

Before 1915, shoppers would go to a counter and store personnel would fetch the items and wrap them individually. From the beginning, supermarkets provided more choices to customers and required far fewer employees to do much more volume.

The recent introduction of self-service checkout stations widens the gulf between the big chains and neighborhood stores. That efficiency is costly to implement, making it virtually impossible for stores with fewer resources to compete on price.

Size certainly helps, but even the largest companies in their sector need to watch their backs. Supermarkets are continually pressured by hypermarkets such as Costco and Wal-Mart. And, as convenient as it might be to find everything in one trip to a Costco, imagine not having to make that trip at all. Amazon is now in the grocery business. Today, you can buy solar panels for your house and a bottle of laundry detergent without getting up from your couch. Even though prior attempts at online grocery shopping have proven futile, Amazon's established distribution capabilities may enable it to succeed where others have failed.

Larger companies also face the law of diminishing returns. Trends cannot continue indefinitely. There's only so much cost-cutting that can occur until it negatively impacts operations.

This phenomenon also applies to growth initiatives. New marketing dollars eventually will begin to return less than the dollars spent before. Incremental improvements pursued by the company will have less of an impact on profit growth because the company's size makes it difficult for any one initiative to make a noticeable impact on results. Large mutual funds and private equity firms face the same challenge; they may enjoy lower transaction costs, but there are a limited number of investment opportunities that are large enough to increase returns by anything other than a rounding error.

The managerial talent pool may also become a factor. Larger firms will

find fewer attractive candidates with the requisite experience and talent to keep that growth rate intact.

Patents

Patents and trademarks encourage companies to invest in research and development. Should a company or individual invent a unique product that excites buyers enough to make it profitable, patents will protect its competitive position for years. Pharmaceutical stocks are often evaluated on the remaining time left on their patents and their pipelines of potential blockbuster drugs.

Ideas can be patented, but they also need to be capitalized. Consider Nikola Tesla's penniless end at age 86, even though he conceived the alternating-current motor, the neon light bulb, the remote control and the radio, among other inventions. One of the world's greatest inventors spent his last days feeding pigeons in a park.

Captivate Customers — and Then Hold Them Captive

As attractive as Apple's products may be on the outside, appearance isn't a significant long-term competitive advantage. Consumer design preferences change over time and other companies will happily emulate successful design up to a hair's width of legality.

But Apple, like many tech firms, expends enormous resources into locking customers into a comprehensive ecosystem; the user experience improves the more Apple products the customer buys. Your expensive iTunes music library is shared easily among other Apple devices but not as easily elsewhere. If you'd like an Apple Watch, you need to buy an Apple iPhone as well.

Google's Android operating system is installed on more than five times as many devices as Apple's, but its app store currently brings in one-fifth the revenue of Apple's app store. Apple's focus on a quality user experience allows it to charge premium prices for its products. To compete successfully with Apple, Google chose

a different path: It made Android non-proprietary to gain the critical mass needed to attract developers and start up a virtuous cycle of more apps bringing in more users. Although no doubt Google anticipated this outcome, Android's nonproprietary nature allows manufacturers and mobile service providers to direct customers away from other Google services, reducing the value of an individual Android user to Google.

The furlined handcuffs of proprietary standards have limits. Microsoft used its Windows dominance in the '90s up until 2002 to promote Internet Explorer and eventually gain a market share of more than 90 percent, effectively shutting down competing browsers such Netscape's Navigator. As commendable as this might be for shareholders — Microsoft's, that is, not Netscape's — regulators eventually stepped in to curb Microsoft's monopoly. Google's Chrome browser now enjoys a 20 percent to 45 percent market share, depending on the source.

Companies selling products or services that are expensive or inconvenient for buyers to change benefit from those high switching costs. The Merrill Lynch Cash Management Account (CMA) was revolutionary when it was introduced in 1977 for both the convenience it offered clients and in the assets it gathered for Merrill Lynch. Merrill Lynch was looking for a way to attract banking business when the Glass-Steagal Act prohibited brokerage firms from offering traditional checking and deposit accounts. The CMA offers a brokerage account combined with the choice of money markets or FDIC-insured accounts along with ready access to cash or margin through debit cards and checks.

Brokers were resistant to CMAs at first because they were inconvenient to open. But the product was a winner. The more clients wrote checks, used their debit cards and arranged for their pension checks to be automatically deposited into their account, the more difficult it became to sever their relationship with the firm. Because of



that, Merrill brokers leaving to join a competitor also found it more difficult to persuade CMA clients to follow them. This protected Merrill Lynch somewhat from competitors' attempts to poach the firm's brokers.

The More, the Merrier

Buffett and Munger also pursue firms that become more insulated from competitors the more they grow. This phenomenon is referred to as the "network effect," or, if you're on a job interview on Wall Street, "demand-side economies of scale."

eBay is frequently cited as an example of the network effect. Although competitors occasionally attempt to compete with eBay on price or features, they can't duplicate the size of eBay's user base and thus the liquidity of its auction market. Thanks to that depth, eBay can raise auction listing prices without opening itself up to successful competition.

The initial adoption of the telephone also demonstrated the network effect. The first few telephone buyers must have felt pretty lonely at the onset, but as more people gained access to the devices, a positive feedback loop accelerated telephone demand. Security markets, fax machines, Napster, massively multiplayer online games such as World of Warcraft and even the Internet itself are a few other examples of the network effect.

Exponential growth is a sure indication of the network effect. If the growth rate continues to build on itself solely because more people are using the product, you're observing a strong network effect. If, however, you're observing tepid growth in a network-dependent strategy, that may be a warning sign. Pyramid marketing schemes promise the rich rewards a network effect can provide, yet that exponential growth rarely materializes.

A company that enjoyed exponential growth owing to the network effect may also be subject to a decline with the exact opposite trajectory of its former growth rate. As the number of users decline, utility declines. The negative feedback loop may doom a

company unprepared for the change. Facebook may be able to increase revenue temporarily by offering more advertising opportunities, but if users continue to abandon Facebook in favor of other social media sites, it'll face severe challenges.

The Power of Brands

A strong brand discourages competition or prevents competitors from taking away significant market share. Procter & Gamble invests heavily in advertising to ensure brand loyalty. Once consumers' shopping habits become established, they rarely change, even though generic alternatives are often less expensive and have similar quality. Consumers prefer recognized brands because they offer convenient mental shortcuts that save time and offer solutions that, if not perfectly accurate, are at least adequate for their purposes.

Buffett and Munger learned about the power of brands from the acquisition of California-based See's Candies. Before buying See's in 1971 (through Berkshire subsidiary Blue Chip Stamps), their investment strategy was almost entirely value-driven; companies were attractive only if they could be bought below their liquidation value, which allows a margin of safety in case the company's unable to turn around its operations.

See's was their first foray into buying a major brand name and their largest investment by far at \$25 million. The boxed-candy business, as tasty as it might appear, did not, nor does it have now, exceptional sizzle.

What interested Munger and Buffett about See's was its cash-cow properties. It didn't require cash infusions to grow or continue in operations. At the time of its purchase, See's earned \$5 million pre-tax on the \$8 million of capital required to fund the business, making the pre-tax return on invested capital more than 60 percent.

The investment turned out quite well. See's has generated more than \$1.7 billion in pre-tax earnings for Berkshire Hathaway.

See's isn't a large company in Berk-

shire's portfolio, but it's one of Buffett's favorites. The real value the See's acquisition provided was the lesson the duo learned about the pricing power of a beloved brand. See's chocolates are so cherished on the West Coast that prices can be raised almost at will. The route in California to a loved one's heart goes through a See's Candies box. Because of the strength of the positive associations See's Candies has enjoyed for generations, the pursuit of love or a tender apology would surely fail with a pedestrian box of drugstore chocolates.

Economists refer to this phenomenon — the demand for See's Candies changing less than the change of its price — as inelasticity of demand. The lesson Buffett and Munger learned from the acquisition of See's Candies encouraged Berkshire to invest heavily in industry leaders later, including the company's very profitable 9 percent stake in Coca-Cola.

Brands aren't infallible. They're expensive to build and protect, are under relentless attack from competitors and, even without competitors' assistance, can be damaged from ill-considered moves. Abercrombie & Fitch CEO Mike Jeffries did enormous damage when an interview with him done in 2006 went viral seven years later. In it he declared he wanted only good-looking people staffing the brand's stores and only "cool kids" to wear the brand. The subsequent consumer rebellion against Jeffries' exclusionary marketing turned an aspirational brand into a satirized one. The stock hasn't since, as of this writing, reached the prices it enjoyed before the 2013 scandal.

Soft Moats

Companies that have intangible advantages are said to have "soft" moats. A company with a great corporate culture may not have to aggressively match its rivals' compensation to attract and retain great talent, or it may enjoy more productivity from its employees. Zappos is famous for its work environment and fanatical dedication to customer service. The com-



pany readily shares its culture book with anyone who requests it, so it's not the stated corporate values that provide the competitive advantage to Zappos. Its advantage might be found in how much the company values those stated values and how methodically the company implements them throughout the company.

Superior managers not only create moats, but they're a soft moat unto themselves. Companies with stable, successful management will respond rapidly and effectively to their rivals. Jack Welch, the now-retired chairman and CEO of General Electric, created a cult of personality that's lasted well past his retirement. Under Welch's stewardship, the company increased in value by 4,000 percent.

Zappos has a distinct process that's replicable. But General Electric, in Welch, had a CEO who could implement a performance-focused corporate culture (Six Sigma) successfully and do so in both a charismatic and highly personal way. Welch was reported to know his top thousand executives by sight along with their job duties. His unique combination of managerial insight, discipline and attention to people was impossible for competitors to duplicate. Twenty years of superior performance is enough to conclude that Welch's leadership was a moat of its own.

Every Moat Has a Drawbridge

Evolving technology frequently overtakes established companies. Occasionally that occurs from the unforeseeable introduction of a blockbuster product, other times a company seems to have ducked its head into the sand rather than adapt to changing times, at least in retrospect. Any company dependent on one product or service is heavily exposed to the risk of obsolescence. Kodak and America Online are examples of dominant companies that squandered their lead, although their executives could clearly see the barbarian hordes amassing outside their gates.

Eastman Kodak, at its peak, enjoyed a 70 percent market share in the

United States film market and was making a 70 percent gross margin on its film sales. Kodak did face serious competition from the introduction of instant photography by Polaroid and from less expensive film made overseas, but its 2012 bankruptcy stemmed from ignoring the beginnings of digital photography at the hands of one of its own engineers.

A Kodak engineer put together the first known digital camera in 1975. Even though the prototype had a resolution of 0.1 megapixels (compared

with the 16 megapixel count of the Samsung Galaxy S5 phone) and was clearly an experimental project rather than a commercial product, the company estimated the technology would be consumer-ready in 15 years to 20 years.

Perhaps the choice to name the concept "film-less photography" antagonized executives who had grown accustomed to film's fat margins, but, regardless of the reason, research on digital photography remained minimal and oriented toward

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professional use. The primary beneficiaries of digital photography were Sony and other Japanese manufacturers.

During its height in 1997, America Online provided one of the easiest ways to access the Internet and connected half of U.S. households with Internet access through its dial-up modem service. The company's self-named "walled garden" approach helped it prosper from the tremendous network effects of its proprietary Buddy Lists and Instant Messaging.

Unfortunately, it didn't have an adequate answer for the increasing availability of the much faster and more convenient broadband access. Once broadband became readily available users left in droves.

Aol, as it now brands itself, wants to re-engineer itself as a collection of digital properties. Interestingly, dial-up memberships still factor into its financials, with 2.3 million subscribers generating \$155 million in revenue. Though these figures will certainly continue to decline, they provide funding for new properties.

Measuring the Moat

Most of the factors that contribute to a moat aren't easily described by numbers, but the width of the moat can be measured in quantifiable results. A moat manifests itself in long-term profitability above its cost of capital. The cost of the company's equity and debt is known as its weighted average cost of capital.

The WACC reflects how much return a shareholder might demand to justify the company's capitalization. On that basis WACC is a threshold rate to judge the effectiveness of the company's managers.

If the company is earning profits consistently above its cost of capital (usually expressed as a rate), management is adding value for shareholders. If the company earns profits below its cost of capital, management is destroying value. Managers can use the WACC or a related measure called economic value added to prioritize company projects: The greater the return above the WACC, the more of a priority the project becomes.

If you'd like to learn more about WACC and EVA, see "A Dollar's a Dollar, But How Much Does It Cost?" in the August 2011 issue.

Don't Let a Moat Get Your Goat

As powerful as a moat might be, avoid the temptation to overpay for one. Berkshire Hathaway's extraordinary results arise not only from which companies it purchases but also the price paid.

Buffett and Munger learned a sweet lesson about the power of brands from See's Candies, but they were also purchasing a business that had a 60 percent return on capital. The value of the company's pricing power became apparent only after the company was purchased.

Successful long-term investors may admire many firms for building enduring competitive advantages, but the biggest profit will come from buying those moats on sale. **B**

Sam Levine, CFA, CMT, writes frequently for this magazine.

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