



Tom Connor's Thinking Forward:

A Little Ado About Moats (or, Buying New Batteries)

In days of old when Knights were bold, life could be tough. As a matter of fact the rich and powerful built castles and moats to protect themselves and their valuables.

But as they built stronger castle walls and wider moats, their adversaries responded to the challenge. Today the utility of these moats is mostly as scenery. But, the story of moats and the protection they provide isn't over.

People still build defenses today. In the world of business these are economic moats. Just as the defenses in the 'old' days would be attacked and new ones developed, so today firms respond to challenges and new moats are created that defend competitive advantage.

Today, much of the world's economy is being transformed by the computer industry and what has been called the Internet economy. The Center for Research in Electronic Commerce at the University of Texas at Austin has compared it to the Industrial Revolution "in potential scope and size".

"Rapid advances in Internet technologies and the subsequent proliferation of economic activity on the Internet have ushered in an information age where virtually every organization is trying to position itself to take advantage of this new phenomenon. These economic developments involving the use of the Internet as an important business driver are collectively being referred to as the digital or the Internet economy¹"

With innovations of the scope projected above it seems justified to also expect the development of new and possibly different moats to protect returns and investments in the 'information age'.

R.I.P. Adam Smith

Adam Smith described competitive markets and the role of prices in the movement and reallocation of economic resources in "The Wealth of Nations". An extraordinary accomplishment given many of us forget that prior economic systems relied on different mechanisms to direct resources, not prices. One of these systems more recent to Adam Smith was feudalism, and not many people today want to go back there. (Ask a serf.)

Recognizing that life in our world is a bit more complex, Smith's exposition has held up remarkably well. The movement from a feudal economy into one driven by markets has seen an unprecedented development and growth of world income. New channels and tech-

¹ Measuring the Internet Economy: An Exploratory Study, Center for Research in Electronic Commerce, Graduate School of Business, The University of Texas at Austin
http://64.233.161.104/search?q=cache:CTwRkRnGaUoJ:www.smartecon.com/articles/internet_economy.pdf+internet+economy&hl=en&client=firefox-a

nologies like the Internet can be a difficult transformation, but one that also contains opportunities. And as economies move from less to more developed there are also changes in the nature and behavior of the economy.

One of Adam Smith's critical assumptions was about human behavior. He assumed information was sufficient to the decision-making needs of the players in the system, and that their behavior was rational, that is, they acted in their own self-interest and had sufficient information to do so. His focus was not to deal with differences in human behavior, but to understand the way price directed resources in a market based economy. To Smith, human behavior was a constant with people assessing adequate information and behaving in their own self-interest.

In the Internet Age the amount of information and our ability to access it is making great leaps, and we know more about how we make decisions. Herbert A. Simon, the 1978 Nobel laureate economist, expresses concern this way: "What information consumes is rather obvious: it consumes the attention of its recipients. Hence a wealth of information creates a poverty of attention, and a need to allocate that attention efficiently among the over-abundance of information sources that might consume it."²

A summary of Simon's work provides perspective: "Classical economists had argued that people make rational choices to obtain the best commodity at the best price. Dr. Simon said that was impossible -- too many choices and too little time to analyze them cause people to choose the first option that is good enough to meet their needs."³

Simon goes on to put this perspective on decision-making into the context of the larger firms that we experience today. The comments by the Nobel committee reflects his view:

"However, the rudimentary theory of the firm to be found in traditional economics was designed only to serve as a basis for studies of the total market behaviour and not of the behaviour of the individual firms. As long as these firms consisted of small, family-owned, patriarchally run units, and the price competition was fierce, their activities remained relatively uninteresting. However, as companies grew in size, as their activities eventually spread out beyond the national borders, as running them became separated more and more from owning them, as employees began to form labour unions, as the rate of development increased and as price competition between many was replaced by competition with regard to quality and service between few, the behaviour of the individual companies took on quite a different kind of interest. Thus, with time, the study of the structure and the decision-making of the firm became an important task in economic science. It is in this new line of development that Simon's work has been of the utmost importance."⁴

One result in today's firms has been the development of information to assist decision-making. Since the larger firms we experience today bring with them higher capital and other requirements, requirements far beyond those of industry in Adam Smith's day, there is more attention to these issues. One measure of the strength of a firm's competitive advantage is the Return on Invested Capital (ROIC). Many consider it a measure of a firm's competitive advantage – its moat.⁵

² Computers, Communications and the Public Interest, pages 40-41, Martin Greenberger, ed., The Johns Hopkins Press, 1971

³ Herbert Simon, obituary; <http://www.post-gazette.com/obituaries/20010210simon2.asp>

⁴ Nobel Committee Presentation Speech <http://nobelprize.org/economics/laureates/1978/presentation-speech.html>

⁵ A common financial measure of economic moats is the Return on Invested Capital (ROIC). This is a measure of how effectively company's use the money (borrowed or owned) invested in its operations. A

Moats Today

Moats can be short lived or long lived. The Palm Pilot PDA had technology that looked able to provide a strong competitive advantage⁶, but as potential competitors realized the strong profit potential they began to develop their own technology.⁷ About.com lists SONY, Palm, Hewlett-Packard, Casio, Compaq, Toshiba, Handera, and Kocera as PDA competitors. Competitive advantage isn't just the development of new technology.

Size isn't a guarantee of competitive advantage either. The US auto industry has transformed slowly. After an initial stage where producers were numerous, the industry consolidated to 3 firms. Sometime in the 1960's international competition began, and now, at this writing in November 2005, there are rumors that General Motors may declare bankruptcy.

However, as professional management increases attention on the use of the firm's resources has improved. Today measures such as the ROIC indicate how well the firm is using its capital, or how large the moat around the firm is. People are still making moats and building castles with high walls.

Types of Economic Moats

This summary of moats below is based on the description used by Morningstar⁸. The four categories are 'Low Cost Producer', 'High Switching Costs', 'The Network Effect', and 'Intangible Assets'.

Low Costs: High entry costs (often called barriers to entry) can bar competitors from joining an industry. In the early days when producers were numerous entry costs were low. When Ford automated production in 1914 the large scale of production raised costs and they became a barrier. Ford's competitive advantage lasted about 20 years when survivors in the industry had learned how to run an assembly line. By then General Motors had shifted the competitive advantage by utilizing flexible procedures that allowed them to deliver frequent updates to their automobile styles. The industry came to be dominated by 3 major manufacturers.

Moats continued to evolve. During the 1960s international competition in the automobile industry grew as other countries recognized the national advantages to their economies from the development of a large industry like the auto industry. While the size of the firms is still large, it has become one of lower ROICs and it remains very competitive.

Firms with similar advantages today include Dell Computer where its dominant position allows it to negotiate advantageous terms from suppliers, and its sales-distribution system is renowned. Walmart has also been able to achieve significant cost advantages from suppliers helping fuel their growth and expansion, strengthening the advantage.

High change/switch cost for customer: products customers can't get elsewhere. The computer industry is an example where customers can't get some products elsewhere. In the

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simple formula is:

$$\text{Net Income After Tax} / \text{Invested Capital} = \text{After Tax Operating Earnings} / (\text{Total Assets} - \text{Excess Cash} - \text{Non-Interest-Bearing Current Liabilities});$$
 http://www.valuebasedmanagement.net/methods_roic.html

⁶ Palm Pilot, <http://www.betterproductdesign.net/npi/products/palm.htm>

⁷ The Motley Fool, Shaking Palm's Hand Good-bye; <http://www.fool.com/driport/2001/driport010307.htm>

⁸ How Morningstar Measures Moats;

<http://news.morningstar.com/doc/document/print/0,3651,91441,00.html>

industry's early day's hardware vender's each had their own, proprietary operating systems along with the applications that ran on those proprietary systems, making it difficult for customers to switch to a competitor's product. Switching meant the expense of new software, hardware, and the training of staff. (Although applications could be the same, people needed training in the style and interface of the new software and hardware as well at its proprietary operating system.)

Database vendors experience a similar situation today. Users make significant investments when purchasing database software, training staff, and developing company systems with database embedded. Changing vendors is a cost far beyond the price of new database software.

Network economics: probably the biggest example is eBay, the online auction market. The dominant size of eBay is a combination of its early entry into this market combined with its success. New competitors would have a significant disadvantage competing with the size of the market eBay provides users, both sellers and buyers. The size of their network is a distinct advantage to those offering products for sale, or those looking for products, something difficult for newcomers to achieve.

Intangible Assets: assets that are not physical. These can include copyrights, patents, intellectual property, brand identification, goodwill, and possible management. Drug companies are among the most common examples of a moat from patents. But don't forget Post-it notes⁹, the glue patented by the 3M corporation that eventually achieved a use not intended during its development, and the creation of a new market for 3M.

Jack Welch, former CEO of General Electric, has identified the corporate culture of GE as one of that very successful company's strengths. With the strategic focus established by senior management, having a corporate culture that understands and implements that strategy tenaciously is part of the overall advantage in the company.

Brands are another intangible asset. Coca-Cola, Gillette (now part of Proctor and Gamble) are recognized brands worldwide, often because of great effort on behalf of the company. But many consumers recognize and are comfortable brands, presenting a significant obstacle to competitors new to their industry.

Moats for an Information Rich Economy

From Simon we have seen that behaviors are important in the economy. Herbert Simon introduced the concept in his analysis of management behavior, but we can't help but consider that consumers encounter the same issues of information overload (poverty of attention) and the need to use that attention efficiently, and wonder how the Internet economy will deal with individual consumers and their choices.

The University of California's Berkeley's School of Information Management and Systems has estimated the amount of information stored on the Internet.

"In 2000 we estimated the volume of information on the public Web at 20 to 50 terabytes; in 2003 we measured the volume of information on the Web at 167 terabytes - at least triple the amount of information. The surface web is about 167 terabytes as of Summer 2003; BrightPlanet estimates the deep web to be 400 to 450 times larger, thus between 66,800 and 91,850 terabytes."¹⁰

⁹ Post-it Notes, 3M; <http://www.3m.com/about3m/pioneers/fry.jhtml>

¹⁰ UC Berkeley's School of Information Management and Systems; How Much Information? 2003 <http://www.sims.berkeley.edu/research/projects/how-much-info-2003/execsum.htm>

The number of worldwide users accessing this information is also impressive. In 2005 Internetworldstats.com estimated the number of Internet users worldwide at 15.0 % of the worldwide population. However, in North America this reaches a high of 223,971,489 users, or 68.2 % of the population.¹¹ The impressive gain in information and people's access to it re-emphasizes the importance of the decision making process. The OECD has also documented the adoption and use of the Internet among its member countries.

Simon has pointed out implications for professional management when there is "a wealth of information". But consumer choices will be affected by the same behavior. Optimal decisions may not be those expected in the classical sense, instead given the abundance of information and constraints of time other factors may well influence decisions.

Dead Batteries

Allow a personal story. When driving home recently I was near a store where I could buy a rechargeable battery for a cordless phone. The clerk was unable to identify the battery with the phone brand and model information I had. Darn. After returning home to retrieve that information it was just much simpler and faster to search online. (Within .09 seconds Google returned 23,300 results from my search for a Panasonic KX-36 re-chargeable battery.) Using the Firefox browser I opened about 12 links from the search page and reviewed the options.

The shopping experience impressed me, but not well. I'm satisfied with the battery. With shipping it cost a couple of cents less than driving back to the store for the purchase and it was convenient, perhaps 20 minutes of time as opposed to driving at least 10 miles, etc. Possible missed marketing opportunities impressed me.

Knowing that many in marketing recognize the most expensive sale is the first, and that subsequent sales usually cost about 10% of the first it surprised me to realize I don't know the name of the company except for a vague recollection that the word battery was probably in it. And, I don't remember much about its web site. Compared to supermarket shopping experiences where decisions are influenced by research results that develops techniques to increase sales and build brand recognition with product displays, shelf placement, organization of the store itself among others, more can be done.

The most recent Annual E-Commerce Report¹² from ForeSee Reports states that customer satisfaction from online e-commerce has declined after several years of strong growth. Given the expectation from E-Commerce (forecasts of increased sales, increasing advertising on the Internet, etc.) it surprises that more firms aren't developing moats for their Internet presence. Although retail battery sales are not the largest on the Internet it doesn't take much thought to realize at least several hundred family dollars are spent on batteries among 5 or 6 family members. (And that doesn't include batteries for the kids this holiday season.)

Now shift into other spending categories, banking, brokerage, insurance, travel, let alone the retail sector among others. E-Commerce does not have significant high entry costs or geographic restrictions. The ForeSee report concludes that customer satisfaction is falling as the e-commerce industry matures. "Sites that remain stagnant, or are unable to differentiate themselves from the competition, eventually see customer satisfaction erode."¹³

¹¹ INTERNET USAGE STATISTICS - The Big Picture World Internet Users and Population Stats; <http://www.internetworldstats.com/stats.htm>

¹² Annual E-Commerce Report, Feb 2005; <http://www.crmadvocate.com/research/research021805.pdf>

¹³ Annual E-Commerce Report, page 2, Feb 2005; <http://www.crmadvocate.com/research/research021805.pdf>

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Yet, in an Information Rich economy consumer decision-making is more than the evaluation of the terms of trade and more than customer satisfaction. Understanding consumer decisions depends on an understanding of consumer behavior. This is not the same as Adam Smith's 'rational' decision, but in the Information Rich economy of today far more relevant. In a study that correlated the online success of a software company's partners with measures of customer trust the four most successful partners were also the four partners whose online presence ranked highest in measures of trust.¹⁴

Does that say moat?

We hope you enjoyed Tom Connor's **Thinking Forward** article. To be notified when Tom or our other author's enter an article, please go to <http://www.hungrypeasant.com/remindme.cfm>. You can contact Tom with questions or thoughts about what you've read at tomc@ridma.com.

¹⁴ NextStage Wins Progress Award for Innovative Use of Progress OpenEdge Technology;
<http://tinyurl.com/d8x7p>