The Six Angles of Competition

By Robert L. Cantrell

Center For Advantage

Paper first published in the Competitive Intelligence Review, Vol. 10(3) 51-57 (1999)

Executive Summary

A model for competitive intelligence analysis is set forth, using "six angles of competition" for viewing different business dynamics that affect how successfully a company can draw revenue and profits from prospective buyers. When examining the interaction between competitive products, each has its own six angles as they relate to one another. The first four angles are composed of a "noun" or base functional system, which may include a product, a product component, or a business composed of several products, and "verb," or what the product does – its "task." Products competing at Angle I (direct competition), which include basic commodities such as oil, share the same "noun" and "verb." At angle II (alternative use), competitors have a shared "noun" but a different "verb." Angle III (substitute) competitors have a different "noun" but the same "verb." Angle IV (economic) competitors have both a different "noun" and "verb." Geographic considerations aside, all products link to all others somewhere on the Angle I-IV compass. Two additional categories emerge from these product links, however. Angle V (product complements) which help each other sell and compete for revenue and profits, such as ketchup and french fries, and angle VI (buyers), who may decide to fill a need or desire themselves. The six-angles' model can be used to navigate the competitive landscape. It is a tool to map out products in respective competitive angles, and to examine the ripple effect caused by any strategic move into new territory. In doing so, it can help to better plan defensive and offensive competitor strategy.

The man's teacher said, "Competitors will appear from six angles. There will be those who compete with you by using the same technology or business model that you do, to fill the same need or desire for you buyers that you fill. These should be most obvious to you. Less obvious will be those competitors from the second angle who use the same technology or business model to fill a different need or desire for your buyers. If they have patented or otherwise legally protected the technology or business model you wish to use, you may even have to license it from them. Worse, these need or desire you do in the future and so move to the first angle of competition. Competitors who appear from the third angle can change the whole nature of your business, for they use a different technology or business model to fill the same need or desire for your buyers that you fill. If their technology or business model is better or cheaper than yours, you may go hungry. Competitors from the fourth angle will use neither the same technology or business model, nor fill the same need or desire, but will compete for the same dollars in your buyers' budgets. If their value to *left to spend on you. Fifth-angle competitors produce products complementary to your own. They share in filling a need or desire for your buyers and so fill a unique place. To eat you must work together, yet once a buyer is sold, you compete with each other for a larger share of that buyer's expenditure. How you handle these competitors can make the difference between thin and fat profits. Sixth are the buyers themselves, for the day may always come when buyers decide they can fill their needs or desires without you. For each of these possibilities, you must be watchful." – Robert Cantrell, from* The Man Who Made Boats *Manuscript submitted for publication.*

Robert Shaw, a scientist devoted to the study of Chaos Theory, stated that "You don't see something until you have the right metaphor to perceive it." His quote caught my attention some time ago and has become one of a list of quotes that I review regularly. Like a scientist, in the field of competitive intelligence we focus on seeing and explaining that which isn't obvious to others. As such, we devise, experiment with, and possibly adopt any model that helps us to see a little clearer the nuances of business around us.

The six angles of competition originally began as three angles, first described in a *Competitive Intelligence Review* article I submitted in 1996 entitled "Patent Intelligence – Information to Compete Before Products Are Launched." The three angles described in that article, which correspond to the first three of the six angles described here, focused specifically on technology. That didn't go far enough. The intent of the six angles of competition described here is to provide a base, in a sense, a metaphor, for viewing the different business dynamics, technology or otherwise, that affect how successfully a company can draw revenue and profits from prospective buyers. In a sense, it completes the story.

Competitive Barriers – The Base for Observation

To give the best perspective on the six angles of competition, a quick review at the base of observation helps. At the very base, a given product sells at a given price to buyers. Ideally, the revenue generated from that sale is greater than the cost to conceive, build, and sell that product. That, of course, represents profits.

A product seller's success at achieving and maintaining high profits depends not only on how well the product sells, but also on how successful a product seller is at obtaining and maintaining barriers to competition for those products. Competitive barriers themselves take a variety of forms to include legal, technical, relational, financial, geographical, as well as others. Competitive barriers allow companies to charge higher prices than they could if the competitive barriers did not exist. The most profitable companies employ a variety of these competitive barriers at the same time. One of the best known is the patent, which allows a holder to assert his rights and legally prevent others from using a company's inventions for a period of time.

Detailed discussions on competitive barriers appear in Michael Porter's *Competitive Advantage*. A detailed discussion of how companies migrate from one competitive barrier to another as competitive barriers erode appears in Adrian Slywotzky's *Value Migration*.

It's almost a foregone conclusion that any company that holds competitive barriers on sources of revenue valuable to others will eventually have those competitive barriers eroded. The questions concern whom, when, and how? The six angles of competition play a part in answering these questions.

Functional System – The Effective Definition for "Product"

The six angles of competition begin with a functional system. Functional systems are scalable and may include a product, a product component, or a business composed of several products. Merck, for example, is a pharmaceutical company that sells a variety of drugs, each of which has its own mix of compounds and production methods. Whether an analysis begins with Merck, a specific Merck drug, or a compound within a drug, a six-angle

The Six Angles of Competition

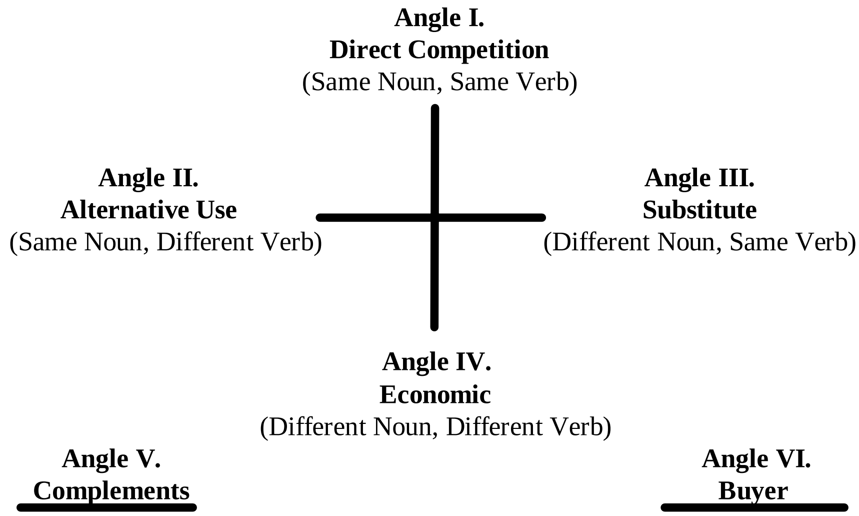

Figure 1. *The Six Angles of Competition*

analysis begins at the appropriate level and works back through its subcomponents and up through the next higher functional system of which that originally analyzed is a part.

IN THE MID-PRICED CAR COMPETITION BETWEEN A FORD TAURUS AND A TOYOTA CAMRY, THE COMPARATIVE POSITIONS OF THE ENTIRE COMPANIES, FORD AND TOYOTA, PLAY STRONGLY WITH THE INDIVIDUAL COMPETITION BETWEEN ANY TWO GIVEN CARS.

Consider the competition between two mid-priced cars as another example. You begin your analysis with the cars themselves because that is the defined focus of your analysis. From there, you might move up to the company level. If your mid-priced car happened to be a Ford Taurus and you competed directly with a Toyota Camry, the comparative competitive positions of the entire companies, here being Ford and Toyota, play strongly into the individual competition between any two given cars. Within the functional system that represents an entire car company, you have the specific factories that produce the competitive cars in question. Those factories are six-angle analyzable functional systems. The components of the cars themselves have a scalable six angles of competition open for analysis.

The goal when analyzing at different levels is not to become lost in the details, but instead to isolate and identify the critical aspect of competition at each functional system level and take action accordingly. The six angles of competition help identify those critical aspects by creating categories of functional system competition. (Please note that for the remainder of this paper, references to products refer to the entire functional system at its appropriate level of analysis.)

Figure 1 displays each of the six angles of competition. The first four of the six angles are best remembered by thinking in terms of nouns and verbs in a sentence. The noun states what a functional system is. The verb states what the functional system does. A competitor using the same functional system to do the same task for abuyer would be considered an Angle I competitor. Coke and Pepsi compete with each other at Angle I, for example, at least concerning their flagship cola beverages. Two similar cola-based drinks provide a means to satisfy buyer thirst.

At Angle II, companies use the same base-functional system – same noun, to perform a different task for clients – different verb. Whereas Angle I competitors can also be called direct competitors, Angle II competitors can also be called alternative-use competitors. Angle III competitors – different noun, same verb – equate to substitute competitors. Angle IV competitors represent competition based on the overall economy and the price elasticity of the functional system under analysis.

Because few functional systems are purely Angle I, II, III, or IV, view this part of the model as a compass. In the above example, the formulas for Coca-Cola and Pepsi beverages are not identical, but they are pretty close. On the compass, the beverages themselves would fall to the right of the Angle I center point regarding satisfying client thirst. Commodities, such as oil, would be at pure Angle I position.

Taking note of any geographical barriers, all products in the world link to all others somewhere on the Angle I-IV compass. Two categories emerge from these product links, however, that themselves require special categorization. These represent Angle V competitors – product complements – and Angle VI competitors – buyers – and are set aside on the bottom of the model. Competition at Angles V and VI interplay with Angles I through IV and set up a competitive network of linked product relationships. These networks, though often complex, provide some of the best opportunities for establishing high-profit competitive positions. More description of each competitive angle and the links follow.

Angle I (Same Noun, Same Verb). Same Base Technology and/or Business Model, Same Buyer Need/Desire (Direct Competitors)

Angle I competition represents the competition most people think about first when asked to list their competitors. It's not a bad place to start. Here, you have classic competitive struggles such as Coca-Cola versus Pepsi, AT&T long distance versus MCI long distance, McDonalds Big Macs versus Burger King Whoppers, Ford Taurus versus Toyota Camry versus Honda Accord, and K Mart versus Walmart. The less-differentiated products are, the more severe Angle I competition is likely to be.

ANGLE I REPRESENTS THE CLASSIC COMPETITIVE STRUGGLES OF COCA-COLA VERSUS PEPSI, AT&T VERSUS MCI, K MART VERSUS WALMART, AND BIG MACS VERSUS WHOPPERS.

Without a better way to distinguish products, the bottom-line difference in Angle I competition migrates toward price and price-related aspects such as reliability. Pure commodity sellers take Angle I competition to the extreme and find that profit potential depends almost entirely on market supply and demand. Differentiation, though it does not eliminate supply and demand effects, can skew demand in favor of the company that sells the preferred product variant.

Angle II (Same Noun, Different Verb). Same Base Technology and/or Business Model, Different Buyer Need/Desire (Alternative Use)

Competitors that blind-side other companies tend to come from one of the other six angles of competition. Companies that compete at Angle II may not outwardly affect each other at first. However, once legal competitive barriers, such as patents, conflict; necessary raw materials or services become scarce; or one company decides to move to Angle I competition by filling the other company's buyer's needs or desires, the effect of Angle II competition becomes apparent.

Buckminster Fullerenes, a C60 compound referred to as Buckeyballs, have uses ranging from pharmaceutical, to oil additive, to ink-copy additive, to employment in anti-missile, missiles. Aircraft, golf, and bicycle companies, such as Boeing, Callaway, and Trek, respectively, all have interest in strong lightweight steel substitutes for different purposes. Gillette and Bic demonstrate a case of Angle II competition that moved to Angle I competition. The process to produce disposable pens (Bic) and disposable razors (Gillette) proved quite similar. Each encroached on the other's core buyers when they began to produce their own disposable razors and pens, respectively.

Angle II competitors also represent licensing opportunities. For example, some chemical compounds used in fat-free oils are nearly identical to compounds used in oil additives for cars. However, companies in the respective industries such as Nabisco and Exxon will never compete with each other's core businesses unless a new conglomerate diversification wave comes into vogue again. New compounds in either specialty may have applicability to the other. When that occurs, one or the other may license the compound. Angle II competition also represents fertile ground for business process-improvement ideas. For this reason, Angle II competitors often represent benchmarking candidates.

Angle III (Different Noun, Same Verb) Different Base Technology or Business Model, Same Buyer Need/Desire (Substitute)

When the Swiss Watch industry lost ground to new Japanese digital watches, an entire industry suffered the effects of Angle III competition. At its core, Angle III competition appears when a new technology enables a buyer need or desire to be filled cheaper, better, or at a better value to a buyer. It also appears when business regulation changes occur that allow companies to compete in ways previously prevented legally.

When technology or regulation changes lead to new Angle III competitors, the business model enacted to exploit them may make as much a difference to the substitute's success as the technology or regulation change itself. Furthermore, the existing business model of a company based on an earlier solution to a buyer's need or desire may actually inhibit its ability to compete using a new model.

Merrill Lynch, for example, faced both legal and technical changes that introduce Angle III competitors. Deregulation of commission rates opened the door for discount brokers. Changes in Glass-Steagall enforcement opened the door for banks to compete for investment services. In addition, the Internet gave more freedom for buyers to handle investments themselves with Internet brokerage service providers. The existing full-service commission-based broker business model founded on client relationships was one of the reasons companies such as Merrill Lynch did not adopt a price-competitive discount service and could not rapidly adopt new Internet brokerage technology in the way a salaried transactional-broker structured Charles Schwab could.

THE OPTION TO PLACE PHONE CALLS OVER THE INTERNET COULD MAKE AOL AND AT&T INTO ANGLE III COMPETITORS

Angle III competition abounds in the marketplace. As another example, consider the recently available option to place phone calls over the Internet from a computer. At the time of writing, the quality of such calls doesn't compare to traditional voice lines. It will improve. For companies such as AT&T and MCI this not only means new competition for voice traffic. It may also mean a shift in billing practices. Because companies such as AOL charge a flat monthly rate, AT&T and MCI may have to offer flat rates to clients who otherwise spend more than the monthly rate equivalent of an Internet provider for long distance calls. Again, the technology change, regulatory changes, and the business model to exploit it go hand-in-hand.

Angle IV (Different Noun, Different Verb). Different Base Technology or Business Model, Different Buyer Need/Desire (Economic)

Analysis of Angle IV competition represents basic economics with a focus on price elasticity. Here, Barnes & Nobles competes with Safeway Foods for money from the same individual consumer budgets. Because people have to eat, when a buyer has a limited budget, Safeway Foods obtains the revenue.

Although it is likely not the case with food versus books, perception sometimes guides the way a prospective buyer directs his or her budget for expenditures. For this reason, advertisers spend as much time creating the perception that a product is a must-have necessity as they do dealing with competitors in Angle I or III. Not only do they sell to buyers in their own product category, but they need to convince buyers to spend on their product category versus every other product category available.

Because at some point, the ultimate buyer limitation becomes time, not money, Angle IV competitors will compete for time as well as money. Particularly when time becomes a factor, Angle IV competition can take the flavor of other competitive angles. As an example, consider buyer entertainment on a Saturday evening. Though an evening picnic with a volleyball game, and an evening at the movies have clear Angle IV characteristics, one is a substitute for the other regarding that Saturday time slot, and both may compete on price to make themselves a better value for that Saturday time slot.

Angle IV competition also becomes the most prominent mover of the consumer price index. To use the entertainment example again, when available entertainment exceeds the allocated resources of buyers to be entertained, Angle IV competitors may compete with other product categories on price to improve their comparative position on the buyer's value evaluation. That may force a high fashion clothing company, for example, to lower their prices if money otherwise available for prestige clothing is redirected by buyers to take advantage of a Saturday-night-entertainment price war.

Angle V (Product Complements)

Adam Brandenburger and Barry Nalebuff discuss complementary product competition in detail in a book entitled, *Co-opetition*. Product complements both help each other sell and compete for revenue and profits at the same time. Representative examples include, ketchup and french fries, cars and tires, cars and suburban houses, dog food and dogs, etc. The possible combinations become fairly endless, and when you consider that each product complement has its own six angles of competition, you can create charts not unlike fractal analysis charts in Chaos Theory.

Because every single product eventually links to every single other product through some chain of complementary product links, the opportunity for a business version of the butterfly effect takes place at Angle V competition. The butterfly effect notes that a very subtle change, such as the turbulence created by the wings of a fluttering butterfly in Asia, affects other air molecules that, in turn, affect other air molecules, and may ultimately effect the development of a storm that occurs in North America. In theory, the drop of gas prices at a single station might force others in a town to drop theirs, which, in turn, forces the adjacent towns to do so as well, which makes transportation cheaper, which clogs up freeways, and starts to reverse some of the cheap fuel benefit, etc. I suspect that a study of the world's best investors would lead to a small pool of individuals with an innate ability to see the butterfly effect in motion.

AT ANGLE V, THE PROFIT-GENERATING POTENTIAL BETWEEN COMPLEMENTARY COMPETITORS IBM, MICROSOFT, AND INTEL BECAME UNEQUAL THROUGH MOST OF THE 1990S.

To keep things realistic, however, it's important to recognize what are your own key product complements. Are those complements necessary complements, such as motor oil to cars, or desired complements, such as ketchup and hot dogs? Based on the complementary product's respective six angles of competition and barriers to competition, which holds a better profit position versus the other? An often-referenced example of profit-generating potential between complementary products becoming unequal is that of IBM, Microsoft, and Intel through most of the 1990s. Computers themselves became commodities (IBM), but the operating systems (Microsoft), and chips (Intel) maintained effective competitive barriers. Most people use Microsoft and Intel but in a wide range of different IBM-computer clones.

Angle VI (Buyers)

Ultimately, buyers themselves may decide to fill a need or desire themselves. Given enough time and the right tools, for example, most able-bodied people could paint their own house. Two factors affect buyer-based competition. For simple tasks such as painting a house, price and a buyer's value of his or her time may dictate which needs or desires he or she will handle personally. For more complex tasks, technology typically becomes the enabler. An Angle III substitute in an Angle V complementary-product field, such as a stage-play director's substitution of a music synthesizer for a live orchestra, allows that director to play his own original music without the orchestra.

At the time of this writing, what may become a classic case of Angle VI competition appears underway with the new Linux operating system software. In this case, individual computer programmers, otherwise limited to operating systems such as Microsoft, have effectively written their own operating system software and have made it available to others for free.

How to Incorporate the Six Angles of Competition Into an Analysis

Think of the six angles of competition as a network that builds up, down, and outward from the product you are analyzing. Set the compass at Angle I and identify the direct competitors. At that point move around the first four angles and identify key alternative-use competitors at Angle II, substitute competitors at Angle III, and key Angle IV competitors that obtain buyer budgets ahead of your own. Next, identify key complements at Angle V and those technology or regulatory changes that enable a buyer to become an Angle VI competitor.

Once completed, scale the analysis up and down at different levels of functional systems and note those angles likely to offer the higher threats or opportunities. Next, start to analyze the six angles of competition that competitors and complements with direct links to you face. Prioritize the threats and opportunities as they appear so the expansion does not become unwieldy. In a figurative sense, if you were an outfielder intent on catching a baseball, you could use the six angles of competition to analyze the entire stadium down to the bolts on seat 56A, section H. The ball, and key variables such as wind and grass conditions, make themselves apparent quick enough. The expansion ensures you don't miss points of advantage that otherwise only appear obvious in hindsight.

ANY COMPETITIVE ACTION OR REACTION A COMPANY TAKES OUTSIDE ANGLE I COMPETITION WILL LIKELY CAUSE A SHIFT IN ITS COMPETITIVE-ANGLE POSITION WITH OTHER COMPANIES.

Defense versus Offense

The six angles of competition have both defensive and offensive uses. The defensive use, as a screen to warn against potential competitors, may appear the more obvious of the two. Awareness of a threat means little, however, unless a company takes action to deal with it. So like radar that both warns of threats and targets missiles, the six angles of competition have some solidly offensive applications.

First, any competitive action or reaction a company takes outside Angle I competition will likely cause a shift in its competitive-angle position with other companies. For example, if the Swiss watch companies had started to produce low-cost digital watches such as those made by Casio, they would have competed against Casio at both Angle I and Angle III, depending on the product involved. Such a move demands an analysis of how Casio would or could respond. A move creates a ripple that can turn to a storm if you happen to pick the wrong competitors with which to move into Angle I competition. Effective strategic moves produce positive results, not negative ones. Simple as that seems, even expert chess players make mistakes. In relation to each other, most business people are not the experts on the bell curve. Exploitable mistakes abound.

With the six angles of competition, it's best to map out products in respective competitive angles along with the nature of the product's owners and examine the ripple effect caused by any strategic move into new territory. Consider the options of competing with, partnering with, or licensing products from product holders in different competitive angles that best suit the intended result of your move. Satisfied, make your move and monitor accordingly.

References

Altshuller, G. (1997). 40 Principles – TRIZ Keys to Technical Innovation. In L. Shulyak & S. Rodman (Trans.) Worcester: Technical Innovation Center, Inc. (Original work published in 1974).

Brandenburger, A.M. & Nalebuff B.J. (1996). Co-opetition. New York: Doubleday.

Barker, J.A. (1992). Paradigms. New York: Harper Business.

Barry, J.S. (1996). Creating a Financial Services Industry for the 21st Century, part 1: Tear down the walls. Talking Points No. 14. The Heritage Foundation [On-line]. Available: http:\\www.heritage.org/library/categories/regulation/tp.14.html.

Cantell, R. (1996). Patent Intelligence – Information to Compete Before Products are Launched. Competitive Intelligence Review, 1, 65-69.

Cantrell, R. (1999). The Man Who Made Boats. Manuscript submitted to publication by Atchity Editorial/Entertainment International.

Derwent Information. (1964-1998). Derwent World Patents Index and Derwent Patent Citations Index. London: Derwent Information LTD.

Dixit, A.K. & Nalebuff, B.J. (1991). Thinking Strategically. New York: W.W. Norton & Co.

Dolan, R.J. & Simon, H. (1996). Power Pricing. New York: Free Press.

Gleick, J. (1987). Chaos. New York: Penguin Books.

Klavans, R.A. (1997). Identifying the Research Underlying Technical Competitive Intelligence: Keeping Abreast of Science and Technology. Ohio: Battelle Memorial Institute.

Mann, C.C. (1999). Programs to the People. Technology Review 102(1), 36-42.

Porter, M.E. (1985). Competitive Advantage: Creating and Sustaining Superior Performance. New York: The Free Press.

Slywotzky, A. (1996). Value Migration. Boston: Harvard Business Press.

WebPhone: http\\www.internet.ephone.net.

Writing Instrument Firms. Available: http:\\www.iswt.com/pen/firms.htm.

About the Author

Robert Cantrell is the founder of Center For Advantage, www.centerforadvantage.com, an Arlington, VA based consulting company focused on producing tools and techniques for strategy innovation. In April 2003, he published a book titled Understanding Sun Tzu on the Art of War *that is now in use at top U.S. military schools.*

Prior to founding Center For Advantage, Robert worked in the intellectual property strategy and competitive intelligence fields with IP.com/Manning & Napier and Derwent Ltd. While at these companies, he spoke and consulted on intellectual property and competitive intelligence strategy and analysis throughout North America, Asia, and Europe.

Robert's business career began at IBM/ROLM and Dean Witter in NYC. He also served as an infantry officer for the 101st Airborne Division of the U.S. Army. Robert holds B.A. degrees from Duke University in Biology and Military Science. He holds an M.B.A. from the Edinburgh Business School of Heriot-Watt University, U.K.

Robert can be contacted at: Center For Advantage
P.O. Box 42049, Arlington, VA 22204, USA
Tel +1 (703) 379-9429
e-mail: rlc@centerforadvantage.com