a simplified representation of the collection of ecosystems that constitute the Value Circle. Note the multiplicity of roles played by firms simultaneously and the importance of being “on” the circle as a path to success. 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.

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37. Caroline Gabriel, *Apple under rare pressure amid subsidy fears*, Rethink Wireless (April 17, 2012).

38. Sue Marek, *AT&T's de la Vega: We want to minimize phone subsidies* (May 17, 2012).

## The Broadband Value Circle: Business Cases Compete



In considering the formulae for success in the mobile broadband Value Circle, thus far, the following propositions describe a successful strategy:

1. Directly approach consumers, rather than acting merely as an intermediary. Apple and Google, of course, have achieved this.
2. Deliver a “natural” connection between the new value proposition and its “market of origin”. The last decade has seen a set of transitions: telephone companies have become broadband providers; mp3 players have morphed into smartphones and tablets; a search engine powers operating systems even as a software company creates a very successful home device for gaming and TV and acquires a global VOIP service. But not every foray into an adjacent market has been successful; indeed, it is the failures that are, in some respects the most interesting. Additional research, which might involve analysis of the elements of a brand proposition, could usefully improve our understanding of the conditions on which such expansion is successful and the process by which the new identity becomes the best expression of value in the marketplace so that and the “market of origin” becomes an historical

artifact.

3. Create a winning “package” with partners who are often competitors. This has been demonstrated in the sets of inter-related decisions that both firms and consumers are making as they mix-and-match critical ingredients, such as the device, the operating system, the network, software, and apps.
4. Successfully bargain for a bigger percentage of the new economic value that it has created for itself and its partners. The bargaining, which is described in more detail in Part VI *infra*, may not always be explicit, but the goal, of course, is for a firm to take the lead role in a value proposition, and to reap concomitant benefits.

## V. VIDEO ENTERTAINMENT PROGRAMMING

In the world of mobile broadband, the historic separation between strictly vertical and strictly horizontal relationships between businesses has been replaced by an ecosystem in which companies from various parts of the wireless marketplace can directly approach customers, with different packages of values. Their ability to accomplish such strategies rests on the existence of two seemingly inconsistent economic principles: independence and interdependence (both of which are analyzed in greater detail in Part VI *infra*). Independence comes, for example, from the use of standardized interfaces and from the considerable number of apps developers seeking outlets for their content. Interdependence flows from the desire of consumers to purchase a package of products—including device, network connection, operating system, software and apps—and the economic principles that shape such consumer demand.

There are indicia that the market for video entertainment programming is inching towards a value-circle structure. Will it get there? This section discusses the trends pushing towards, and against, that outcome – one that has tremendous importance for business strategy and public-policy.

### A. *Players and Pathways*

At a glance, the players in the market for video entertainment look a lot like the participants in the mobile broadband marketplace, including some of the same companies. They include:

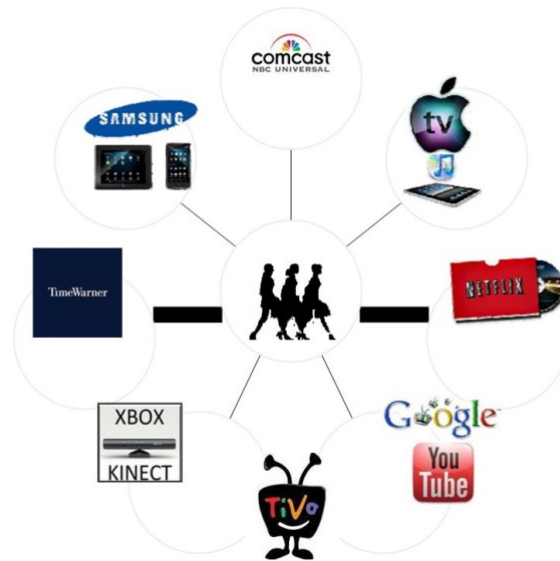
- **Device manufacturers**, including traditional television manufacturers like LG and Samsung; potential new entrants, like Google and Apple; and creators of devices that could substitute for a television, including Microsoft’s Xbox Kinect and tablet computers.

- **Broadband network providers**, including the wireless carriers already identified, and their landline satellite counterparts, including the cable systems. Here, there are two distinct business models. Consumers have access to Internet connections through which they can stream or download video from distributors like Netflix. In addition, broadband providers like the cable operators are distributors of content themselves.
- **Distributors:** A fundamental fact of the history of video entertainment has been aggregation. Content tends to flow from a producer through an aggregator and then to the consumer. The aggregator can be a broadcast television network or a cable network or an Internet distributor like Netflix or Hulu. But, from the consumers' point of view, the presence of the aggregator eliminates transaction costs, both in search and, depending on the specialization of the network, in uncertainty about the nature of the program. The first is illustrated when a viewer in 2012 knows that Showtime is the place to go to watch "Homeland," without having to know the name of the production company that created it; the second is illustrated by, for example, the Disney Channel. The difference between traditional distribution through broadband stations and cable operators, and the Internet distributors, lies at the heart of the evolution of this ecosystem; in particular, the question whether, and how much, the traditional bundles of cable TV programming offered by cable operators will be disrupted.
- **Content Creators:** The supply of video entertainment in the United States comes from major studios. Seven content producers (Disney, News Corporation, NBC Universal, Time Warner, CBS, Viacom and Discovery) supply about 95% of U.S. viewing hours.<sup>39</sup>
- **Cable Networks:** are operating in a two-sided market (discussed in more detail in Part VI *infra*), with revenues flowing from distributors and from advertisers. That means that cable networks are looking for distributors to deliver both audiences (for advertisers) and revenue. At the moment, internet distribution has not proven that it can generate advertising revenue on a scale of interest to the cable networks. For example, CBS reportedly turned down a deal to bring content to Apple TV; Apple wanted an ad-

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39. Craig Moffett, Weekend Media Blast: Why Haven't We Seen a Virtual MSO Yet?, BERNSTEIN RES., JAN. 27, 2012, at 2.

revenue model, while CBS wanted guaranteed payments from Apple to the network.<sup>40</sup> Similarly, major networks reportedly have decided not to provide full shows to Google TV.<sup>41</sup> In contrast to the broadband market, where Google optimized its site for the iPhone, major networks have not been as interested in optimizing their sites for Google TV.<sup>42</sup>



The Potential Structure of a Value Circle in the World of 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 pathways are available to consumers? Consider "A Very Glee Christmas." As *Fortune* magazine noted last year, the episode

40. *Apple TV: Where's the Money?* THE GUARDIAN TECHNOLOGY BLOG (Nov. 14, 2011, 11:17 AM), <http://www.guardian.co.uk/media/blog/2011/nov/14/apple-tv>

41. Sam Schechner & Amir Efrati, *Networks Block Web Programs From Being Viewed on Google TV*, WALL ST. J. (Oct. 22, 2010), <http://online.wsj.com/article/SB10001424052702303339504575566572021412854.html>

42. *Id.*



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.<sup>43</sup>

Now Apple has been rumored to be developing a voice-controlled TV set that would sync with its iCloud<sup>44</sup> and one analyst in early 2012 concluded that an Apple TV, complete with Siri-based voice commands, would lead to "industry leading" margins "given its vertical integration with content."<sup>45</sup>

Google has partnered with content providers, set-top box makers, and TV makers to create Google TV.<sup>46</sup> Google TV integrates internet search capability into its set, as well as a host of channels via its content partners. Similarly, Samsung offers devices that play video on a television, a tablet, and a smartphone. That is 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. 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.

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. 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. 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 as true? For example, Warner Bros. became the first studio to rent a film (*The Dark Knight*) through Facebook, as "a way of skirting those

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43. Jessi Hempel, *What the Hell is Going on with TV*, FORTUNE (Jan. 3, 2011), <http://tech.fortune.cnn.com/2011/01/03/what-the-hell-is-going-on-with-tv/>.

44. Adario Strange, *Sony Working on 'Different Kind' of TV Set*, PCMAG.COM (Nov. 11, 2011, 9:22 AM), <http://www.pcmag.com/article2/0,2817,2396250,00.asp#fbid=J-YOXpxysIJ>.

45. Neil Huges, *Apple Seen Taking 5% of HDTV Market, Earning \$17B in Revenue*, APPLE INSIDER (Feb. 7, 2012), [http://appleinsider.com/articles/12/02/07/apple\\_seen\\_taking\\_5\\_of\\_hdtv\\_market\\_earning\\_17b\\_in\\_revenue](http://appleinsider.com/articles/12/02/07/apple_seen_taking_5_of_hdtv_market_earning_17b_in_revenue).

46. Clint Boulton, *Google TV Partners, Features Unveiled*, LINUXDEVICES.COM (Oct. 5, 2010), <http://www.linuxfordevices.com/c/a/News/Google-TV-partners/>.

middleman distributors” like Netflix.<sup>47</sup>

By some measures, the traditional model is under pressure; cable subscriptions actually declined in 2010. 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. Or, as Comcast’s Brian Roberts has said, “[w]e want to position our company to take advantage of innovation, not trying to necessarily fight it and want to make it as simple for our customers as possible.”<sup>48</sup>

Opinions have been divided on the likely success of the idea. One analysis depicted Comcast as “desperately trying to arrest the flight of basic video subscribers to alternative pay-TV service providers or the Internet,”<sup>49</sup> while others have suggested that the arrival of TV Everywhere represents the triumph of the cable operators.<sup>50</sup> For example, Hulu is rumored to be moving to a model in which subscriptions are available only to those who have cable subscriptions. That is the model already for ESPN3, which streams live sports programming, and HBO To Go. The success of TV Everywhere would be to enable alternatives to cable viewing by people who wish to use tablets or other devices, but without empowering a substitute to cable subscriptions.

In contrast stands Netflix, an Internet distributor that can be accessed by a consumer who does not have a cable subscription. Similar models exist on YouTube and Amazon. Netflix in particular has ridden a rollercoaster of stock valuation and reputational change in the past two years, but the fundamental question exists beyond the issues of that company alone – Will consumers wish to “cut the cord” or “shave the cord” by abandoning a cable subscription or limiting the “extras” associated with a cable subscription in order to rely on independent Internet distribution? A Value Circle analysis would suggest that some consumers would consider that a different “package” of value.<sup>51</sup>

The ability of a new distributor to become the gateway to content depends on its attractiveness to a content creator, like a cable network.

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

48. *4Q Beat: Big Dividend, Little Sub Loss Make for Good Comcast Quarter*, CABLE FAX DAILY, Feb. 16, 2012, at 2.

49. *Comcast Launches ‘TV Everywhere,’* SEEKING ALPHA (Oct. 14, 2010), <http://seekingalpha.com/article/230127-comcast-launchestv-everywhere>.

50. *Who Will Win the Battle for the Global Living Room?*, UBS INVESTMENT RES., Sept. 22, 2010.

51. Some cable systems have begun to experiment with very limited packages, for example, with sports channels and/or without features such as video-on-demand.

Here there are three points to be noted.

First, businesses traditionally are concerned about subverting (or “cannibalizing”) their existing distribution channels. On occasion, this concern can reflect the dilemma of an upstream provider in a classic value chain, because the company is concerned about the extent to which its success is dependent on the decisions of its downstream distributor. But it can also arise where a new distributor may not be able to provide an audience that drives revenues (here from advertising).

Second, especially where there are powerful perceived advantages to traditional business models, innovation can come from a disruptive direction that seems, at first glance, to be an inadequate substitute for the incumbent model.<sup>52</sup> In the realm of distribution of video entertainment, Netflix embodies that depiction, since it does not seem, at first glance, to be the same “thing” as a cable operator’s delivery of multiple networks and brand-new content to the home. In the realm of content delivery, the seeming inadequate substitute could be the content creators own, but older, content, setting up an unanticipated intra-mural rivalry.

Here, a key question is 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. 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 have argued that for a fee of \$8/month, the flow of older content will, nonetheless, satisfy a growing customer base. Or to put it another way, the content creators could be competing against themselves – with their earlier products more popular with consumers than traditional models would have suggested. (The phenomenon is not unknown – in world of devices and computers the

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52. CLAYTON M. CHRISTENSEN, *THE INNOVATOR’S DILEMMA* (2002).

consistent question is whether the “new” model is worth the cost of an upgrade, but the debate had not traditionally been as relevant to the creation of, say, a movie or television series).

Third, content may flow from new producers, or an established (perhaps smaller) producer may decide to try a different approach from its content competitors. At the moment, there is more evidence of the first possibility. For example, Netflix began the distribution of a television series, “Lilyhammer”, and has acquired rights to the re-make of a well-known British TV series. YouTube is reported to be spending (\$150 million) on the creation of new content.<sup>53</sup>

These three points do not suggest 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 real-time 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.

In fact, understanding this market requires an understanding of the traditional cost structure of content. It is easy to understand why an aggregator would not want to see the dis-intermediation of its aggregation; cable operators have an interest in extending the scope of their offering (such as through “TV Everywhere”), but not, so far anyway, in the disaggregation of their packages to sell cable networks on an a la carte basis. Traditional content creators have a similar interest, especially in the production of a television series, where production costs are amortized across the episodes in a season (and where future revenues are aided by a long-running series). The disaggregation of TV shows threatens that cost structure in the way that the sale of “songs” in place of albums through distributors like iTunes is thought by many in the music industry to have undermined the traditional cost structure of the album as a contained package of musical selections.

The outcome is not preordained. Just as the Value Circle predicts, Time Warner, owner of Warner Bros. studio and cable networks, has seen online distributors like Netflix as simultaneously “potential partners” and “competitors to us and other content companies.”<sup>54</sup> 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.

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53. Abe Brown, *New YouTube Channels Rumored That Would Compete With TV*, Inc. Tech (Oct. 17, 2011).

54. Nick Wingfield & Sam Schechner, *Netflix Rattles Rivals as it Expands on the Web*, Wall St. J., Dec. 6, 2010, at B.1.

### *B. Free Cash Flow Analysis*

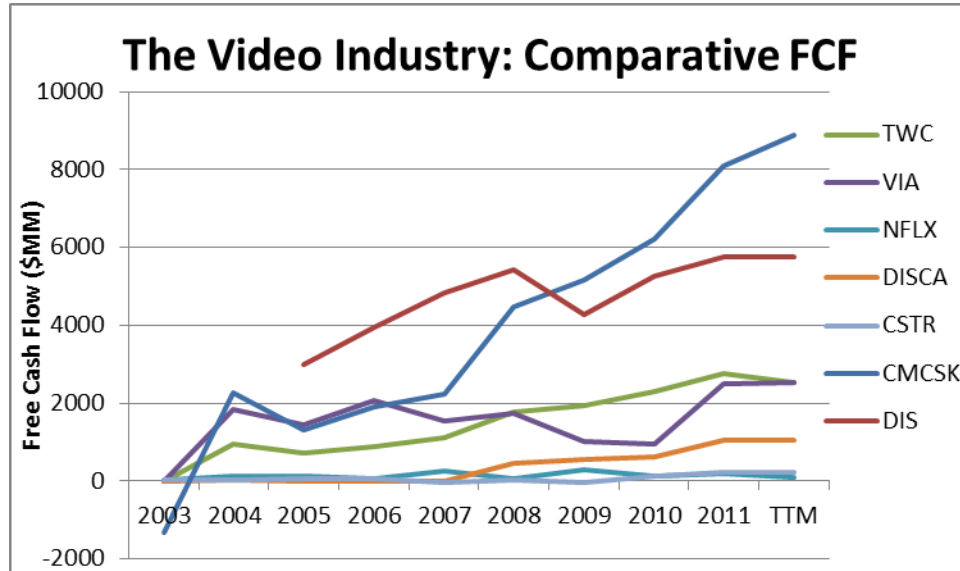
Unlike the mobile broadband space, analysis of free cash flow in the video-entertainment sector fails to offer compelling evidence of change. Rather, analysis of several companies in the video space suggests that if a Value Circle environment does indeed exist in the video market, it is in an earlier stage than the broadband market – perhaps because of the allegiance of content creators to traditional business models.

Consider the following charts, which look at the free-cash flow of a series of companies active in this space including Time Warner Cable, Viacom, Netflix, Discovery Communications, Coinstar, Comcast and Disney. The companies occupy quite different positions in the industry. Viacom and Disney are successful content creators with notable ownership of broadcast stations and/or cable networks; Comcast is both a content creator and a cable operator; Time Warner Cable is more tightly focused on cable operations; Netflix and Coinstar (through its ownership of Redbox) represent two alternative distribution models – the first online and the second through physical kiosks; Discovery Communications operates nine national cable networks in the United States for which it both purchases and produces programming. One analyst believes that Discovery is advantaged precisely because it produces original programming, arguing that “cable networks that own more of their own programming will have more control over their destiny and more flexibility in monetization.”<sup>55</sup>

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55. Spencer Wang et al., *Not All Cable Networks Are Created Equal*, CREDIT SUISSE, January 31, 2012, at 4.

The importance of the first chart is for what it does not show.



Over the period of analysis, all end higher than at the beginning. There are variations, of course, but established business models do not seem to have faced large disruption. Comcast, for example, shows continued growth in its free-cash flow during the period and the growth, although not as dramatic, by Time Warner Cable suggests that the business of being a cable operator has not (yet at least) been undermined. (In the first quarter of 2012, one analyst said that “Comcast remains a distribution company, not a media company, and by a huge margin” (almost seven to eleven).<sup>56</sup> Comcast has consistently bought back shares and grown its cash flows through traditional methods- margin expansion, HD offerings, and greater ARPU.<sup>57</sup> Disney, minus its parks, has created a stable portfolio of television and movie offerings, a stability disrupted in 2009 by exceptionally low movie turnout. Viacom has not changed dramatically over the last five years, with its most marked increase in cash flows, in 2010, coming from reduced pension obligations.<sup>58</sup> All of this is to say that the major inflection points seen in wireless broadband coming from new technologies, complementary packages of products, and new ways of customer interaction have not developed in the video

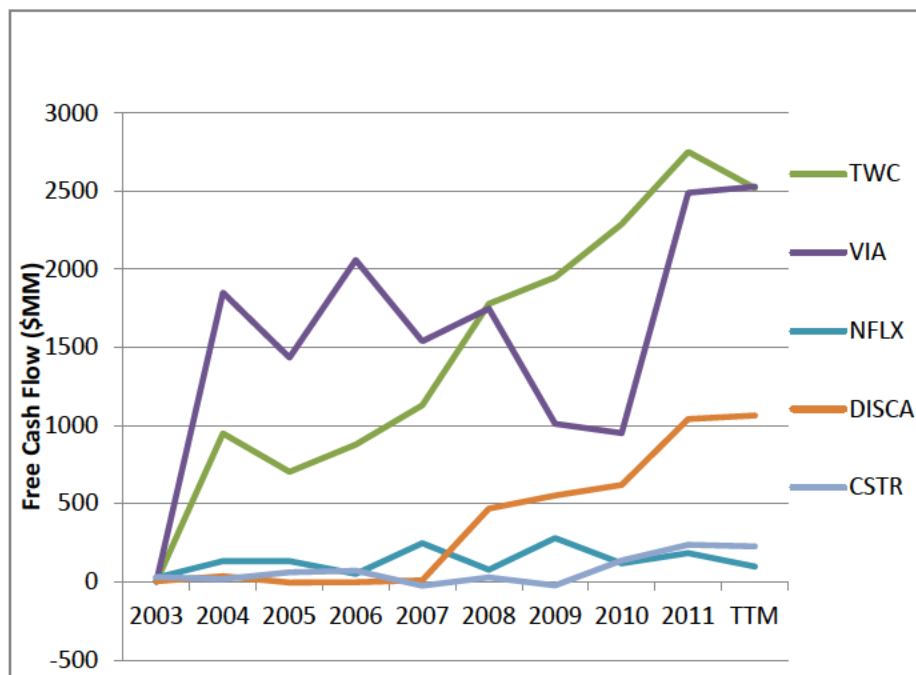
56. 4Q Beat: Big Dividend, Little Sub Loss Make for Good Comcast Quarter, supra note 48.

57. Transcript, Comcast Corp., Comcast’s Fourth Quarter and Full-Year 2010 Earnings Conference Call (Feb. 16, 2011), available at [http://files.shareholder.com/downloads/CMCSA/1597014970x0x442204/dc126a85-c48e-4f65-85ce-750ed50a1fdd/CMCSA\\_Transcript\\_2.16.11.pdf](http://files.shareholder.com/downloads/CMCSA/1597014970x0x442204/dc126a85-c48e-4f65-85ce-750ed50a1fdd/CMCSA_Transcript_2.16.11.pdf).

58. Viacom Inc., Annual Report (Form 10-K) (Nov.12, 2010).

market.

At the same time, there appears to be competitive space for alternative distribution mechanisms. The second chart looks more closely at a subset of five companies to provide a more granular look at their free-cash flow trends. Coinstar's free-cash flow has increased since it acquired complete ownership of Redbox in 2009. Although Netflix has been on a troubled trend (for example, on June 4, 2012, its stock opened at \$63.25, down from its 52-week high of \$304.79,<sup>59</sup>) its free cash flow curve is down but remains above its 2008 level.

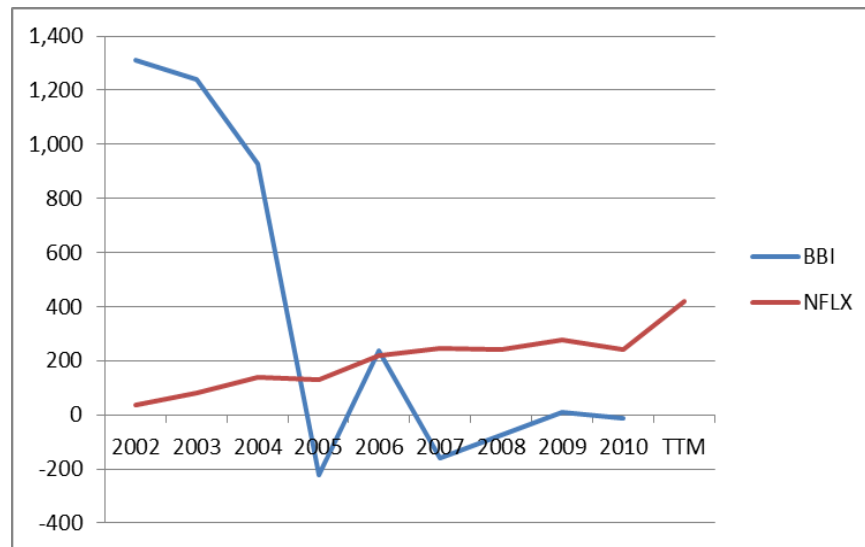


Netflix emerged as a winner in the video market by offering TV and movie content through mail and the Internet. From 2002 on, Netflix's free cash flow grew steadily as customers opted for the cheaper, more convenient mail delivery system of Netflix over the brick and mortar stores of Blockbuster and Hollywood Video. Hollywood Video's parent company filed for bankruptcy in 2007,<sup>60</sup> Blockbuster's cash flows eroded

59. YAHOO Finance (June 8, 2010), <http://finance.yahoo.com/echarts?s=NFLX+Interactive#symbol=nflx;range=5d;compare=;indicator=volume;charttype=area;crosshair=on;ohlcvvalues=0;logscale=off;source=undefined>.

60. Beth Gaston Moon, *Hollywood Video Parent Movie Gallery Files For Chapter 11 Bankruptcy*, BloggingStocks (Oct. 16, 2007, 3:19 PM),

gradually from 2002 to 2004, then plummeted in 2005 when the company attempted to compete with Netflix by using its stores as movie distribution centers.<sup>61</sup> Meanwhile, customers responded favorably to Netflix's mail and streaming offerings despite industry analysts' warnings that Netflix needed a brick-and-mortar presence to be a sustainable business.<sup>62</sup>



Netflix's growth suggests that customers found value in the convenience of watching movies online or ordering through the mail, as opposed to Blockbuster's brick-and-mortar model. However, the emergence of Redbox does suggest that customers find value in such a model. Further, Netflix's recent troubles in retaining subscribers and content providers suggests that there may be a limit to size of its potential customer base, or at least that those customers are price sensitive.<sup>63</sup>

Still, these results are not at odds with the Value Circle hypothesis. Resurrected by Dish, Blockbuster's play for the physical and digital rights to Starz movies in September 2011, after Netflix could not work out a deal with the studio, presents an interesting challenge to Netflix's

<http://www.bloggingstocks.com/2007/10/16/hollywood-video-parent-movie-gallery-files-for-chapter-11-bankru/>.

61. Michael Kanellos, *Blockbuster's Brick-and-Mortar Netflix Defense*, CNET NEWS (Oct. 27, 2004, 6:52 AM), [http://news.cnet.com/Blockbusters-brick-and-mortar-Netflix-defense/2100-1026\\_3-5428617.html](http://news.cnet.com/Blockbusters-brick-and-mortar-Netflix-defense/2100-1026_3-5428617.html)

62. Randall Stross, *Why Bricks and Clicks Don't Always Mix*, N.Y. TIMES (Sept. 18, 2010), <http://www.nytimes.com/2010/09/19/business/19digi.html>

63. Julianne Pepitone, *Netflix Loses 800,000 Subscribers*, CNN MONEY (Oct. 24, 2011, 6:55 PM), [http://money.cnn.com/2011/10/24/technology/netflix\\_earnings/index.htm](http://money.cnn.com/2011/10/24/technology/netflix_earnings/index.htm).



model.<sup>64</sup> Barry Diller has argued that access to content is critical: “Anyone will tell you, whether it's Amazon or Hulu or Apple, that they can't get enough programming that people want to see to - so to speak, 'break the chain' - because all of the programming is controlled within the circle.”<sup>65</sup> Of course, content producers take the opposite view, expressing the view that “free” or fractured access to their premium content would hobble their ability to fund new content.

### *C. If Video Entertainment Became a Value Circle*

What happens next? If the video market's transformation parallels that of wireless broadband, devices and new connections to customers will be good indicators of any transformation that takes place in video. Specifically, devices in video would become more important, in a way similar to the rise of the iPhone and other smartphones. New forms of devices for watching video – television sets with new features, replacement devices such as gaming consoles or challenges to existing set top boxes -- would signal possible change but the significant shift would come if a device manufacturer is able to escape commoditization of the TV set in order to place itself at the center of the value proposition. In the mobile broadband world that worked, in part, because the device manufacturers would be able to incent a wide spectrum of apps developers to work with them (or their chosen platform, as with Android). In the video entertainment space, that same equation leads inevitably to the content creators.

Thus, another indicator of the development of the Value Circle would be the growing independence of content distributors from traditional distribution channels, mirroring content-agnostic delivery of bandwidth in the broadband market. Netflix's business model hints at an independent video distribution scheme, but its loss of Starz's content demonstrates the difficulties in gathering video content from various sources. Still, there could be a breakpoint in the future when a tipping point is reached. If such a large amount of content does become available independent of cable subscriptions, that would indicate that the video market is on the same heading as the broadband market. (A related dynamic is that the wireless broadband market and the video-entertainment market may not be separate for much longer).<sup>66</sup>

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64. Alex Sherman, *Dish Said to Stream Blockbuster Films to Challenge Netflix*, BLOOMBERG (Sept. 2, 2011, 5:39 PM), <http://www.bloomberg.com/news/2011-09-02/dish-said-to-plan-blockbuster-rival-to-netflix.html?cmpid=bit>.

65. Brian Stelter, *A New Way to Stream Broadcast Television*, N.Y. TIMES (Feb. 15, 2012, 11:40 AM).

66. Holman W. Jenkins, Jr., *Wild, Wild Wireless*, WALL ST. J. (Dec. 7, 2011), <http://online.wsj.com/article/SB10001424052970204903804577082161265202628.html?mod>

Opinions (and business models) differ. One analyst has said that it will “be very hard” to upend the existing business model, emphasizing the importance of the current structure to cable network providers, while noting that threats could potentially arise from “YouTube’s model – launch a bunch of channels that exist entirely outside the incentive structure of the existing media business” or, as Netflix is trying to do, supply “the sheer tonnage of long forgotten and off-the-run content available online.”<sup>67</sup> But others are making a big bet on a shift from cable subscriptions to Internet-based, discrete decision-making. Thus, when Barry Diller launched his self-proclaimed attack on what he described as the “closed cable-broadcast-satellite circle” through the introduction of “Aero,” a service (quickly challenged as illegal) that would provide New Yorkers with internet-based access to broadcast networks for \$12/month. The president of Aero explained the business model by saying that “if you have this and you have Netflix, you absolutely have the ability to not have a standard cable subscription.” What’s important about this is not simply the challenge to the existing system; it is the explicit embrace of the value-circle concept of a virtual “package” – Aero and Netflix, are not partners and not even business associates in the traditional sense but, in this view, colleagues in supplying the “package” of programming (along with an Aero-supplied DVR) that would satisfy some consumers.<sup>68</sup>

Yet another indication of big change would be material disruption of the advertising model. Consider, for example, a legal fierce battle erupted in the spring of 2012 when DISH network introduced “AutoHop,” which allows viewers to time shift television programs and eliminate advertising. CBS, FOX, and NBC quickly filed lawsuits to stop use of the technology.<sup>69</sup> In a world where, for example, cable network models are built on combining advertising revenue with other fees, as discussed above, the loss of advertising revenue could provide a serious challenge to advertising-based models and to that traditional source of funding for content.

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67. Craig Moffett, Weekend Media Blast: Why Haven’t We Seen a Virtual MSO Yet?, BERNSTEIN RES., JAN. 27, 2012, at 4.

68. Brian Stelter, *Media Decoder: A New Way to Stream Broadcast Television*, N.Y. TIMES (Feb. 15, 2012, 11:40 AM), <http://query.nytimes.com/gst/fullpage.html?res=9402EFD7113CF936A25751C0A9649D8B63&ref=barrydiller>.

69. Brian Shelter, *Battle Over Dish’s Ad-Skipping Begins as Networks Go to Court*, N.Y. TIMES (May 24, 2012), <http://www.nytimes.com/2012/05/25/business/media/lawsuits-are-filed-over-dishs-ad-skipping-technology.html>

## VI. ECONOMIC PRINCIPLES & THE IMPACT ON VALUE CREATION

The evolution, or inclination, to the Value Circle takes place in an economic environment that impacts whether it comes into being and, if so, how it operates.

The “right conditions” seem to require a mix of both independence and inter-dependence. If there were no reason for any company to deal with any other company, then collaboration would not exist. If every company were entirely dependent on another company, especially a single company, then the conditions for cooperation and competition would be unlikely.

But in a marketplace with a mix of independence and inter-dependence, then firms have the ability to collaborate and compete with each other simultaneously and, perhaps even more importantly, to experiment with business models. That experimentation allows companies to take different paths to market. Some may wish to create more of the value within their company alone. Others may wish to collaborate for a greater percentage of the new value. Collaboration may take the form, for example, of the use of open-source software, like Android, or exclusive dealings, like the original Apple-AT&T agreements. So long as multiple pathways to value creation exist in an environment that simultaneously promotes independence and inter-dependence, then the dynamic competition that lies at the core of value-circle analysis can thrive.

In addition, in highly complementary markets, where consumers will inevitably be purchasing a package of related goods and services, outcomes in one market can have significant impacts on other product markets. That inter-dependence is heightened by the existence of network effects and the overlap of multi-sided markets, which means that (i) the creation of value in one market, say in devices, can influence the choice of consumers in another market, say broadband service or apps; (ii) companies in different markets may be competing to satisfy the same set of customers, as cable operators and cable networks, for example, both seek advertising dollars; and (iii) consumers play an important role as co-creators of value, not only as “eyeballs” but as content providers on, for example, social networking sites.

Independence and inter-dependence are predicates; they do not determine the precise nature of the value proposition that a firm or firms may bring to market. For that, examination turns to the next two principles: bargaining power and the power of consumer demand. Bargaining is simply examination of the process of how economic value derived from a new value proposition, less the consumer surplus enjoyed by customers, is divided among firms. And that cannot be separated from the nature of demand, which is made more complex by the fact that

consumers are themselves co-creators of value vis-à-vis entities like Facebook, YouTube, Tumblr, Twitter, and other avenues for social networking or broad content distribution.

#### *A. Independence*

In this context, independence means the ability to create a product feature that works with other products, but does not require the “permission” of the originator of that product or product feature. Manifestations of independence include modularity, standardization, interoperability and, of course, open-source software. A leading example is email. Any user can send email to any other user.

Of critical importance is the concept of modularity, which 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 in adjacent markets. Because many different products are compatible, competing products can be delivered from any source. 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 importance of modularity is heightened by the fact, in the two markets we are examining, consumers are, almost by definition, purchasing a package of products. In wireless broadband, that includes the device, the broadband connection, the operating system, software, and apps. In the world of video entertainment that includes a device (or devices), the distribution path (or more than one) and various form of content. The need for multiple products does not, of course, require modularity, but the existence of easily-used standards, plus the requirement of a package, offers the possibility of a very high, and dynamic, number of combinations that can be created at any time. This, of course, satisfies consumer desire to shape the user experience and pushes competition to be dynamic.

Independence also means that a firm can choose from among different alternatives in its business model.

#### *B. Inter-dependence*

The incentive to cooperate and partner results from a set of

economic incentives that push firms in the opposite direction. They include “virtual network effects,” by which this article means high complementarity between different products. That is distinct from what this article terms “classic network effects,” by which this article means added value that comes with additional people using one product. Take them in reverse order. A “classic network effect” is illustrated by the old-style telephone networks. A single telephone is of no economic value (except, perhaps, as a paperweight). But the value of a telephone connection increases as more and more people get telephones. Thus, Metcalfe’s Law postulates that the addition of another user to a network increases the value of that network to other users by more than one unit – a non-linear increase in value. Metcalfe’s Law illustrates the network effect, the positive externalities that flow from the increased use of, in this example, a telephone network. As we will see, that value can be captured by the owner of the product or service (and network effects do not apply only to physical “networks”) in its bargaining with other firms. Simply put, classic network effects apply when the use of a service or product increases because other people are also using it.

### *C. Virtual Network Effects and “Packages”*

By contrast, what this article calls “virtual network effects” arise from the connection of uses between two “complementary” products. 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. The network effect between the two products is that each drives demand for the other. In the early days of the commercialized Internet, users who owned computers were more likely to buy broadband connectivity and, reciprocally, as broadband capacity to users increased, computers became more valuable in the home. Another oft-cited example is the relationship between razors and blades.

This paper uses the term “package” to describe products that are so tightly complementary to one another that the presence of one has a direct impact on the purchase of the others. 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 important to remember that we are discussing two different product markets. A single product market is generally understood to consist 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 smartphone and the wireless network do not have to be seen as occupying the same product market; but, they are certainly complements in which each increases the value of the other.

Apple has not entered the business of operating wireless broadband. Likewise, Amazon has not 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 did not state, nor need it,<sup>70</sup> that Whispernet was the Sprint or AT&T networks.<sup>71</sup> Nor did Google need to purchase a wireless network in order to offer the "carrier-independent"<sup>72</sup> Nexus S smartphone, which, once purchased from Google, could be used on multiple wireless networks or to make its bid for Motorola Mobility.<sup>73</sup>

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NATIONAL RETAIL EXCLUSIVE

In this market, the "unit" of consumer satisfaction is much more a package of complementary products than a single product standing alone. Consider this Best Buy advertisement from early 2011 for HTC 4G smartphones:<sup>74</sup>

70. *Wireless, Whispernet, and Whispersync*, AMAZON.COM, <http://www.amazon.com/gp/help/customer/display.html?nodeId=200375890> (last visited Dec. 15, 2012).

71. *Switch11, Whispernet-Amazon's Whispernet Wireless Coverage Map, Kindle Review*, IREADERREVIEW (Jan 19, 2008), <http://ireaderreview.com/2008/01/19/amazon-kindle-wireless-coverage-map-whispernet-map/>.

72. *Galaxy Nexus*, GOOGLE, <http://www.google.com/nexus/#/tech-specs> (last viewed May 17, 2012).

73. Al Sacco, *Google Nexus S Smartphone: Nine Facts You Need to Know*, CIO, (Dec. 7, 2010) [http://www.cio.com/article/644768/Google\\_Nexus\\_S\\_Smartphone\\_Nine\\_Facts\\_You\\_Need\\_to\\_Know](http://www.cio.com/article/644768/Google_Nexus_S_Smartphone_Nine_Facts_You_Need_to_Know).

74. See Cory Gunther, *HTC Thunderbolt Still Showing as \$299 in Best Buy Ads*,

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). In other words, the advertisement demonstrates the existence of a package.

The advertisement also illustrates the strong relationship between the different product markets. Complementary markets influence each other, which means that competitive forces in, say, the market for operating devices, can impact competition in, say, the market for device manufacturers. Usually, competition policy measures a marketplace by identifying direct competitors; in this marketplace, however, the impact of network effects (as the next subsection will illustrate), overlapping audiences, means that competitive forces often come from a market that is does not create direct substitutes. Thus, in this advertisement, HTC’s market positioning is dependent on consumer acceptance of Android and is influenced by its future.

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 or multiple decisions. What is important is that a firm constructs a value proposition that requires the participation of other firms and that these firms will then bargain with one another to divide the economic surplus that successful innovation delivers.

#### *D. Two-Sided Markets*<sup>75</sup>

A “fundamental property” of a network, as described above, is its ability to serve multiple audiences simultaneously.<sup>76</sup> In fact, two-sided

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ANDROID COMMUNITY (Mar. 4, 2011), <http://androidcommunity.com/htc-thunderbolt-still-showing-as-299-in-best-buy-ads-20110304/>.

75. Technically, the concept refers to multi-sided markets.

76. Nicholas Economides, COMPETITION POLICY IN NETWORK INDUSTRIES: AN INTRODUCTION at 10 (2003), available at <http://www.ftc.gov/be/seminardocs/economides.pdf>.

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.<sup>77</sup> Competition in video content distribution is a striking example of competition between one-sided and two-sided business models.

Some 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 a different model, based on its ability to generate advertising revenue through the audience it delivers to advertisers.

Indeed, an important aspect of multi-sided business models occurs when the audiences are themselves overlapping, and the businesses are “nested” within a collection of competitive and cooperative arrangements.

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77. Ronald Coase received the Alfred Nobel Memorial Prize in Economic Sciences in 1991 for “his discovery and clarification of the significance of transaction costs and property rights for the institutional structure and functioning of the economy,” known as the “Coase Theorem.” *About Ronald Coase*, THE RONALD COASE INSTITUTE, <http://www.coase.org/aboutronaldcoase.htm> (last visited May 17, 2012).



Consider the chart below:

	One-Sided Consumer Charge	Two-Sided Charging One Side	Two-Sided Charging Both Sides
Amazon OnDemand	X		
Apple iTunes	X		
Blockbuster	X		
Network TV		Over-the-Air	Advertisers/ Cable Operators
Cable Networks with "TV Cable Operators			Advertisers/Cable Operators Advertisers/Consumers
Hulu		X	
HuluPlus			Advertisers/Subscribers
Netflix	X		
Redbox	X		
YouTube		Advertisers	
Walmart/Vudu	Walmart - DVDs & Vudu -Streaming		

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. Cable networks, such as ESPN, garner revenue from both advertisers and cable operators, such as Comcast. Local television stations "give away" their product over the air to consumers but in a multi-sided model in which their ability to attract viewership creates the value that they exchange for advertising dollars. And, of course, through re-transmission consent negotiations, broadcast stations also bargain with cable operators. As noted above, one disinclination for the owner of cable networks to challenge the incumbent cable distribution world would arise if it concluded that online distribution would not support the advertising revenue needed for its two-sided strategy.

#### *E. Bargaining Power*

If only one of the previous principles is present, there is little for firms to bargain about. If firms were totally independent, then their paths to market would not require any interaction with other firms. If no firm

could approach customers without the involvement of another firm, then competition would be tightly controlled by a single firm. But a market environment in which both independence and inter-dependence exist is a firm that welcomes “mix-and-match” competition, where multiple choices are available but in which relationship between firms is also of value. And that leads to bargaining among firms that choose to work together over the economic surplus that their successful value propositions create.

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 inter-dependent, and this inter-dependence—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 involve the decision to eschew formal bargaining through competitive actions.

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 single 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.

How do we assess the strength of the relationships that customers form with companies, and the subsequent impact on bargaining power? Let us consider three indications of bargaining power: classic network effects, the value of brand, and the ability to expand beyond the market of origin.

As noted above, a classic network effect makes a product or service more valuable, as more people use it, like a telephone network. But a “network” effect is not limited to physical networks; rather the concept denotes the “network” of users that, in combination, make it more likely that future users will choose that good or service.

Consider the iPhone, again. The popularity of the iPhone leads more applications developers to write applications for it, which provides additional benefits to iPhone users, which, of course, increases the

popularity of the iPhone. At the beginning of May, 2012, the Apple App store offered more than 600,000 applications. However, networks are contestable. So, the Android platform yields network effects built on a different value proposition—namely a combination of consistency, through the use of Android, and differentiation, through the presence of Android on multiple devices from different manufacturers with different product features. At the beginning of May, 2012, the Android platform offered about 500,000 applications, about 100,000 fewer, with a higher percentage of those applications offered for free.<sup>78</sup> Thus, strong network effects can convey bargaining power to Apple or Google.

Another form of inquiry is to think of the relationships between firms 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, eight of the top 25 most valuable global brands in 2012 included:<sup>79</sup>

- #1 Apple
- #3 Google
- #5 Microsoft
- #8 AT&T
- #9 Verizon
- #18 Amazon
- #19 Facebook
- #20 T-Mobile

An accurate description of the eight, by their markets of origin, would include one search engine, one computer manufacturer, one e-retailer, one software company, one social networking site, and three broadband networks.

An equally accurate description would be this: eight 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. And the power of each brand, therefore, may be a proxy for customer loyalty on which a firm can draw.

Consider, for example, the relationship in 2012 between Apple and wireless broadband providers. It’s a bargaining circumstance in which

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78. Gert Ian Spriensma, *Introducing Distimo Applink, Cross-Platform App Store Distribution and Marketing Made Easy*, DISTIMO BLOG (May 31, 2012), <http://www.distimo.com/blog>.

79. See The Top 100, OPTIMOR, MILLWARDBROWN, [http://www.millwardbrown.com/brandz/2012/Documents/2012\\_BrandZ\\_Top100\\_Chart.pdf](http://www.millwardbrown.com/brandz/2012/Documents/2012_BrandZ_Top100_Chart.pdf) (last visited May 23, 2012).

Apple's bargaining position depends, to some extent on network effects and brand. As noted, wireless broadband providers have reportedly begun to consider cutting subsidies to Apple (typically \$400 per iPhone) to recapture some of the revenue stream they have delivered to Apple.<sup>80</sup>

Then there is the third dimension of potential bargaining power – the ability of a firm to deliver a “natural” connection between the new value proposition and its “market of origin.” The phenomenon is obvious, but not inevitable. Apple moved successfully beyond computers with the series of products that progressed from iPod to iPhone to iPad, but it did not meet with the same success when it introduced its initial Apple TV product. Google met with great success with the introduction of Android, which provided financial gain despite the fact that it was offered without charge, but its initial foray into the supply of devices was not successful. Nokia attempted to implement an environment that would draw applications users to its operating system, but failed to replicate anything close to Apple's success. A firm that can expand its product offerings can bargain in more markets, and potentially on a different basis.

The ability of firms to expand their offerings and advance into other markets is dependent on their ability to innovate, which raises an important question about bargaining strategies. One way to view the creation of innovation is to distinguish between “integrated” and “coordinated” innovation.

In some sense, the traditional, “closed” model looks like integrated innovation, while the “open” model implies a form of bargaining between economic actors (even if it is implicit bargaining, such as the reciprocal, but not pre-determined, exchange of improvements to open-source software).<sup>81</sup> But the use of the terms “integrated” and “coordinated” is meant 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 employing 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.

Coordinated innovation is simply an agreement to share something for mutual gain—a win-win agreement where both (or multiple)

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80. See Phil Goldstein, *Analysts Debate Whether Carriers Will Cut Apple's iPhone Subsidies*, FIERCE WIRELESS, (April 24, 2012).

81. Steven Weber, *THE SUCCESS OF OPEN SOURCE* (2005).

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." The distribution of free, open-source software to users who will help create its value through classic network effects, is an example of "coordinated" innovation, a strategy available to corporations seeking forms of mutual advantage rather than concentrating only on what their own R&D efforts will produce. Companies choose between integrated and coordinated innovation.

Apple's and Google'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 and iPad, with the Apple operating systems, are obvious examples. But Apple certainly takes 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.

This brings us back 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.

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.

Providing Android's free and popular system helps Google's business model, driving revenues from mobile search advertising. Google's revised strategy touches on both questions—the nature of bargaining and the use of coordinated innovation. According to The Wall Street Journal, Google has decided to provide multiple device manufacturers with simultaneous access to new versions of Android, rather than designating a single lead user. At the same time, Google plans to sell devices directly to the public "unlocked" so that they can run on any wireless network.

The first point is about bargaining. According to The Wall Street Journal, the strategy "marks a bid to exert more control over key features

and apps that run on Android-powered phones and tablets, just reducing the influence of wireless carriers over such devices . . .”<sup>82</sup>

The second goes to one advantage of an integrated approach. The open-source model allows carrier and device manufacturers to create their own versions, which can add to the work of app developers, who may work with the multiple versions, and diminish the uniformity of the consumer experience. Thus, one industry expert said that the new Google strategy is also designed to “create a more standardized experience for consumers and app developers,”<sup>83</sup> a traditional advantage of the integrated model.

#### *F. Consumers*

Of course, there is no economic surplus over which to bargain if a value proposition does not create enough value for consumers—consumer surplus—to be successful in the marketplace. Consumer demand therefore shapes the market in three inter-related ways. First, consumer acceptance, as in all markets, is necessary. Second, consumers are demonstrating a desire to shape demand through their own insistence on mixing and matching products and product features. Third, in a very fundamental way, consumers are part of the value propositions themselves, acting as co-creators of the value provided by, for example, social networks.

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

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82. See Amir Efrati, *Google Shifts Tack of Android*, WALL ST. J. (May 15, 2012, 7:05 PM), <http://online.wsj.com/article/SB10001424052702304371504577406511931421118.html>.

83. See Jim Algar, *SciTech Talk: Google to rein in Android*, UPI.COM (May 20, 2012).

producers as explained in the discussion of bargaining).<sup>84</sup>

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.<sup>85</sup> 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.

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.

In addition, the purchaser/creator at the center of the circle is playing a fundamental, and not simply a 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 new “Princess” telephone available in five different colors.<sup>86</sup> Then came the demanding consumer, shaping demand by insisting that products and services reflect customized tastes. The presence of many consumers, each seeking the satisfaction of individual tastes, creates a heterogeneous marketplace in which package differentiation and evolution are important.

At the center of the 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

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84. This is a simplification, of course. Some benefits may 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 underinvestment in public goods).

85. These methods were used to calculate the benefits of home broadband to consumers in 2009. See Mark Dutz et al., *The Substantial Consumer Benefits of Broadband Connectivity for U.S. Households* (2009), [http://www.compasslexecon.com/highlights/Documents/Consumer\\_benefits\\_of\\_Broadband.pdf](http://www.compasslexecon.com/highlights/Documents/Consumer_benefits_of_Broadband.pdf).

86. *Western Electric: Princess Telephone Types*, PAUL-F.COM, <http://www.paul-f.com/wePrincess.html> (last visited May 17, 2012).

to supply and back again. Such as a person who creates a Facebook home page that supports advertising or who comments on (or shares links to) video programming via Twitter. 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 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.

## VII. CONCLUSION

This article has described the Value Circle—a world in which 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 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 network effects or 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.

To recapitulate the organizing principles noted at the outset of this article, the 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, a 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 some of the characteristics of the circle already in place but with the outcome uncertain.

Innovate, connect tightly with the customer, and bargain: these appear to be the central tenets of success in the 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).

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 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. The dynamics of the Value Circle supports a case-by-case approach to regulation because 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. 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.<sup>87</sup>

The arrival of the 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 understanding of the new marketplace, and, of course, for businesses to create new forms of value.

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87. See Ex Parte Submission of United States Department of Justice, *In re Economic Issues in Broadband Competition: A National Broadband Plan for Our Future*, GN DOC NO. 09-51 (Jan. 4, 2010), available at <http://www.justice.gov/atr/public/comments/253393.pdf>.