

Competitive Vectors

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Products solve problems, and at the end of the day, those who solve problems best tend to sell the most products. When analyzing competitors, a dynamic to consider is at what point in a problem's evolution a given competitor's products actually solve a problem. This consideration introduces the idea of competitive vectors.

Competitive vectors focus on at what point in a problem's evolution a product actually solves a problem (See Figure 1). These vectors break down into products that:

- treat a problem when it happens
- prevent a problem from happening
- eradicate any possibility that a problem can occur.

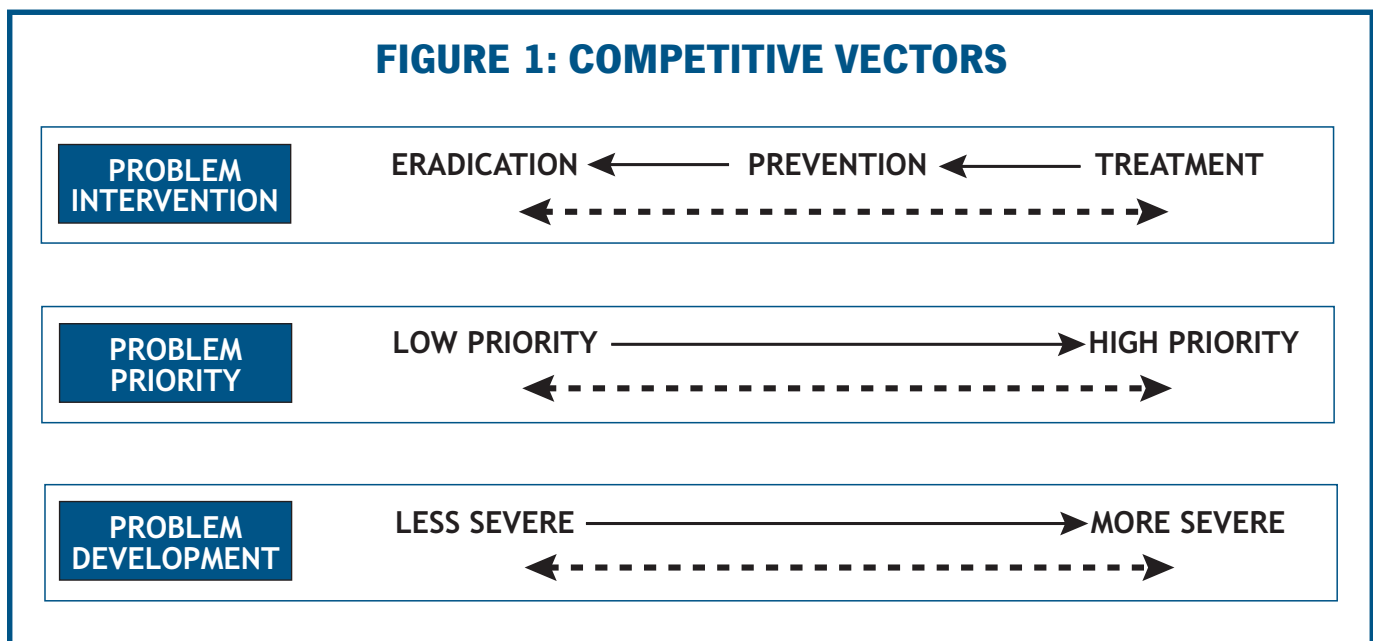
For example, you can conceptually identify all the means and products available to deal with structure fires, from the fire engines of a fire department, through installed

sprinkler systems, and up to the idea of structures made entirely from materials that do not burn. A buyer chooses to solve a problem anywhere along this competitive vector based on the real or perceived severity of the problem, where the problem falls within his priority, and the means he has available to solve it.

NATURE OF UPSTREAM COMPETITION

Problems tend to evolve over time. Some, like those caused by an exploding radiator in a car, reach their threshold more dramatically than others. The threshold is the point at which a product or service's priority rises above the buyer's propensity to save or use resources to purchase something else. A car engine, for example, wears out over time and needs to be replaced or repaired. That same engine could become damaged in an instant because a driver allows

FIGURE 1: COMPETITIVE VECTORS



it to overheat on a summer day. Those who fix damaged car engines can make their money in several places along a problem's evolution. These entry points create competitive vectors.

A consumer with a damaged engine is prevented from solving whatever other problems could be resolved by driving. Whether the problem with the engine occurred gradually or dramatically, repairing the car engine becomes a priority.

1. Treating a problem.

The mechanic who actually repairs or replaces a damaged car engine makes his money at the vector that treats a problem. This mechanic depends on encountering and repairing enough damaged engines to maintain his own business. He has a vested interest in solving a buyer's problem (the damaged engine) but also has a vested interest in not solving the problem so well that he will have no more damaged engines to repair in the future. In an ideal situation (for the mechanic), he would repair the engine just well enough that it would last until the day after his repair guarantee expired. Even if this buyer did not return to the same repair shop the next time his engine broke down, the buyer's need would keep another car in the available pool to be repaired, assuming other repair shop owners also repaired cars so they would last one day past the guarantee.

Direct competition may force the mechanics in the above example to work against their long-term interests by repairing car engines to last well beyond their repair guarantees. This becomes necessary when repair shop customers choose to use the quality of repair as a means to assess competing repair shops. However, you will not likely find an incentive from mechanics to voluntarily introduce solutions that prevent a customer from ever having a damaged engine again. Such solutions belong to sellers in other vectors with other incentives.

2. Preventing a problem.

The manufacturer that builds the engine in the first place has the most incentive to build an engine less susceptible to damage. For example, designing an engine with fewer and stronger parts creates fewer weaknesses susceptible to eventual damage. Design efficiencies can also make the cost of repairing a damaged engine proportionally less than it is with engines with more complex designs, and therefore make the car more attractive to buyers.

Complementary product makers may also contribute to reducing the likelihood that a buyer's car will receive engine damage. Improved lubricants, better roads, plus any technology that might cause a buyer to put less stress on an engine can all contribute to preventing engine damage in the first place.

This competitive vector, illustrated by the engine maker and lubricant provider, is the problem prevention vector. It

is considered upstream of the treatment vector that the professional mechanic illustrates. The success of those in the prevention vector at preventing a problem determines what opportunity is actually left for individuals and companies treating a problem downstream.

3. Eliminating the problem.

Further upstream from the problem prevention vector is a third vector of competition involving problem eradication. On the simplest scale, if a buyer can solve a problem without an engine that once required an engine to solve, then that buyer will have no engine to break down. One less engine on the road means a smaller pool of available resources from which those in the prevention and treatment vectors can draw revenue.

COOPERATION AND COMPETITION AT DIFFERENT VECTORS

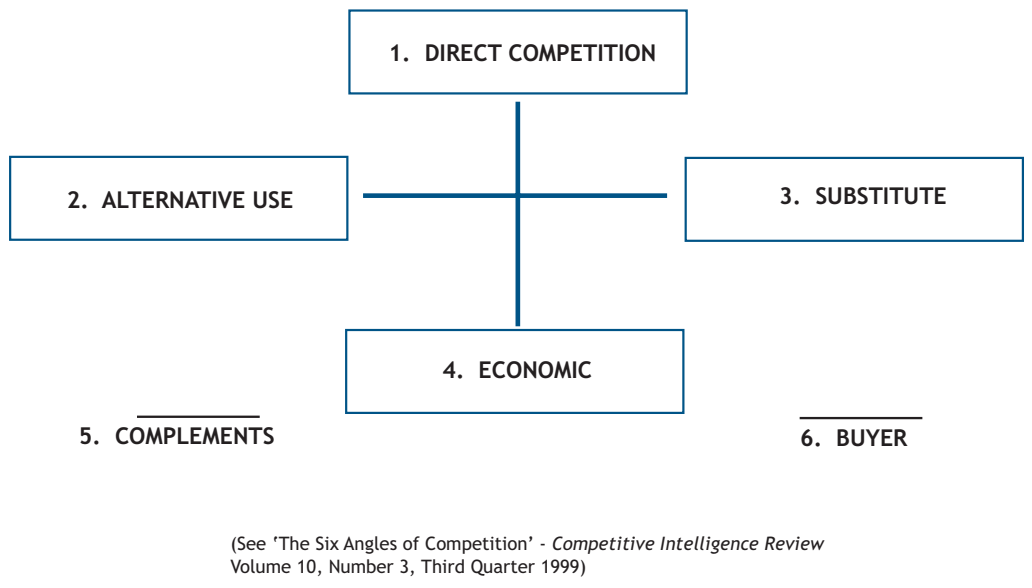
Although companies that prevent problems upstream compete with companies that treat problems downstream, the two often depend on each other to stay in business. Even Maytag, for example, which uses the idle serviceman as a symbol of the quality of its machines, depends on having Maytag service people available — even if they are in-house service people — should a machine actually break down. Without Maytag machines, those people would need other jobs.

In contrast, competitors that make their money treating or preventing a problem and those that make their money eradicating a problem work in opposition. Without a need for engines, the engine manufacturer loses business, and with fewer damaged engines on the road, the repair shop also loses business. The competitor that makes money eradicating a problem is upstream of competitors that either prevent or treat a problem. Their success at eradicating a problem determines if there is any opportunity left to prevent or treat a problem downstream.

Problem eradication tends to produce short-term business opportunities for those within an industry. A permanent, non-fading and non-chipping paint, for example, could increase short-term business for painters, but it would also soon severely reduce their market. Therefore, problem eradication solutions tend to come from outside industries interested in developing new markets. As a case in point, the computer industry, not the automotive industry, promotes virtual offices that reduce the need for workers to use cars for commuting.

VECTOR DYNAMICS

Competitive vectors, when used with competitive angles, allow for more complex predictions of competitor interaction. They also help predict where illegal, quasi-legal,

FIGURE 2: THE SIX ANGLES OF COMPETITION

angle, the number of police cruisers purchased from either Ford or Chevrolet depends on the allocation of budgeted funds to all other police needs.

At the fifth angle, product complements include the tires on the police cruiser for which a portion of a cruiser's purchase is allocated. Dynamics at this complementary angle can become complex. For example, both Ford and Chevy police cruisers may be equipped with the same brand of tires meaning the complementary provider

or legal (but not beneficial to the consumer) activity will take place. Competitive angles include:

1. **Direct competitors:** solve the same buyer problems the same way you do.
2. **Alternative use competitors:** solve different buyer problems the same way you do.
3. **Substitute competitors:** solve the same problems in a different way than you do.
4. **Economic competitors:** solve different problems for buyers in different ways but compete for the same budgets that you do.
5. **Complementary competitors:** work together with you to solve a problem but then compete for the larger share of the combined revenue.
6. **Buyers:** have the propensity for and ability to solve for themselves a problem they would otherwise pay you to solve.

These six angles of competition facilitate the comprehensive analyses of competitive dynamics of which competitive vectors are a part (See Figure 2). Each product has its own unique six angles of competition. For example, the Ford Crown Victoria and the Chevrolet Caprice compete directly with each other at the first angle for the police cruiser market. Alternatively, at the second angle, both of these cars have a large market for standard domestic transportation purposes. At the third angle, motorcycles, SUVs, bicycles, and horses provide substitutes for police transportation, with varying degrees of difference between them and the police cruisers in question. Also, at the fourth

of that tire brand wins in either case.

Regarding police cruisers and their buyers at the sixth angle, the police will not likely make their own cruisers. In some markets, however, a move toward foot patrols could reduce the need to purchase a car or two during a budget cycle.

COMPETITIVE VECTORS AND ANGLES OF COMPETITION

To examine how competitive vectors play out within the six angles of competition, the fourth angle, economic competition, proves the best place to start. In this case, the further upstream a market's problem is solved by anyone, the less money buyers will spend in aggregate to have the problem solved. This is similar to the common wisdom that "an ounce of prevention is worth a pound of cure."

How upstream opportunities at the fourth angle will play out for an individual buyer can vary. Available prevention and eradication methods may involve relatively small payments conducted by a large swath of a potential market. This large swath of small payments causes some general reduction in overall individual budgets from which other companies can draw revenue. For example, fire insurance spreads risk across the population and lowers available budgets overall for other sellers in an economy, though the risk of fire for any given individual is low.

Depending on the actual risk of a problem occurring, a product that prevents or eradicates a problem could also cause buyers to spend less to fill that priority. Those buyers have proportionally more resources available for other

company's products when the problems they solve and buyer priority lists correspond. For example, synthetic oils that last longer in cars reduce the frequency of oil changes, and hence their overall expense. Though synthetic oils have a higher up front price than regular oils, they tend to increase the total available resources in the overall market over the longer term for sellers of other products.

All other factors being equal, a substitute competitor at angle three that also solves a buyer's problem further upstream offers a greater threat than a substitute competitor at the same level or further downstream. The buyer's expectation of how a problem is solved may change to that competitor's upstream solution. The upstream substitute can reduce the available potential resources for your downstream position. Similarly, when a new competitor enters the market further upstream from your alternative use competitor at angle two, that upstream competitive solution might carry over into your own market.

Should an upstream competitor enter the market of direct competitors at angle one, those direct competitors downstream tend to suffer together. For example, advances in teleconferencing that prevent the need for some air travel affect all airlines to one degree or another. Factors such as the geographical coverage and customer demographics of affected companies will determine which feel the most impact.

Upstream solutions at the sixth angle can offer buyers a better means to help themselves. For example, the use of an improved antiseptic on a cut can easily take place at home, but an actual infection usually requires a visit to a doctor.

Regarding complementary companies at angle five, the complexity of the competitive and cooperative dynamics means that not all complementary products will feel equally the effect of upstream competition along their respective vector. For example, the telephone company that supports an airline call center may also service teleconference centers that compete against the airline upstream. The telephone company's revenue will change in one direction or another as the airline and the teleconference service compete, depending upon the success of the two rivals, but its change will be tempered by its ties to both services.

IDEAL SOLUTIONS

As solutions move upstream, consumers generally find their problems solved better, faster or cheaper than in previous solutions. In the course of a product's evolution, if inventors within a company can find a better, faster or cheaper solution without a corresponding negative consequence, that company may have a novel invention that it can protect and use as a competitive advantage. In all cases, products tend to evolve toward an ideal state.

When given enough time, a solution may reach this ideal state: the problem is solved without the need for any product to solve it. When the smallpox vaccine eliminated smallpox it created an environment in which buyers today receive the benefit of not catching smallpox without using the vaccine. When a product cannot reach an ideal state, it reaches a commodity state where only psychological differentiation has an affect on buyer minds. You cannot, for example, eliminate the body's need for water, but through branding you can convince a person that one bottle of water is somehow better than another.

INTENTIONAL INEFFICIENCIES

For companies whose products are evolving toward an ideal state, problems often arise that facilitate the development of market inefficiencies. To compete with other companies, a company may have to innovate along the next step toward ideality which, in the long term, reduces profits. Products that actually reach an ideal state cost nothing (they do not exist) and those that reach a commodity state typically, depending on supply and demand, generate poor profits.

Actually treating a problem, on the other hand, always requires some degree of customization and skills since problems downstream tend to have a unique flavor. For example, the lubricant that goes into a car to prevent engine failure sells against other lubricants that have little fundamental difference between each other. Price alone may determine which lubricant a buyer purchases. When the engine fails, however, the uniqueness of the failure normally requires the owner to seek the expensive skills of a specific mechanic to treat it.

A difficulty can arise for those treating a problem when those upstream improve their products, since improvements on products upstream prevent the need for treatment downstream. When those in a downstream position cannot or do not adjust by changing their own businesses, this can also cause some problems.

Companies selling downstream typically have more potential revenue and profits to gain in aggregate than those selling upstream. For example, repairing worn piston cylinders within a car engine costs more than building better cylinders and using the right lubricant to protect them. Those downstream have a vested interest in not having those upstream succeed any more than what is required to make buyers buy the product or service in the first place. When a too-successful competitor appears upstream, downstream companies often act against the buyers' best interests to temper the success of that upstream entrant. Oil producers, for example, cannot really want successful alternative fuel cars to reach buyers and drive down the demand for gasoline without sufficient time for them to adjust.

KEEPING THE STATUS QUO

When a company or industry is threatened by a successful upstream entrant, they may lobby their governments to receive concessions or enact laws that keep the market favorable for the status quo. This creates obstacles or at least draws away resources that otherwise might support threatening upstream entrants. Some of these steps can prove illegal.

Most industrial nations have made great strides toward preventing, on national or international scales, illegal or quasi-legal activities of those downstream against those upstream. However, smaller market activities may escape notice. For example, one major telephone seller in New York City could not introduce more efficient cabling practices into certain buildings because the cables would mysteriously be cut after installation, presumably, though never proven, by individuals who would lose out if they finished work too fast.

Gentleman's agreements within insular businesses can allow quasi-legal activity to maintain inefficiencies at the buyer's expense, at least until there are sufficient defections from those adopting upstream solutions to put others within an insular business community at a disadvantage. What this means to the analyst is that all ramifications of a new business venture must be considered competitively aside from whether or not a product improves the benefits its buyers receive.

Competitive vectors become a useful means for investors to forecast which companies in a market bring upstream solutions to the table that could in themselves establish profitable positions (See sidebar below). They

can also help forecast which companies are positioned to deal with market and regulatory moves from downstream competitors to impede or control their success.

Insightful use of competitive vectors can help identify unique market phenomena for targeted marketing and advertising. For example, the success of virtual offices may reduce the total number of cars purchased for the daily commute at the expense of sedans like the Taurus, Camry, or Accord. These same virtual offices may actually prove a positive for luxury cars such as BMW or Lexus. People with virtual offices might prove more inclined to buy luxury cars if they do not have to put excessive miles on it each day during a commute. An insightful marketer who foresees this phenomenon can use it to target marketing efforts.

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HOW TO USE COMPETITIVE VECTORS

Competitive vectors best allow analysts to forecast where:

- A successful upstream entrant can reduce the resources available to those who serve buyers downstream.
- Possible legal, quasi-legal, or illegal action against upstream competitors by downstream competitors can be expected that work against actual market efficiencies and the buyer.

A downstream company has several options for reacting to an upstream entrant:

- Improve the cost benefit situation for buyers who wait until their problem evolves further downstream.
- Prepare an exit strategy that maximizes the profits available from the downstream position while it lasts.

- Scale down market participation and become a niche survivor in a downstream position.
- Take market or regulatory action to impede the success of the upstream entrant.
- Develop or acquire an upstream position.

An entrant in an upstream position can best use competitive vectors to:

- Forecast where upstream success will most harm downstream competitors in order to prepare for legal, quasi-legal, or illegal acts that may occur in retaliation.
- Prepare arguments based on market efficiency and the benefit to the buyer for the purpose of countering any impeding lobbying or court action that may take place.