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Chapter XXXIV

IPTV Business Model Analysis

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ABSTRACT

This chapter focuses on evaluating Internet protocol television (IPTV) business models from different service providers through the prism of the **star model**. The tool is based on Porter's five forces, as developed by M.E. Porter. The **star model** extends the five Forces into a set of metrics to evaluate current and future business offerings. The **star model** is a simple tool used to identify the strengths and weaknesses of different business models in an appealing geometric shape. To highlight how to use this tool, sample partnership models are analyzed to evaluate the strength of a combined service. This tool will help IPTV service providers and all potential investors to build or identify a sound business model for their target market. The **star model** is explored through multiple case studies in this chapter including CBS, AOL, Google, Sling Media, and YouTube.

IPTV BUSINESS MODEL ANALYSIS

Growth of broadband has enabled convergence of voice, video, and data, resulting in the evolution of many new and exciting applications. One technology with wide customer appeal is internet protocol television (IPTV), a service that promises to deliver television content across platforms and geopolitical borders.

During the last decade broadband-based access has been one of the fastest growing Internet services throughout the world (Miniwatts Marketing Group, 2006). Supportive regulatory environments and competitive pricing models are a couple of the primary factors that have contributed to the success of broadband-based Internet service. However, there is still a large disparity in growth of broadband among different countries. In some markets, the transition from narrow band to broadband has resulted in additional costs to both consumers and service providers. From the consumer point of view, there is a need for the value of service to offset the additional cost. From the service provider's perspective, the additional cost in laying out the infrastructure requires a supporting regulatory environment and a lucrative business model that opens the door to multiple services and opportunities. The absence of a killer application—one that can appeal to mass audiences and allow service providers to earn a profit—is the common factor contributing to slower growth.

Television content may be the product providing the greatest incentive for customers to purchase broadband solutions. When television is delivered via IPTV it increases the choices for content available to customers and allows providers to capitalize on the opportunities created in a market when more choices are available to customers. The traditional television market is mostly served by a monopoly service provider, a situation that affects the overall potential growth in a market and also reduces choices for consumers. Furthermore, there has been a lack of innovative applications that enhance the traditional television service. The limitations of traditional television can be overcome with the delivery of content to the market as IPTV. With these developments, television is no longer

bound to a traditional set. Television content is delivered to computers and mobile phones through newer, advanced telecommunication networks. IPTV will change the way consumers purchase entertainment. Content and service providers can now reach increasingly larger audiences through multiple devices.

Broadband penetration has increased steadily in European markets due to deregulation and unbundling of services, which has in turn led to competitive pricing from providers. In the United States, broadband penetration has increased because of the increasing number of services providers. In both regions, many vendors have experienced decreasing average revenue per user (ARPU) and increasing customer churn as a result of increase in competition in the market. Adding services like television to the existing broadband access can help these companies retain customers and offset the decrease in revenue (Frost & Sullivan, 2006).

IPTV is a technology that has the potential to propel growth of broadband across all markets and can provide an incentive for consumers to use newer, interactive applications. A viewer located in North America will have vast choices of content from a service provider located in China or in any other part of the world. When a television service is provided over broadband, the technology enables the entire world to connect. An IPTV provider must have a mature business model in order to successfully deliver content by additional means. There is now no readily available tool to evaluate a business model. This chapter helps readers evaluate an IPTV business model using the **star model** and its associated metric parameters and provides a readily available tool for business analysis.

IPTV has a variety of potential methods of delivery, which should be reflected in a business model. This chapter will focus on evaluating specific IPTV business models with the use of the **star model**, an extension of Porter's five forces (Porter, 1980). Porter's five forces are a set of metrics that are often used to evaluate business operations. This chapter conducts comparative analysis on a select number of IPTV service providers with the use of the **star model**. The **star model** is useful in its ease of application to each of the methods of

distribution of IPTV. Each case study is analyzed to evaluate the strength of a combined telecom service offering.

BACKGROUND: IPTV BUSINESS MODEL BASICS

The broadband marketplace has a competitive nature that will foster growth. Once a company has reached a position in the industry with the appropriate focus on a targeted-audience, the company will be able to continue along a path to improvement based on the feedback from using the **star model**. The company can thus maintain a healthy entity for consumers in the current and future telecom market.

Overall, the competitive nature of the telecom market also challenges companies, as shown in activity within the European Union (EU). The combined effects of privatizations, EU accession, and continued deregulation in candidate EU countries has led to more competition, network upgrades, greater broadband penetration, and falling DSL access line costs. This portion of the broadband industry has many players competing for many of the same customers and long standing companies to secure a bigger share of the market (IPTV World Forum Eastern Europe, 2006).

Globally, the growth of broadband has spurred the development of a variety of Internet-based technologies. Fledgling companies must compete with long-standing telecom providers in order to survive. Existing companies have transformed their services in order to adapt to consumer's needs, remain competitive, and keep up with the change. Never before have there been so many entertainment choices and technologically advanced gadgets to increase the consumer's happiness and ease of living, not to mention ways in which the consumers can spend their disposable income. Businesses now have the ability to expand their customer base and increase profits with the additional avenues of revenue available.

Before service providers leap into the fray, the company must define what internet protocol television is in the business plan by selecting a method

of delivery. As IPTV develops as a technology, service providers and customers are continuing to add granularity to the concept of what IPTV is as a service offering. This is a positive trend as once specific services are defined; standards setting organizations will have an easier time authoring unified security and quality of service benchmarks. As IPTV becomes more present in the consumer lexicon, this business decision can be framed around the category of service a company offers. Overall, the marketplace manifestation of IPTV for consumers can be described under one common definition with additional general categories (IPTV Monitor, 2006). Generally, internet protocol television is a service delivered over a network infrastructure utilizing internet protocol (Wikipedia, 2006a). In this chapter, we will present case studies addressing these four classifications:

- User generated content
- Value added services
- Broadcast
- Internet

In addition to this key business decision, a modeling tool is needed to effectively review the stability of telecom companies that are in an evolving market. By limiting the discussion in this chapter to above four models of existing provider's operating business models, the ease of use of the **star model** will be quickly revealed.

ANALYSIS OF IPTV BUSINESS MODELS

The tool presented in this chapter is based on Porter's five forces and InfoDev (2004) recommendations for open telecommunications markets. Other resources used to develop this analysis included: census counts that determined the population size in the targeted market pool, Value Line Report (Value Line, 2006), which is an independent analysis of business and industry reporting on earnings, debt, and stock prices, and subscriber information that detailed the number of subscribers to wire line, mobile, and entertainment services. Analysis

also considered a company's revenue generation, inherent costs, dependence on IPTV, pricing model between the three players (providers, consumers, and middleware), technical support burden, and the transferability of a business mode from one particular country to another. Much of the information used to create a **star model** is publicly available, aiding in creating a consistent method of analysis when comparing companies. When fully explored, the final **star model** has 10 parameters. The next two subsections highlight the methods used to develop the tool and the metric parameters to build a model in greater detail.

Methods Used to Create the Star Model

The **star model** is loosely based on Porter's Five Forces. Developed in 1979 by Michael Porter, the Five Forces group microeconomic forces within the marketplace into the following five categories: bargaining power of customers, the bargaining power of suppliers, the threat of substitute products, the threat of new entrants, and industry rivalry (Porter, 1998). This idea provided companies with a method of analyzing a market in order to predict what forces affect a product offering, resulting in an analysis on how the microeconomic influences work. Since Porter's model debut, other theories have been presented that also attempt to understand market forces and apply knowledge gained from such analysis to improve business models. In modifying Porter's work, scholars have proposed further categorization of the forces within a market to anywhere from six (Carr, 2005) to eight forces (Downes, 1997). Each of these models provides significant qualitative information to companies requiring snapshots of the marketplace in which a product is expected to launch.

As with other scholars, these authors found value in using Porter's forces to analyze the IPTV market by categorizing the microeconomic forces acting within a marketplace to allow examination of potential market opportunities. In prior research, it had been difficult to understand the strengths and weaknesses of an IPTV product offering beyond claims made by companies. With IPTV in a major

cycle of development, the marketplace reflected a rapidly changing pricing of products and the lack in standards created to define what IPTV is. Not only does the standard consumer want to know how they can benefit from IPTV, but, more importantly, telecom providers need to know how they can profit from this growing technology. Companies expecting to have successful launches of IPTV need a quantitative way to gauge how all of the forces acting within a market could affect the success or failure of an IPTV launch.

With a challenging market, there is intellectual opportunity to create an analysis tool that provides quantitative data in a dimensional form. The result is a set of standardized questions that combines Porter's basic concepts with other ideas and assigns metrics. The metrics are provided with a set of standardized questions that are answered with "yes" or "no," and then translated into a number. When the data is entered into common graphing tools and each line of questioning is assigned to an arm of a radial graph, a star appears as a model for viewing the quantitative data. The clear geographic shape results in illustration for management teams and any potential investors. As the questions are standardized, the data gathered over time is also consistent. This allows users to compare alternatives in developing their IPTV platform. The arms of the **star model** will represent different dimensional data when applied to either their business model development than when the company considers partnership agreements. In the next section, we explain the organizational aspects of the star metrics.

Major Metrics of the Star Model

With the **star model**, the way in which IPTV manifests in the market is being analyzed. To represent **star model** ratings, the basic concept of Porter's forces is overlaid onto market parameters. Selected companies are rated by asking specific questions, resulting in a parameters scale of 1 to 10. The major points are considered in relation to minor points—with the minor parameters rated on a base scale of 1 to 5 (labeled in resulting graphs from "A" to "E").

The questions used to rate company performance in the major metrics were inspired by the financial statements required from companies operating under the jurisdiction for SEC filings (Wikipedia, 2006c). In formulating the specific questions stock investment research materials, such as the Value Line (Value Line, 2006) were referenced in order to reduce the number of questions to a number that was applicable for use in a simple analysis. As Porter's forces influence the major metrics, the questions were refined to remain consistent with that established methodology of gauging how the five major metrics affect a market segment.

When answering questions considered in the case study, an answer "yes" is equated to numeric one and is considered positive strength for the company. However, a negative response "no" is rated as numeric value zero and is considered possible weakness for the company. Data gathered to answer questions for parameters is available from publicly accessible sources, company press releases, census data, and other like documentation.

In the next section, we explain the basic definitions of each parameter and how those parameters affect the value chain. All questions for major and minor parameters are listed at the end of this chapter.

1. **Power Against Suppliers:** This metric will allow each company to be rated at its current level of bargaining power with respect to the suppliers of the end products. The power of supply affects the costs of producing a product and will be reflected in the value chain.
2. **Power Against Customer Bargaining:** This metric evaluates the customer's bargaining power with an IPTV service provider. The questions for this parameter also discover costs the company passes on to consumers and if the company's service to customers is unique.
3. **Power Against New Entrants:** As part of this metric, companies are evaluated based on their vulnerability to new entrant competition. Questions will also help evaluate the

level of resistance the company poses to new entrants.

4. **Power Against Substitution:** This metric will help evaluate companies based on the ease of customers substituting a product offering with another competing product. The parameter evaluates the market power of the company with respect to the product being offered. Specific questions target if there are high start-up costs for entrants, whether or not there are exit barriers for companies divesting from the market and if the product can be replicated by others.
5. **Power Against Competition:** This metric will be used to evaluate the level of competition that the company faces in the overall market, otherwise known as *rivalry* within the market. This metric evaluates whether the company is operating under healthy competitive environment. Questions relate whether the company holds the patents and intellectual property rights for goods and services.

Minor Metrics of the Star Model

To complete the **star model**, five minor parameters interpret how other market forces interact with major parameters. Almost any IPTV business model will have a significant portion of the product development that will be based on branding and presentation of content and while concurrently protecting the intellectual property and public perception of the company. Additionally, in a competitive market, protecting internal operational decisions and information on future offerings is important. To enable business leaders to properly analyze these internal company forces and external subtle market forces that will affect product offerings, five additional minor parameters are added to the **star model**. These minor parameters explore more specific areas in which a company secures product, and themselves, from outside influences. Providing companies with these additional parameters encourages leaders to make internal strategic decisions that will play a key role in the success of a company, thus leading to increased marketability of that content.

The questions used to rate company performance in the minor metrics were inspired by theories like SWOT (strengths, weaknesses, opportunities, and threats) analysis (Wikipedia, 2006d). Utilizing a foundation like SWOT enabled formulation of questions targeted towards finding key areas of a company's performance that require attention in order to garner success in the IPTV market. For the arms of the star gauging customer behavior, the questions were refined to understand how a product impacts the customer buying decision. For example, one of the questions concerns ease of use. Stated simply, if a customer can't easily understand how to use a product, he is likely to be reflected in a company's reports on trouble calls or disconnect numbers. To develop the arm of the star gauging the influence of regulation in the market, InfoDev's articles on open telecommunications markets (infoDev, 2004) inspired the questions. The questions were further refined when referenced with the Internet world stats usage and population statistics and cross-referenced with the World Fact Book (Miniwatts Marketing Group, 2006). In building the security questions consideration was given to how well a company protects content offered to customers and how well a company protects customer information.

The forces considered for these parameters include the following:

- A. **Customer Loyalty: Stable Customer Base.** This metric evaluates steps taken by a company to influence and encourage customer loyalty. A higher rating will indicate the company's ability to retain its existing customer base. Additionally, the parameter is also indicative of the company's ability to utilize existing customers while adding new subscribers. Finally, the rating also has influence on the ability of the company to face competition from potential new entrants.
- B. **Product Usability: Interactivity Between Product and Customer.** This parameter reflects a company's ability to envision requirements while providing user-friendly interactive features to its customers. The parameter also evaluates incremental ARPU generated from existing customers. Higher rating influences the company's bargaining power against customers. Additionally, differentiated services also result in higher bargaining power against suppliers.
- C. **Secured Solution: Enabling Security within the Company and its Services.** The objective of secured services is not only to protect the legitimate users while accessing the network but also to keep the malicious users away from any potential disruption of the services. Content is one of the most important elements for IPTV services. Availability of secured infrastructure for delivery encourages access to premium contents and attracts incremental subscribers.
- D. **Market Regulation: Business Operation within a Regulated Market.** This factor includes clarity of regulatory environment in the target country. An example of this type of regulation can be found in the United Kingdom's Office of Communications (Ofcom, 2006). Ofcom has identified media content transmitted over the Internet that is outside the scope of its current regulatory structure (Ofcom, 2006). However, this is contrary to the European Commission's latest proposal—"Television without Frontiers" Directive. As per the proposal, the regulatory provisions need to be extended to Web sites and online services which provide streaming audiovisual digital content to consumers (Burbridgea, 2006). The uncertain regulatory environment will have high impact on planning development of newer services. Additionally, increase in regulation of content will also result in increased cost to suppliers.
- E. **Customer Satisfaction: Immediacy of Satisfaction.** This parameter reflects the operational efficacy of the company while handling problems reported by customers. A higher satisfaction index results in increased market share influencing the company's ability to attain higher bargaining power against suppliers. Additionally, the parameter also has influence on power against competing vendors.

As in the prior section, specific questions discover the practices of a company pertaining to each of these parameters. Each set of questions focuses on market-generic questions, better enabling a company to capture how business modeling may change as a company enters another market that may have different forces—for example, different regulatory structures.

The **star model** in Figure 1 combines the metrics, major and minor parameters, and superimposes them on the company in the circle.

Conceptually, the model shown in Figure 1 allows us to view how far a company is extended into the market and whether or not they are successful. Each of the five major points translates into an arm of the star, and each minor point translates into the connection point between the points of the star. Because the star is a geometric shape, an arm of the star can illustrate the direction that a company has taken in the market. While reviewing Figure 1, the **star model** illustrates why the major parameters are rated 1-10, and the minor parameters are rated 1-5. In considering the offset, Figure 1 reveals that to complete a business analysis, the star is overlaid onto the target market. In general, a company will never capture 100% of the market. To adjust the **star model** to reflect the reality of the market, the minor parameters are rated on a scale

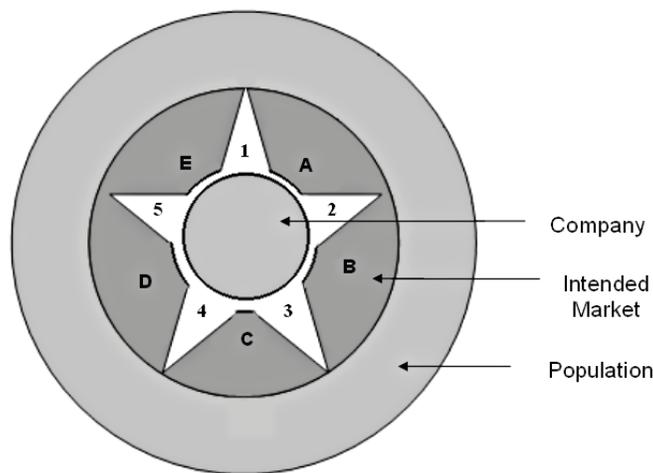
of 1-5, as these are the areas in which a company is most likely to miss capturing in a targeted area of the market.

Our case studies utilize this tool to gauge the size of the arms in an effort to compare its connection points to others that have been added to the same **star model**. For each of the case studies identified in this chapter, an analysis of metrics for the five major parameters is summarized in the section Analysis of IPTV business models. The ratings for all 10 parameters, including major and minor ones, are shown in the **star model** included along with each of the case studies.

CASE STUDIES

When entering the market as an IPTV provider, a business must have content to sell and the technology to distribute the product. However, in many cases, content providers do not have the brand name for distribution that would provide the most efficient delivery of the product. Other businesses may have the ability to provide efficient delivery, but not the resources to legally provide and protect content. In such cases, a company often decides to partner with another company that can provide the resources the first company may not have. The case studies

Figure 1. Generic star demonstration



for IPTV partnerships include a description of the companies—first by investigating each partner and then discussing the resulting relationships. The studies presented in this chapter cover:

- The value added service of Sling Media
- The user generated network of YouTube/Google
- The partnership model involving the broadcast and Internet companies CBS/Google and AOL/Warner Bros.

Users and Disruptors

In an effort to target specific audiences, companies in the IPTV market can use the operational efficiencies inherent to the technology to the company's advantage. Companies providing alternative services that take advantage of these technologies in unique manners, either in the form of content delivery or enabling technology, are considered *wild cards*. Wild card products, such as “boutique TV,” have become popular. By focusing on a smaller audience, companies can choose targeted advertising, specialty content, and other more refined tactics to generate revenue. Enabling technologies, like the Sling Media products, allow the television experience to be time and place shifted to suit the consumer's lifestyle. These products can disrupt the IPTV market by encouraging innovation and competition as well as take away some of the market share not captured by leading companies. Although these companies are not covered in this chapter in our concluding **star model**, these companies are important to note as influences in the market. Wild cards like Sling Media are briefly discussed by summarizing their core competencies and how they disrupt the IPTV market.

Sling Media

Sling Media's signature product is the Slingbox. Unlike a set top IPTV box, which restricts viewers to their living room, this product enables consumers to access TV programs anytime and anywhere over the Internet without the requirement of additional monthly subscription fees. Available in

key markets from Canada to Hong Kong, Sling Media's product family supports users wishing to connect their PCs to their basic cable or HD subscription television services. Conceptually, the core line-up of Sling devices act like an IPTV set top box (STP) with one notable exception. Unlike a traditional IPTV STP that moves IP to a television set, the Slingbox moves television to the personal home computer network. This allows the device to be located anywhere, place-shifting content over the Internet to consumers. In addition to the Sling Box, Sling Media has also announced development of the SlingCatcher (Sling Media, 2007a). The SlingCatcher platform of solutions will place-shift content from networked home PC's to televisions.

The market for place-shifting devices proved to be \$5 million within 6 months of the Slingbox launch, and it is expected to grow in double-digit numbers in the next 24 months (Frost & Sullivan, 2005). During the last week of September 2006, Sling Media announced a new product lineup that includes enhanced customer support. Sling Media has priced entry level Slingbox devices at approximately \$179.99 (Sling Media, 2006b), encouraging growth in the market with an attractive entry-level price.

Sling Media has attracted several investors to its business (Sling Media, 2006a), including the high-profile U.S. content providers, EchoStar Satellite, L.L.C., and Liberty Media. Sling Media's Series A and Series B investment rounds have provided Sling Media with the capital to maintain sustainability of the Slingbox product in the IPTV market. These types of relationships are also helping to redefine many of the carrier business models, particularly since the service will be expanded to devices other than PCs. While the Slingbox product can be used with any television service, it promotes network neutrality in promoting platform personalization devices.

While contributing to network neutrality, Sling is paving the way towards building QOS standards for service by developing technology that optimizes connections and bandwidth utilization. The technology is called “SlingStream” (Sling Media, 2005), with beta testers reporting

significant gains in received quality of video from the service. According to Sling, SlingStream monitors bandwidth and makes adjustments in the stream to compensate for low or high surges. As a result, the video quality delivered to the viewer is constantly optimized.

While the above notes are impressive and aid in presenting a strong **star model** from Sling Media, a key strength of the Sling Media operations is in the attention paid to research and development and to the user community. Sling Media's presence at the 2007 International CES (CES, 2007) provided an opportunity for the company leaders to promote several new advancements in the Sling Media product line; including that of the Clip+Sling (Sling Media, 2007b). The Clip+Sling is a tool for Slingbox customers to share content via an interactive portal with others. As a whole, advancements like Clip+Sling add to the strength of Sling Media against competition in the market by further encouraging product innovation and continuing to take away some of the market share not captured by other companies.

YouTube

Founded in February of 2005 and purchased by Google in October of 2006, YouTube is a video sharing service that accepts content from private users and from corporate content creators (Wikipedia, 2006e). Based off of a Web site, the YouTube Service allows users to upload, view, and share video clips free of charge. The popularity of YouTube is fast growing; YouTube reports 100 million videos viewed daily (YouTube, 2006c). The video content ranges from short independent films to sports clips, covering categories like sports, travel, music, and pets. Under the YouTube general use policy (YouTube, 2006b), users can upload and share home movies and other personal videos for noncommercial use. According to SearchEngineWatch's ClicZNews (MSN, 2006), YouTube gained one of the largest percentages of the video-sharing audience at 43% (Hitwise, 2006). In addition to viewers, the Web site has managed to attract the attention of some major content owners. The Web site currently posts clips contributed

by major studios, with past collections including teasers for the NBC Fall 2006 season of *The Office* (YouTube, 2006d). YouTube users can expect to see more NBC content on the site, because in July 2006 YouTube and NBC formally announced (YouTube, 2006a) a strategic partnership. In this partnership, YouTube provides the online audience and NBC provides content. Because of this strong YouTube identity, Google announced as part of the purchase plan that the YouTube service would be maintained as a brand within the Google operations (Google, 2006d).

Before the Google purchase, YouTube demonstrated an awareness of DRM and privacy that other companies did not have. In a nod to Napster's late 1990s blow-up, YouTube set a 10-minute maximum on video length to prevent piracy and protect DRM. However, users often worked around the restriction by splitting the videos and posting them as smaller segments, each shorter than 10 minutes. This practice was not a proven solution, as seen in lawsuits against YouTube filed in U.S. District Court (Law.com, 2006). The early years of the Google ownership of YouTube will be critical to strengthening this weak area of the YouTube star. As a large company with deep experience in search technologies, Google can aid YouTube in improving practices and methods of protecting content provider's materials in the rather free-form environment of the current YouTube interface.

While Google and the YouTube brand service work through this challenge in the secured solution parameter, YouTube still offers a potentially viable product to the IPTV marketplace. YouTube is selling a portal to content. Many content suppliers need Web sites like YouTube to sell their content. Symbiotically, YouTube needs popular content from the suppliers to improve its value in the market and market share. YouTube also offers content providers an opportunity for global presence and branding. The market YouTube has chosen to enter is competitive, with content like music videos, movies, and television shows also available from other vendors such as AOL video. Because YouTube is a free service, the consumer can switch at any time to another service providing the same product. This switching threat puts pres-

sure on YouTube to develop stronger methods of protecting content offered on their site by partners like NBC and to increase its brand awareness in the marketplace.

Star Models for Sling Media and YouTube

The tables below contain metrics for Sling Media and the YouTube brand service. Figure 2 is a diagram of the Star figure, expressing the metrics in a visual fashion for easy analysis. Although YouTube and Sling Media offer different products, the **star model** allows direct comparison of both companies based on how each company implements the business plan using the same metrics.

The star provides a visual example of how YouTube and Sling Media compare. Although the companies offer dissimilar products, the star allows a method of comparing how each company performs against the same metrics. When companies are considering partnerships, this method provides

an easy way to find complementary relationships and potential areas of weakness. The next section analyzes a partnership model to provide a case study on this use of the **star model**. At the end of the Google section, Figure 4 will demonstrate a comparison of the YouTube brand compared with Google, and the resulting relationship from the YouTube acquisition.

CBS

CBS is an expert in content creation. As one of the oldest broadcasters in the United States, CBS has the experience in maintaining a network through extreme technical changes. From radio to the original black-and-white broadcasts and from the launch of cable television to today, CBS has survived. In March of 2006, CBS held the highest season-to-date ratings over the other primetime networks at 8.2/13 shares and rating (Nielsen Media Research, 2006). Applying the Nielsen definition,

*Figure 2. Sling vs. YouTube **star model***

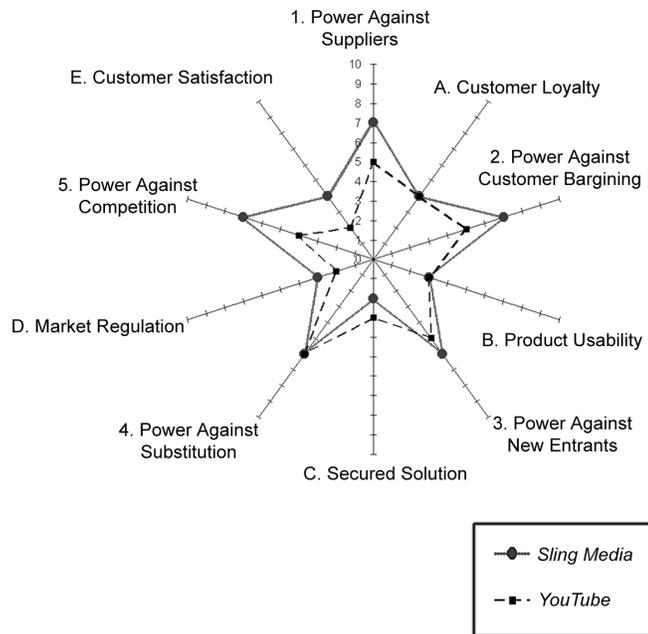


Table 11.

Star Model Ratings for Sling Media, YouTube, and Google/YouTube venture			
	<u>Ranking</u>		
Metric Parameter	Sling Media	YouTube	Google and YouTube
<i>Major Parameter</i>			
1: Power Against Suppliers	7	5	7
2: Power Against Customer Bargaining	7	5	7
3: Power Against New Entrants	6	5	7
4: Power Against Substitution	6	6	8
5: Power Against Competition	7	4	8
<i>Minor Parameter</i>			
A: Customer Satisfaction	4	2	4
B: Customer Loyalty	4	4	4
C: Secured Solution	2	3	5
D: Market Regulation	3	2	4
E: Customer Satisfaction	3	2	4

this rating translates into 9,036,400 U.S. viewers (Wikipedia, 2006b).

CBS offers audiences a wide variety of news and entertainment programming. CBS supports these offerings with product enhancements. As an example, CBS has been broadcasting its primetime programming in high definition (HD) since September 2002. Since 2001, CBS has made the secondary audio program (SAP) available to stations to provide Spanish language and descriptive language feeds for soap operas and other programs. Another effort by the company to provide additional services is the “Always On” initiative, which is meant to make CBS news and programming information

available to all markets at all times. In Colorado, Denver’s CBS Channel 4 (<http://cbs4denver.com/>) announced its own initiatives by partnering with Comcast for a video on demand (VOD) service that has the station’s recent newscasts available at any time of the day. These efforts are part of how CBS is facing the challenge of adapting its product to the new frontier of video content, which is available to anyone at any time, anywhere. CBS leadership exemplified the company commitment to competing in the new media frontier by participating in the announcement of Sling Media’s Clip+Sling (Sling Media, 2007b).

In partnering with other companies like Google and Comcast, CBS can focus on its core competencies of content creation and rely on other companies to provide backbone and distribution. This business model is similar to that used by local stations that work with CBS. In partnering with companies such as AOL, Google, and Yahoo, CBS does not have to invest in an IPTV infrastructure. Furthermore, CBS can maintain copyright control over its material and create and sell content as it sees fit to fill its brand identity. This arrangement allows CBS to take advantage of IPTV as a revenue stream in order to supplement its traditional content creation business while minimizing sunk costs associated with creating a new physical network. CBS has specifically positioned itself as the primary video partner for Google. According to Nielsen metered rankings (Sullivan, 2006), the Google partnership has clear attractions because Google ranks as the top search engine by capturing 49.2% of search traffic.

Capturing this market early with a strong partner like Google will give CBS an edge in becoming the premier provider of network television delivered via IPTV. This move, in turn, will help the company reduce costs on branding and customer education as IPTV gains in popularity. At the conclusion of this section, we will compare how CBS's **star model** changes when influenced by various partners.

Google Video

Google has launched its new Web site (www.video.google.com) for viewing video files. The Web site allows users to upload video files on its servers. This feature is very popular among users who wish to share their home videos with others. In addition, Google also allows content owners such as CBS and other content creators to upload copyrighted content onto the Web site. In the past, popular American sports programming providers, like the NBA, participated in this service (NBA, 2006). For customers, Google charges a fee to download this content in its entirety and prevents the illegal copying of the content. Under this service, popular shows such as *Survivor*, *Brady Bunch*, and selected

movie titles are available. All the downloaded video files can be played only via the proprietary Google Video Player or iPod video player (Google, 2006a). However, Google's collaboration with Apple, and its popular iPod product, is a positive step towards its marketability. Given that Apple has reported that its iTunes music store has reached 15 million videos purchased and downloaded, the relationship with Apple provides important visibility for Google to the market (Apple, 2006), which could lead to greater revenue from Google's video venture. Adding YouTube to the Google collection should only increase the depth of demographics Google attracts as a whole, further establishing Google as a go-to source for online video.

In contrast to the iPod, Google offers a neutral platform for downloading material. The company reports on its Web site (video.google.com) that Google and some of its services are accessible to users on a variety of platforms, including all Web browsers and a number of mobile devices such as cell phones and Palm PDA's. The videos on Google Video can be streamed through Macromedia Flash Player 7.0+. This plug-in is widely available across several platforms and browsers (Google, 2006b).

Google and AOL have also joined together with Intel to provide entertainment services to users via the Intel's Viiv technology. Intel Viiv technology has been designed to make it simple for companies, such as Google, to offer compelling new media platforms incorporating digital rights management and search technologies that work on open interoperability specifications. This combination provides consumers with the best use of Google search engine and Viiv's ability to offer an exciting new TV experience (Intel, 2006).

AOL and Warner Brothers

The collaboration between AOL and Warner Bros. Domestic Cable Distribution (<http://www.timewarner.com>) offers a new form of broadband network. The network, called In2TV, will allow consumers to stream full-length episodes from favorite TV shows. Fans can enjoy special interactive features, including:

- Sing-alongs with favorite TV show themes
- The Ultimate TV Quiz: Fans can test their TV trivia skills
- AIM interviews with cast members

In2TV will also provide AOL's advertisers with a compelling video inventory for in-stream broadband advertising, as well as opportunities for sponsorships and accompanying banner ads. An advertisement 15 or 30 seconds long is limited to a total of 1 to 2 minutes within each 30-minute episode in comparison to 8 minutes advertising on broadcast television. AOL also has its own channels with customized programs for streaming music videos and movie previews, but with 15-30 seconds of advertising (Byrne, Rowe, & Sarfaty, 2006). According to a CNET Report, AOL's video search engine has access to 15,000 pieces of content, with an average playback length of 3 minutes. AOL allows users to play back the content with technology already installed on PCs. This means that users do not have to download any new software (Mills & Olsen, 2005).

It is important to note that this is a different approach than Google's service. Google allows content to be downloaded, but this content can be played back on a proprietary video player. However, Google has an advantage in that it allows viewers to upload their content and distribute it. AOL's advantage is in the search-video market with its advertising capabilities and breadth of content. The company has strong ties with Hollywood through its parent company's Warner Bros. studios, and it can leverage to outdo video assets from Google and Yahoo. AOL is also selling and running 15-second advertisements that run before video clips. In comparison, Google's management team is still developing their plan on placing commercials before or adjacent to video, but has continually assured investors of management's commitment to seek new revenue (Google, 2006c).

The Resulting Relationships

Business Summary:

1. The capability to text search into copyrighted audio and video puts the search providers in

legal peril. For instance, Google had to race to remove links from downloadable copyrighted content on its video search service, including *The Matrix Revolutions* and episodes of the *Family Guy* cartoons (Borland & Mills, 2005).

2. Copyright protection risks have become severe after the U.S. Supreme Court's ruling held companies liable for copyright content piracy that takes place on their networks (Google, 2006b). To minimize this risk, Google Video has deactivated links to copyrighted foreign content, such as Indian movies.

In looking at the IPTV business model for these partnerships, we rated their performances in the market using five parameters. Tables 12, 13, and 14 at the end of this chapter demonstrate the data recorded. From these metrics, this is the resulting **star model**. It is important to note that the ratings were produced from research on public records, demographics, and financial data services, such as ValueLine and Yahoo! Finance. The **star model** was created as a way to easily reference the analysis completed on a company. The illustration should be used for reference on many contributing market factors in the current market rather than the capability of the company overall. The **star model's** purpose is to record the company's performance at that point in time and record an IPTV provider's stance as a quick snapshot in time.

When Figure 3 is compared to Figure 4, the ability of the **star model** to model how different partnerships affect metrics is demonstrated. Figure 4 diagrams YouTube and Google as a separate brands, and analyzes the Google/YouTube acquisition under the assumption Google management practices will be dominant.

FUTURE TRENDS

Any IPTV business model can be evaluated using the **star model** provided in this chapter. Whether a company is looking to start an IPTV service, build on existing services, or partner with another

Figure 3. CBS and resulting relationships

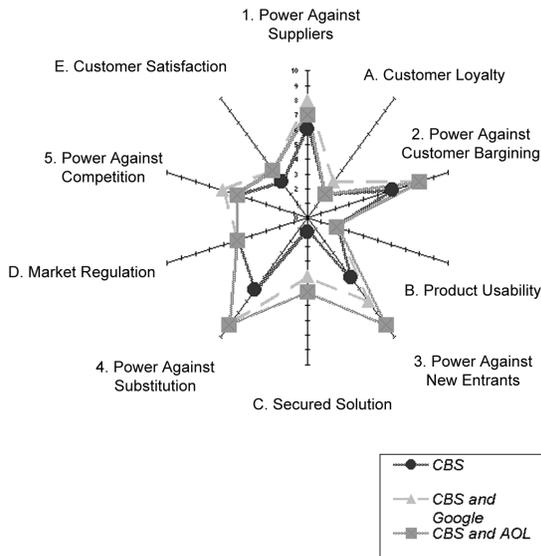
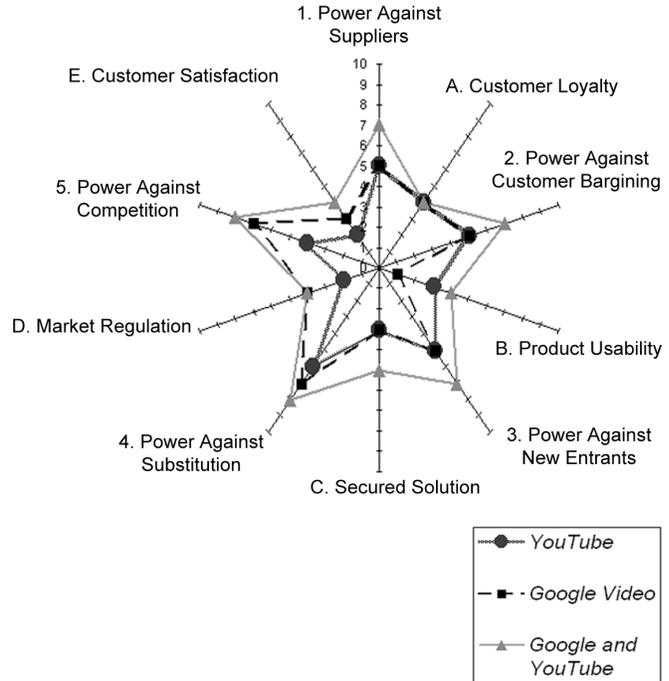


Figure 4. Google, YouTube, and resulting relationships



company, the **star model** can help study the business model that will succeed in the long term. As viewed in the Google and YouTube example, the **star model** can also aid in exploring strengths and weaknesses of acquired companies. This tool provides management with concise information on which to base decisions concerning business plan adjustments required for the new ventures to succeed. Additionally, the **star model** allows an IPTV provider to create a unique business model of its own, using proven models implemented by multiple providers.

CONCLUSION

The objective of this chapter is to offer companies and telecom professionals a basic strategic tool based on a common data model. With the built-in capacity to visualize comparable data, the **star model** allows businesses to record past perfor-

mance and to utilize that information to maintain projected growth trajectories. The information gathered from this model can assist company leaders in developing a more effective business model by improving core business practices that will enable companies to better compete in the growing telecommunications industry.

Stated more simply, the **star model** shows companies how to thoroughly evaluate their business and adapt to growth of the industry. By framing information in a familiar geometric shape, the **star model** clearly documents strengths and weaknesses for any business model. The **star model** also offers companies a method of monitoring both their own changing needs as well as consumer behavior. The resulting data offers companies the information necessary to adapt products and practices required to compete in the marketplace.

We conclude that a business model in the IPTV industry can work for a company that invests in a partnership, a head-end middleware solution, or a

major telecom provider with existing infrastructure. When discussing offerings that matter, we have looked at a select number of companies that have become profitable players in IPTV. Through the **star model**, which is an extended version of Porter's five forces model, readers have the ability to evaluate the business models of an IPTV provider. Additionally, through case studies presented in this chapter, readers are provided with examples on how a star model can be used to evaluate different IPTV business models.

This chapter developed the **star model** for a company to use in order to evaluate current and future business in an appealing geometric el. By using the **star model**, service providers can attain a more mature business model and be better prepared to succeed in the IPTV market. The chapter provides a service provider, or any potential investor, a powerful and easily understood tool to build a strong and mature business model within a short time frame. This will result in many healthy new entrants to the market, further promoting investment and competition in the marketplace. In turn, having a healthy marketplace with attractive product offerings will further encourage global penetration of broadband.

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KEY TERMS

Business Model: A tool highlighting the relationship between a set of elements in order to provide business logic to a company. Complete model may include statements on targeted customer segments, pricing models, and revenue models.

Churn: The rate at which contractual customers choose to leave a supplier.

Content Aggregators: Companies that use their resources in order to develop a library of content to sell to consumers.

Content Providers: Companies or corporations that provide content to consumers.

Internet Protocol (IP): A data level protocol utilized to transport information across a data-switched network.

Internet TV: (1) Internet content that is displayed through a consumer's television through a variety of vendors; (2) Television content delivered over the Internet.

Internet Protocol Television (IPTV): Digital television content delivered through IP based networks.

Metrics: Quantitative and qualitative data that is organized and tabulated in an effort to analyze trends.

Multimedia: Voice, video, or data that is displayed on a variety of platforms.

Porter's Forces: Michael Porter's Five Forces dissect factors that influence competition and economic influences among players in a market.

Security: The strategy for protecting a business from ill-will, harm, or loss. A necessity for any telecommunications provider or consumer who relies on telecommunications to transfer important information.

Star Model: A competitive analysis model used by a company to display the strengths and weaknesses over time, developed from Porter's Five Forces.

Telco: (1) A company that provides telecommunications services, such as data, phone, or subscription television; (2) Common carrier, also known as an incumbent or local exchange carrier.

APPENDIX

Major Parameters

The tables below list the metrics and questions used in the **star model** while rating major parameters for the companies selected in the case studies.

Table 1. Metrics for major parameter

[1. Power Against Suppliers]
Metric Question
1. Does the supplier company enjoy majority market share?
2. Does the supplier company have a global presence?
3. Would the cost of changing suppliers of materials used to make the product have a negligible impact on the business? Is the cost of switching suppliers negligible?
4. Is the profit margin low, resulting in greater motivation for switching suppliers? Is there a cost savings benefit to switching suppliers?
5. Does the company have access to substitute product from market reducing dependency from current suppliers?
6. Does the company have access to alternative suppliers with capability to deliver similar or higher quality raw materials required for the final product?
7. Does the company buy product in huge volume from a supplier?
8. Is the IPTV industry important for the supplier?
9. Is the product from the supplier easily available in the market from multiple vendors?
10. Has the supplier already made investments for the product (For example: customization of manufacture to requirements)?

Table 2. Metrics for major parameter

[2. Power Against Customer Bargaining]
Metric Question
1. Is the product offered by the company unique and not replaced by substituting product?
2. Does the company provide a lot of a la carte pricing models to customers?

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3. Is there a lock-in period or switching cost for the services being provided?
4. Is the service being provided critical and does it have high bonding with customer?
5. Had the company kept the price of the service the same without any lucrative package during last 6 months?
6. Does the company deliver unique content as part of the service?
7. Does the company deliver unique interactive contents as part of the products?
8. Can the customer buy smaller quantities than advertised?
9. Does the company hold monopoly status for delivery of the product?
10. Is the cost of exit high for customer?

Table 3. Metrics for major parameter

[3. Threat of New Entrants]

<u>Metric</u>	<u>Question</u>
1.	Does the company offer a proprietary product?
2.	Does the company offer a product or service which cannot be duplicated with other technology?
3.	Is there a new market potential for the product?
4.	Is the company reliant on stable, matured product technology?
5.	Does the company participate in international standards bodies in developing the product? (Longevity of product in market)
6.	Is the product part of the company's core packaging?
7.	Is the company enjoying economies of scale with respect to R&D, manufacturing, and marketing while offering the product?
8.	Is the cost of entry high resulting in fewer new entrants into the market?
9.	Is government policy advantageous to the company and discouraging to new entrants?
10.	Will the cost of switching/attracting new customers discourage any new entrant from gaining market share?

Table 4. Metrics for major parameter

[4. Power Against Substitution]

Metric Question

1. Is the product difficult to be replicated by competitors?
2. Has the company protected its intellectual property in the solution or product?
3. Is there a high initial cost to participate in this company's solution?
4. Is there a switching cost to the customer?
5. Do industry analysts predict growth in the industry?
6. Does the company have a brand plan?
7. Does new technology offer new choices for consumers?
8. Are there exit barriers?
9. Does the company enjoy brand recognition and customer loyalty?
10. Is government policy advantageous to the company?

Table 5. Metrics for major parameter

[5. Power Against Competition]

Metric Question

1. Does the company enjoy monopoly status?
2. Is the company the sole probable supplier to its end customers?
3. Is the product offered by the company unique and cannot be replaced by a competing product?
4. Does the company hold patents and rights for the products being delivered?
5. Does the company participate in standards bodies?
6. Does the market for company/product have less than three significant and active players?
7. Does the company have significant market share ahead of its competitors?
8. Is there a high cost of entry for the new player?

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9. Does the company have a unique advantage with respect to economies of scale and is it recognized as a leader in the market?
10. Is the technology delivered by the company proprietary?

Minor Parameters

The tables below list the metrics and questions used in the **star model** while rating minor parameters for the companies selected in case studies.

Table 6. Metrics for minor parameter

[A. Product Usability]

Metric Question

1. Does the company use transaction information as a feedback tool to improve product?
2. Does the company have customer-loyalty programs?
3. Do customers use the product more than expected?
4. Does the company provide incentives for referral?
5. Does repeat use lower the cost of the investment for the customer?

Table 7. Metrics for minor parameter

[B. Customer Loyalty]

Metric Question

1. Does the product have a loyal customer base?
2. Is ARPU increasing for the company?
3. Is the company experiencing subscriber growth?
4. Does the company have unique IPTV features that attract customers?
5. Is the product well thought out? Are directions and offerings clear and understandable on first time use?

Table 8. Metrics for minor parameter

[C. Secured Solution]
Metric Question
1. Is the security solution by the company open per industry standard?
2. Does the company participate in copyright-protection programs?
3. Does the company deliver unique content to customers?
4. Is the company able to trace all transactions from the customer?
5. Is the company able to trace any intrusion and restrict piracy?

Table 9. Metrics for minor parameter

[D. Market Regulation]
Metric Question
1. Is an independent agency in charge of regulation (not part of government?)
2. Is this a free-economy market controlled by market forces and not regulation?
3. Is this an open market, according to ITU rankings?
4. Is the regulatory process transparent? Please see InfoDev (2004)
5. Does the company practice due diligence in participating in regulation?

Table 10. Metrics for minor parameter

[E. Customer Satisfaction]
Metric Question
1. Is there a transaction? (Money, information, time)
2. Is there a response-time commitment from the company?
3. Does the company allow multiple mechanisms of support: e-mail, phone, chat, and so forth?
4. Are all support issues closed with minimal number of iterations from customer?
5. Are all support issues closed with no repeat request?

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Table 12.

Major Parameter Ratings for Google Video	
Metric Parameter	<u>Commentary</u>
<i>Power Against Supplier</i> 5	The value of this metric is just below the half-way mark, partially because of the symbiotic relationship between content owners and Google. Google has to depend on the content providers for its success; however, the content owners also need Google's worldwide presence and popularity to sell their content.
<i>Power Against Customer Bargaining</i> 5	Google has a medium rank for this metric. Although consumers have access to unique content from CBS, they also have the option of buying content from competitors such as AOL. In addition, consumers have flexibility of buying content that they can selectively choose.
<i>Power Against New Entrants</i> 5	The value of this metric is high. While Google has an immediate competitor, AOL, Google has a strong brand image that they must not alter. For entry in this competitive market, a new entrant must have a reputation equal to Google and AOL. Google enjoys a majority market share right now.
<i>Power Against Substitution</i> 7	Google enjoys the advantage of being a popular brand. It also protects the intellectual property and copyrighted content through proprietary means; thus, the value of this metric is high.
<i>Power Against Competition</i> 7	The rivalry among the competing partnerships of Google/CBS and AOL/Warner Bros. is low because both players have an agreement. Both players distribute content owned by CBS. In addition, Google has a 5% stake in AOL.

Table 13.

Major Parameter Ratings for AOL	
Metric Parameter	<u>Commentary</u>
<i>Power Against Suppliers</i> 5	AOL has to depend on the content providers for its success. However, the content owners also need AOL's worldwide presence and popularity to sell their content. In addition, AOL has made considerable investment in this sector.
<i>Power Against Customer Bargaining</i> 5	AOL is rated at the half-way mark for this metric. Though the consumers have access to unique content from CBS and other creators, they also have the option of buying content from competitors such as Google. The consumers also have flexibility of buying selected content.
<i>Power Against New Entrants</i> 4	The value of this metric is close to the half-way mark. AOL has shown how partnering can have great advantages. New entrants are likely to follow this successful business model.
<i>Power Against Substitution</i> 6	AOL enjoys the advantage of being a popular brand. It also protects the intellectual property and copyrighted content through proprietary means. In addition, it has strong ties with Hollywood and thus content is available comparatively easily; thus, the value of this metric is high.
<i>Power Against Competition</i> 3	The Power against Competition is low for AOL is low because Google still has a majority market share. Google also just invested \$1 billion for a 5% stake in AOL. This investment allows Google users to access AOL's popular content. Both the players distribute content owned by CBS.

Table 14.

Major Parameter Ratings for CBS/Google and AOL/Warner Brothers			
Major Parameter	<u>Ranking</u>		
	CBS	CBS and Google	CBS and AOL& Warner Bros.
<i>Power Against Supplier</i>	6	8	7
<i>Power Against Customer Bargaining</i>	6	8	8
<i>Power Against New Entrants</i>	5	7	9
<i>Power Against Substitution</i>	6	9	9
<i>Power Against Competition</i>	5	6	5

