Why Trafalgar was won before it was fought: Lessons from resource-based theory

Charles D. Pringle and Mark J. Kroll

Resource-based theory enhances our understanding of how some organizations achieve a sustained competitive advantage in their industries. These principles are used to analyze the British Royal Navy's historic triumph at the Battle of Trafalgar, a battle that the British had won even before the first shot was fired because they possessed certain key resources that gave them a sustained competitive advantage over the enemy fleet. Lessons for today's business managers are derived from the analysis of this battle.

In all my plans I have always been thwarted by the British Fleet.

—Napoleon Bonaparte, 1815

In a few hours on October 21, 1805, the British Royal Navy decisively defeated a larger combined fleet of French and Spanish ships at the Battle of Trafalgar. This triumph insured that Napoleon could never threaten an invasion of England, allowed British armies, including the renowned legions later led by the Duke of Wellington, to traverse the globe without fear of enemy sea forces, and gave the British undisputed supremacy of the world's seas for the next century.

Victory at Trafalgar was hardly assured for the Royal Navy. The British warships were not only outnumbered 33 to 27, but British sailors generally considered the enemy vessels to be superior in construction. However, the outcome of the Battle of Trafalgar was determined even before it was fought. The British navy enjoyed a sustained competitive advantage over its rivals because it possessed certain key resources that neither the French nor the Spanish navies held.

A theory in strategic management sheds considerable light on the British victory at Trafalgar and helps us understand why some organizations today are able to achieve a sustained competitive advantage and earn above-average profits. This powerful paradigm, known as Resource-based Theory (RBT), offers unique insights into competitive situations that go beyond such traditional approaches as SWOT analysis (i.e., strengths, weaknesses, opportunities, and threats) and the industry forces model attributed to Michael Porter.

What is Resource-based Theory?
RBT emphasizes how a firm's unique resources may allow the organization to develop a sustained competitive advantage. Resources are any assets—tangible or intangible—that help a firm implement strategies to improve its efficiency and effectiveness. They may be classified into the three categories shown in Table 1: physical, human, and organizational resources. Some
A firm possesses a sustained competitive advantage when it implements a value-creating strategy that is not being implemented by any other current or potential competitors. Furthermore, these competitors must be unable to duplicate the benefits of this strategy in any other way. The advantage continues to exist even after competitors have tried in vain to duplicate it. Naturally, the advantage cannot last forever. Major economic upheavals within an industry can render irrelevant what were once key resources, but the sustained competitive advantage cannot be rendered ineffective by the actions of competitors.

Not all physical, human, and organizational resources can create a sustained competitive advantage. To be a key resource, an asset must possess the four attributes shown in Table 2. First, it must be valuable—that is, the resource must contribute significantly to the organization's effectiveness and efficiency. Second, it must be rare. Some resources, for instance, may be valuable, but not rare. Because they are not rare, these resources permit multiple firms to implement similar strategies. These actions negate any competitive advantage that one firm might have over the others. Third, there must be no substitute for the resource that competitors can acquire to achieve the same strategic outcomes. And, fourth, the resource must be imperfectly imitable—that is, firms that do not possess the resource cannot obtain it.

The fourth criterion is central to RBT. If a resource can be imitated, then it is automatically less rare or valuable, and substitutability becomes irrelevant. Resources can be imperfectly imitable for one of three reasons. A firm may have

Table 1
Firm Resources*

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<tr>
<th>Physical Resources</th>
<th>Human Resources</th>
<th>Organizational Resources</th>
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<td>physical technology, plant and equipment, geographic location, and access to raw materials.</td>
<td>training, experience, judgment, intelligence, relationships, and insight of individual managers and workers.</td>
<td>formal reporting structure; formal and informal planning, controlling, and coordinating systems; informal relations among groups, and informal relations between the firm and other organizations in its environment.</td>
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Major economic upheavals within an industry can render irrelevant what were once key resources, but the sustained competitive advantage cannot be rendered ineffective by the actions of competitors.

Table 2
Essential Attributes for Key Resources

1. The resource must be valuable
2. The resource must be rare
3. There must be no substitute for the resource
4. The resource must be imperfectly imitable because of
   a. unique historical conditions; or
   b. causal ambiguity; or
   c. social complexity

acquired the resources through unique historical conditions that no longer exist. These are usually tangible, property-based resources and include physical location, channels of distribution, long-term contracts with suppliers, and patents.

Resources may be imperfectly imitable because of causal ambiguity. This condition exists when the precise linkage between the resources and the firm’s sustained competitive advantage is either not understood or is understood abstrusely. Because the link is ambiguous, competitors are unable to understand exactly what they must do to imitate the firm that possesses the sustained competitive advantage. Of course, the firm with the sustained competitive advantage must also be unable to comprehend the linkage clearly. If the organization’s members understood the causal relationship, then other firms could either hire knowledgeable members away from that firm or systematically study the firm’s success.

Social complexity is the third reason resources cannot be imitated. A firm’s sustained competitive advantage may be based on the smooth teamwork of its managers, its sterling reputation among its customers, or its organizational culture. Outsiders may realize the value of these socially complex relationships, but may not be able to duplicate them.

The Battle of Trafalgar
By 1805, Napoleon Bonaparte dominated Europe as no one had since Charlemagne. However, he realized that he must subdue England to become the true master of both Europe and the Mediterranean. The British—and most particularly the Royal Navy—had thwarted Napoleon’s plans for years. After he invaded Egypt in 1798, for instance, the British navy destroyed the French fleet that supported the invasion, leaving Napoleon and his army stranded in North Africa. Added to this ignominy were several other sea skirmishes that the French lost.

Napoleon understood that to subjugate the English he must invade their homeland. He thus prepared invasion plans and assembled an army on the French side of the English Channel. He realized, however, that he would first have to dislodge the large fleet the British maintained at the channel entrance. Having earlier conquered Spain, he decided to put together a combined French-Spanish fleet in the West Indies. He ordered it to sail for the English Channel, either to defeat the Royal Navy or to divert the British fleet away from the channel.

His plan quickly went awry when ships of the Royal Navy bottled up the combined fleet in the Spanish port of Cadiz, near Cape Trafalgar. This stalemate persisted for two months, until the commander of the combined fleet, French Vice Admiral Pierre Charles de Villeneuve, learned that Napoleon was about to relieve him of command. In an attempt to salvage his career, Villeneuve ordered the fleet to slip out of Cadiz. Two days after their departure, the ships of Villeneuve’s fleet were intercepted by the Royal Navy, under the command of Vice Admiral Lord Viscount Horatio Nelson. As was the tradition of the time, Villeneuve formed his ships into a single battle line. Nelson, however, surprised his adversary by ordering his ships into two groups. Each group cut through the combined fleet at right angles, demolishing the battle line. This unorthodox strategy created significant confusion, conferring a decided advantage to the British. Within a few hours, the Royal Navy destroyed or
At the heart of the Royal Navy’s competitive advantage lay the inescapable fact that Great Britain was an island. This natural setting, unique among European states, gave rise to a nation of seafarers.

The British Victory: A Resource-Based Perspective
From an RBT perspective, we can conclude that the only physical resources that gave either side a competitive advantage were the larger number and slightly superior construction of the losing side’s ships. By contrast, the British navy’s superiority was based on the intangible human and organizational resources that are listed in Table 3. The following sections examine these resources.

A Seafaring Heritage
At the heart of the Royal Navy’s competitive advantage lay the inescapable fact that Great Britain was an island. This natural setting, unique among European states, gave rise to a nation of seafarers.

Not only did the Royal Navy’s warships rule the waves, but the British merchant marine fleet dominated the world’s economic shipping lanes. Though England had a smaller population than France, its merchant ships outnumbered France’s three to one. Endless streams of British freighters brought raw material to England to feed its growing industrial base. Finished products, in turn, were transported to locations throughout England’s vast global empire.

Because of their skills, able-bodied merchant seamen—not raw recruits—were pressed into service in the Royal Navy during times of crisis. This permitted the navy to man its ships with experienced seamen in the lower decks since England had a nautical talent pool no other European nation could match.

A sea-going career was one of the few avenues of advancement in an otherwise class-conscious society. Little British boys grew up idolizing renowned naval

Table 3
The Royal Navy’s Intangible Human and Organizational Resources

<table>
<thead>
<tr>
<th>1. A seafaring heritage</th>
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<tr>
<td>a. Island setting</td>
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<td>b. Importance of sea trade and control of sea lanes</td>
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<td>c. Attractiveness of a sea-going career</td>
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<td>d. Naval promotions partially based on performance rather than only on seniority or political connections</td>
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<td>e. Continuity of naval service by officers</td>
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<td>f. Experienced and cohesive officer corps</td>
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<td>g. Superior seamanship and gunnery</td>
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<td>2. A winning tradition</td>
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<td>a. High self-efficacy</td>
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<td>b. Common culture and goals</td>
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<td>c. Past successes</td>
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<td>d. Eagerness for, and aggressiveness toward, the battle</td>
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<td>3. Superlative leadership</td>
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<tr>
<td>a. Nelson’s expertise</td>
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<td>b. Nelson’s leadership skills</td>
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<td>c. Nelson’s strategic genius</td>
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officers. Many joined the Royal Navy even before reaching their teens and became part of an apprenticeship system that insured a continuous supply of experienced sailors for the navy's officer corps. Advancement through the officer ranks was partly based on political connections and seniority, but individual merit was also emphasized. From the rank of captain upward, promotions were based strictly on seniority, but command assignments were based on proven performance. Nelson, for instance, had only risen about halfway through the flag ranks at the time of Trafalgar, yet he held what was arguably the most important assignment in the Royal Navy, commander-in-chief of the Mediterranean Fleet.

During periods of peace, naval officers were retained by the service, even though they might be employed in alternative careers. These experienced officers could be recalled quickly, providing the Royal Navy with considerable continuity in leadership. Thus, the officer corps was both experienced and cohesive. Nelson had sailed at earlier points in his career with most of the captains and admirals who were with him at Trafalgar. Some of them, in fact, were his close friends. By contrast, the French officer corps experienced considerable turmoil from the beginning of the French Revolution through Napoleon's final exile. Officers with long naval careers fell from political favor as inexperienced younger officers associated with the Revolution quickly rose through the ranks.

Nelson's officers and enlisted men were also superior in seamanship and gunnery. British sailors were known for their frequent drills and stayed at sea for many months at a time, which helped maintain their competitive edge. The French navy simply did not possess the same vast pool of talent in its enlisted and officer ranks. As The Hampshire Telegraph put it in 1802, when Napoleon was contemplating the invasion of England: "France may build ships, she has wood and money, but where will she get seamen?" And Napoleon, reflecting on his defeat from exile on Saint Helena said: "There is a specialization in this profession [i.e., seamanship] which blocked all my ideas. They always returned to the point that one could not be a good seaman unless one was brought up to it from the cradle." Lord Nelson and his men had been raised to go to sea.

A Winning Tradition

The officers and men of the Royal Navy probably arrived at Trafalgar with a greater belief in their own competence than the sailors of the combined fleet. There were several reasons for this. First, the British sailors shared a common culture and a common goal—preventing an invasion of their homeland. The combined fleet was just that. Spain was a reluctant ally pulled into the war by France. The senior Spanish flag officer at Trafalgar had asked to be relieved of his command when he was placed under French Admiral Villeneuve. The Spanish government convinced him to stay on, but he did so with little enthusiasm. Furthermore, the Spanish sailors evidently believed that they would be sacrificed by the French in the coming battle, and their leaders argued for the combined fleet to stay in port.

The combined fleet's pessimism and unease about the coming engagement with the Royal Navy began at the top with Napoleon, who did not believe that his forces had much of a chance against the British fleet. From 1777, when Nelson became a naval officer,
to 1815, when Napoleon was defeated for the second time, the Royal Navy won eight major sea battles and lost none. Three of these victories were led by Nelson. The victories were against France and nations aligned with the French—Spain, Holland, and Denmark.

Thus, the British entered the battle with high levels of eagerness and aggressiveness, ready to decide the issue of world naval supremacy once and for all. From Nelson down to the ordinary seaman, the British sailors craved a decisive battle that would put an end to their years of chasing French and Spanish ships across the Atlantic, Mediterranean, and Caribbean.

**Superlative Leadership**

Two hundred years after the Battle of Trafalgar, Nelson is still regarded as one of the most ingenious battle strategists and effective field commanders in naval history. The son of a minister, Nelson joined the Royal Navy at the age of twelve. By his death at age 47, he had lost his right arm and the use of one eye. His men—and his foes—believed him to be utterly fearless because of his insistence on placing his own ship in the thick of every battle.

A vain man, with a strong need to be recognized and admired, Nelson at the same time praised the contributions of his colleagues and subordinates. He was an acknowledged strategic genius, but he also believed in decentralizing authority and responsibility. As a leader, he trusted his subordinate officers and relied on their individual initiative to execute his plans. Nelson himself often deviated from orders when he perceived that choosing another course of action might be advantageous. Though most European naval officers were schooled to line their ships up in opposing straight lines, Nelson diverged in unpredictable ways from this regimented tradition. His willingness to innovate was an advantage that both his superiors in the Admiralty and his subordinates admired and relied upon. Villeneuve was overmatched, and knew it. Seven years before Trafalgar, he was defeated by Nelson at the Battle of the Nile, escaping with only two of his 13 ships. Villeneuve anticipated that Nelson would, in the coming battle, depart from traditional tactics, but he had no idea what form that departure would take.

Villeneuve's relative lack of experience quickly became apparent after his fleet was blockaded at Cadiz. Nelson kept his major warships out of sight over the horizon and used his smaller, quicker frigates as the eyes of his fleet. The frigates could observe the size of the combined fleet and its movements. By contrast, Villeneuve had no idea how large Nelson's total force was or even where it was located.

When the combined fleet finally sailed out of Cadiz, the British frigates relayed to Nelson the course, disposition, and position of the French and Spanish ships. With this information, Nelson could design the battle to his advantage. Villeneuve, meanwhile, kept his frigates in port until his entire fleet sailed. After leaving Cadiz, he placed his frigates to the landward side of the fleet rather than use them to ascertain Nelson's intentions. As a result, he was unaware of Nelson's plan to approach his fleet in two right-angle columns until it was too late to respond.

Nelson, not surprisingly, headed one of the columns. Though the lead ships would be exposed to heavy fire from multiple enemy cannons, Nelson rejected...
his subordinates' suggestions that his flagship, Victory, fall back and let others take the point. Once the battle was joined, it took only a few minutes for the superiority of Nelson's strategy and his men's gunnery and sailing skills to become evident. Within the space of a few hours, the Royal Navy was celebrating the most successful afternoon in its long and storied history. Eighteen ships of the combined fleet were either captured or destroyed, and the remainder were in full retreat. From that day forward, the French would never again engage the Royal Navy in battle.

Source of the Royal Navy's Sustained Competitive Advantage

The source of the Royal Navy's sustained competitive advantage was its intangible human and organizational resources. The British seafaring tradition; the attractiveness of a naval career; the navy's apprenticeship, training, and advancement programs; the nation's stable government; the common culture and goals shared by the sailors; the navy's past successes and the sailors' resultant self-confidence; and the experience, genius and leadership skills of Lord Nelson combined to give the Royal Navy a competitive advantage that could not be rendered ineffective by the French or Spanish navies. These resources possess the four essential attributes referred to earlier.

Rare and Valuable Resources

These resources easily meet the first two requirements for creating a sustained competitive advantage. They were valuable, in that they were the main reasons for the navy's success, and they were rare—i.e., they were not possessed by either the French or Spanish navies. Furthermore, Napoleon probably held little hope that these resources could even be developed, given his lack of confidence in his navy's abilities.

Substitutable Resources

The third requirement, that there must be no substitute for the resources that competitors can use to achieve the same outcomes, requires more discussion. For instance, in the years following Trafalgar, the French could possibly have subcontracted their naval operations to skilled privateers. England had pursued this very course in the sixteenth century to defend itself against the Spanish Armada. Seagoing mercenaries could be recruited from throughout the world and could be compensated by the French government for achieving strategic objectives. But privateers do not share a common culture or background. While they may be able to fight together effectively in the short run, their lack of shared values or of a superordinate goal—beyond love of conflict and money—would preclude the formation of cohesive bonds over longer periods. Privateers could not have evolved into much more than a pesky bother to the large, professional British fleet.

The French might have taken what remained of the Spanish navy and converted command of all ships to French officers or privateers to develop a more cohesive officer corps. This move could have unified command and partially eliminated suspicions regarding various parties' motives, but the likelihood that French and Spanish sailors could share a common culture was nil. Finally, Napoleon might have turned over his chief naval strategist's role to a team of experienced naval officers. Of course, because the officer corps had been decimated by the Revolution, this alternative offered little hope of naval superiority in the foreseeable future.
Even if all three of these attempts at substitution had been successful, the Royal Navy would not have lost its considerable advantage over the French, for the following reasons.

**Imperfectly Imitable Resources**

The Royal Navy's key resources were, for the most part, imperfectly imitable, acquired through unique historical conditions. The French did not enjoy the stability of government that Great Britain possessed, and France was not an island nation. Emphasizing its army and land battles over ocean domination, and making naval careers far less attractive to courageous young men than they were in England, France was unlikely to produce the equivalent of a Lord Nelson.

Though the causality between the Royal Navy's key resources and its sustained competitive advantage was not ambiguous, it is likely that the Royal Navy's socially complex relationships also could not be duplicated. The links between British societal values and the navy's success, for instance, evolved over a period of centuries. The high morale and confidence that came to sailors from victory at sea could not be duplicated by navies that failed to win. For the French to duplicate this social complexity would require a major cultural upheaval and decades of focused social reconstruction.

Even if some resources, such as shipbuilding technology and gunnery skills, can be readily duplicated, others simply cannot be. In the corporate world, an effective chief executive officer's leadership can be purchased. But warfare is different. Lord Nelson could not have been hired away by the competition.

Over time, perhaps, the French might have developed a cohesive, experienced officer corps—had its government remained stable. To match the British, however, these officers would have needed opportunities to sail, fight, and win. The Royal Navy would not have allowed the French to gain this experience without having to pay a very high price. Following Trafalgar, the Royal Navy's dominance of the seas was so complete that it was not forced to engage in another major fleet action until 1916, off Jutland.

**The Lessons of Trafalgar**

Had Trafalgar been fought five times, the British would have triumphed five times. What lessons might today's business managers derive from this historic event?

**The Royal Navy Versus the Modern Corporation**

Today's corporations battle for market share. Losing to competitors can mean the loss of jobs and income. For the sailors in the Royal Navy, however, defeat might well mean death and the invasion of their homeland by foreigners. For this reason alone, sailors—down to the lowest-ranking seaman—were likely to be highly committed to the navy's mission. During wartime, they lived in the navy 24 hours a day, seven days a week. This sort of commitment requires more than the modern incentives of merit pay and promotions. These sailors were imbued with patriotism. Few of us today are willing to put our lives on the line for our employer, although a handful of companies do manage to inspire their employees with a sort of patriotic fervor. Prominent examples would be Apple Computer in its early years and Southwest Airlines over the past two decades.
Another obvious difference lies in the firm's stakeholders. The navy's stakeholders were the citizens and government of Great Britain, whose goals were clearly the protection of their nation and the defeat of their enemies. Today's company, of course, has multiple stakeholders with multiple goals that often conflict. The Royal Navy was never subjected to demands to increase quarterly earnings while simultaneously having to protect the environment, pay dividends to stockholders, and contribute to the arts.

Major similarities, however, balance the key differences. In many ways, the Royal Navy was managed in the same manner as successful corporations are today. For example, we have seen that Lord Nelson's leadership ability and his willingness to innovate and depart from the norms of the day were essential to his victory at Trafalgar. The same point could easily be made for Herb Kelleher and his highly successful leadership of Southwest Airlines over the past 25 years. Kelleher's employees appear to be devoted to him, and the innovations he had brought to the airline industry have become legendary.

Likewise, the Royal Navy's success was also based on its ability to convey understanding of its mission and goals to its members, to socialize them into the navy's culture, to train them how to perform their jobs, and then to empower them to make their own decisions within broad policy guidelines. When an organization—or ship—is in a rapidly changing environment, it is essential that members who are on the scene be able to make their own decisions. There is no time to refer decisions up the hierarchy. Today's corporations that operate in dynamic environments are increasingly devising appropriate empowerment systems. A prominent example is IBM's change in its sales-force compensation system. Prior to 1992, IBM paid commissions based on sales volume. Now, however, sales representatives receive commissions based 60 percent on the profits they contribute and 40 percent on customer satisfaction. This change makes the sales representatives responsible for customer service and lets them know how much profit is being generated—or forfeited—on each sale. Previously, sales representatives were not given information on the profit margins associated with various products. Pricing decisions are now made immediately in the field, head-to-head with the competition, rather than more slowly at headquarters.

The Royal Navy offers a number of suggestions as to how an organization can sustain a competitive advantage. They are summarized in Table 4.

Routes to Temporary Competitive Advantage

Recognize the Limits of Environmental Analysis

Although environmental analysis is essential to organizational effectiveness, few firms can achieve a sustained competitive advantage through this process. All firms usually have equal access to environmental information. Some may obtain it through their own strategic planning departments while others may purchase it from consulting firms. Of course, one firm may make better use of the same information, but that advantage is temporary. In the case of the Royal Navy, we can assume that the French admirals would have eventually learned to use their frigates to gather information on the Royal Navy's location and movements.
Recognize the Limits of Physical Resources

Possessing physical or property-based resources rarely produces a sustained competitive advantage. Exceptions are an oil company that might own the exclusive rights to drill in an area that contains one-fourth of the world's oil, or a diamond company that might control most of the world's diamond mines. Entry barriers in the form of physical resources do exist in automobile and airplane manufacturing. But the competitive quality advantage that Toyota consistently demonstrates in the automobile industry does not result from superior technology or plant design. Nor are financial resources the key. Exxon, with billions of dollars at its disposal, was thwarted in its attempt to enter the computer industry fifteen years ago by firms with far less money.

Physical resources can usually be duplicated. General Motors can purchase the same technology that Toyota uses. Likewise, an airline's advantage based on possessing airport landing rights can quickly disappear if its competitors lobby for airport expansion or switch their operations to other, less-congested airports.

Even when physical resources are unique, they are most valuable during periods of environmental stability—a state that is increasingly rare in most industries. By contrast, intangible knowledge-based resources are more likely to lead to a sustained competitive advantage when the environment is changing rapidly. Because environments are becoming increasingly turbulent, a sustained competitive advantage is most likely to result from the possession of intangible resources.

Physical resources and environmental analysis are not irrelevant to organizational success. The Royal Navy could scarcely have won the Battle of Trafalgar in rowboats, or without knowledge of the enemy's physical size and movements. But neither can sustain a competitive advantage for most firms.
Managers seeking a sustained competitive advantage are well-advised to look inward and analyze the resources their firms possess. As we have seen, the Royal Navy's sustained competitive advantage was based on possession of superior human and organizational resources and adequate physical resources. The personal computer industry began with two college students in a garage—not with one of the computer industry's giants. Microsoft dominates the software industry because of its innovative leadership, organizational culture, and human resources. Bill Gates has emphasized that Microsoft's advantage lies in hiring smart people who already possess creativity and intelligence. Such individuals are able to grasp new knowledge quickly, enabling them to acquire the skills that will be needed in the future. They are then placed in a setting that requires and reinforces their abilities.

It helps to remember that Trafalgar was not lost for lack of ships or shipbuilding technology. As one historian wryly put it, "The French navy built very fine ships, and many of these served as models for British construction after their capture." Like the Royal Navy, today's corporations should focus on their more intangible human and organizational—or knowledge-based—resources. The 3M Corporation, for instance, has become one of the most creative companies in the world, by listening to its customers, anticipating their needs, and communicating this information to a consistently well-funded research and development staff, which is given almost complete freedom to pursue its ideas. The result is a company that manufactures 66,000 products and derives at least a quarter of its sales revenue from products that are less than four years old.

Intangible resources are less subject to imitation and usually cannot be purchased on the open market. Some scholars believe that a sustained competitive advantage is most often found in the resources that a firm already controls. The key is recognizing that the resources exist and leveraging them advantageously.

Accentuate the Organization's Heritage
Sailors in the Royal Navy doubtless had some sense of their heritage. Britannia truly did rule the waves, and the knowledge of that supremacy probably instilled a feeling of pride among the sailors that they were an important part of their nation's history. They not only represented the navy and their country, but they were the latest in a long line of courageous sailors who had been victorious in battle. The heritage of Sir Francis Drake and Sir John Hawkins was a key ingredient in maintaining the Royal Navy's officer corps. Nelson and his fellow officers were reflections of England's maritime tradition. Heroes, stories, legends, rituals, and symbols are important elements of any organization's tradition. They inspire not only the organization's members but also those who seek to join. Stories, such as the tale of the 3M employee who developed Post-it notes on his own, or the Federal Express employees who went "the extra mile" to deliver a package, play key roles in an organization's heritage.

Accentuating heritage does not mean saying "this is the way we have always done it, and we have been successful, so why should we change?" Pride in an organization's past accomplishments can be instilled while simultaneously embracing change through a deliberate, ongoing, and widespread socialization process. When the Washington Redskins played their last game in RFK Stadium...
in 1996, they introduced dozens of retired stars in the uniforms of their era. However, the present players had no idea who these retired stars were because the team had not attempted to forge a meaningful link between its past glories and its current players.

Cultivate a Strong Culture—But One That Embraces Change
The Royal Navy, like any successful military unit, possessed a strong culture that was not taken for granted. For centuries, military organizations have deliberately socialized new recruits—teaching them their traditions, language or jargon, values, and ways of behaving. The same has been true for some business organizations. IBM indoctrinated its new hires into its strong culture in the 1950s and PepsiCo does the same today with its managerial boot camp training program. A strong culture helps the organization’s members develop a collective identity and work together toward the same goals.

An organization that possesses the clear sense of identity and mission that a strong culture affords is able to define precisely what business it is in and who its customers are. Such a company is able to match its particular strengths and weaknesses with environmental opportunities that it can exploit fully. This clearly-focused firm is unlikely to be distracted by the lure of diversification ventures or acquisitions that later prove to be inappropriate.

Like the Royal Navy, companies with strong cultures emphasize promotion from within. This policy ensures that people in management slots understand the business operations they are managing. Promotion from within not only perpetuates the organization’s culture, but also increases trust among organizational members, permitting greater participation and decentralization of decision making. Obviously, there are exceptions. An organization that fails to encourage individual initiative and innovation can eventually grow stale and unable to change. It may require the infusion of new ideas from outsiders to reenergize its members and operations.

A strong culture, however, can be a liability if it resists change. Companies such as IBM and AT&T possessed strong cultures, but had difficulty making major changes when they became necessary. Only after a lengthy internal struggle has IBM begun to adapt successfully to environmental change, and the process seems even more difficult for AT&T. Some firms, however, manage to incorporate into their culture values that help them adapt to changing conditions. For instance, one 11-year study showed that firms with “strategically appropriate cultures”—such as PepsiCo, Wal-Mart, and Shell—significantly outperformed corporations—such as Sears, General Motors, and Citicorp—with cultures that were not supportive of their strategies. One of the key differences between the two groups of companies is that the firms in the first group had developed cultures that emphasized adapting to environmental change.

Implement Innovative Strategies
Lord Nelson was effective because he was willing to depart from convention and employ innovative strategies to catch his opponents off guard. Successful organizations often do the same. Though Southwest Airlines has usually been celebrated for its progressive human resource management techniques, it has also been the most innovative company in the airline industry over the past 25 years. It pioneered no-frills, frequent-departure flights; has no assigned seats; does not belong to a computer reservation service; never transfers baggage to other carriers; and stresses high aircraft utilization and employee productivity.
Its emphasis on operations enables Southwest to unload baggage and passengers and fully reload within ten minutes after landing. By meshing its efficient operations with a strategy of purchasing only Boeing 737 airplanes—thereby maximizing maintenance efficiency and safety—Southwest consistently serves as the industry’s leader in minimizing costs per passenger mile. Competitors both fear and envy Southwest.

In other industries, competitors find themselves unable to imitate Wal-Mart’s management of operating costs and inventory or Frito-Lay’s ability to control distribution channels. Wal-Mart’s superior cost control and use of inventory information are not based on its computer hardware or software, both of which can be purchased—either in the same or substitutable form—on the open market. Rather, they are based on an obsession with achieving costs that are lower than its competitors’ in every operational area. As a result, Wal-Mart created an information system that revolutionized the retailing industry. Though competitors seek to duplicate it, Wal-Mart’s early leadership in this key area and its continuing improvements have managed to keep this company consistently a step or two ahead of its would-be imitators. In the consumer snack industry, Frito-Lay’s powerful brand names and frequent new product introductions have been so influential in controlling the channels of distribution and consequent shelf space that even cash-rich Anheuser-Busch finally gave up trying to compete with its Eagle snacks.

**Lead by Example**

Nelson was a superb leader because he served as a splendid role model for his men. He had risen through the ranks of the Royal Navy, giving him both expertise and credibility with his crew. More importantly, however, he had a proven success record and was invariably found in the thick of the battle. As the epitome of the organization’s own culture, such a leader reinforces the members’ values and serves as an example for future leaders of what the organization holds dear.

Through his leadership, Nelson conveyed the message that “we’re all in this together.” The operations of some companies today reflect this motto. For instance, some firms have reacted to declining profits by cutting compensation across the board. All employees, including top management, take the pay cut. Others, such as Lincoln Electric, have reacted to business downturns by reducing the workweek and training volunteer factory workers to become temporary salespeople. On the other hand, some firms choose to cut costs by laying off operative employees and middle managers, while maintaining—or even increasing—the salaries of top management. The former behavior emphasizes the value that “we are a family that takes care of one another,” while the latter reflects top management’s values of arrogance and insularity. H. Ross Perot quit General Motors’ board of directors in 1986 because the board was considering paying end-of-the-year bonuses to senior management following a $338.5 million operating loss in the preceding quarter and a decision to lay off 29,000 workers.

**Invest in Training**

The Royal Navy, like all successful military forces, invested heavily in training its sailors. Additionally, it took into its ranks mariners already well apprenticed in seamanship from the British merchant fleet, which served almost as a farm team for the Royal Navy. Not only were some sailors trained in a specialty—e.g., being a cook, a clerk, or a gunner’s mate—but they also learned where to report
for battle stations, how to attack the enemy, and how to defend their own ships. Likewise, successful business organizations devote considerable time and resources to training their members. Not only is training essential in this day of empowerment and self-managed work teams, but it also conveys a sense of permanence to employees. Companies that invest heavily in their human resources are unlikely to lay them off at the first sign of an economic downturn.

Training improves job performance and enhances the self-efficacy of organization members. Employees are likely to feel more confidence in their job skills if they have been well-trained and given opportunities to use those skills. These individuals are apt to be more motivated than employees who are not so confident in their abilities.

By any measure, Motorola is one of the world's leaders in training. Not surprisingly, it also has one of the finest reputations for quality and was the first large company to win a Malcolm Baldrige National Quality Award. Motorola provides a minimum of forty hours of training to each of its employees annually, with the goal of a disciplined, yet freethinking, work force. One internal study showed that each dollar spent on training resulted in $30 in productivity gains within three years.32

**Empower the Organization's Members**

Nelson could hardly have relied on his sailors to do the right thing at the right time had they not been well-trained. There is no time during a battle to refer decisions up the hierarchy. Those individuals who are on the scene must make instantaneous choices. Their success depends on their training, experience, and familiarity with the organization's mission, goals, and culture. Just as the Admiralty trusted Nelson to rely on his individual initiative to develop and execute his plans, so Nelson relied on his subordinates' initiative and judgment. Similarly, Motorola's training programs are intended to help its employees “develop the knowledge and independent-mindedness that Motorola will need to conquer rapidly changing technologies and markets.”33

A leader expands his or her power by sharing it. True power is not hoarded but used to make organizational members feel that they can attain goals on their own.34 Empowering employees increases their motivation and satisfaction. They become more committed to their jobs and to their organization. Eagerness to implement decisions grows, and members become more qualified for promotion and increasing amounts of responsibility. Decision quality improves because decisions are made closer to the situation by those who are most intimately involved. A sustained competitive advantage is impossible to attain without the long-term consistent development of employees.

Empowerment is particularly important in the service industries, where production and consumption are virtually simultaneous.35 Companies ranging from the Ritz-Carlton Hotel chain to TGI Fridays restaurants have empowered their people on the scene (i.e., front-desk clerks and waiters/waitresses, respectively) to take whatever action is necessary to please a customer. Ritz-Carlton desk clerks can reduce an unhappy guest's bill by up to $2,000, and TGI Fridays waiters/waitresses are authorized to go to a nearby supermarket to fulfill a customer's desire for food that is not on the menu.36

Some firms have deliberately forced empowerment on their employees. Taco Bell reduced the number of its store supervisors by two-thirds, making the
remaining supervisors responsible for about fifteen restaurants rather than five. The supervisors quickly realized that they could no longer be involved in the daily operations of each restaurant. Instead, they had to empower the store managers to make their own decisions.  

Conclusions
The route to achieving a sustained competitive advantage lies in the strategically relevant, rare, valuable, nonsubstitutable, and inimitable resources that a firm possesses. These resources are not generally available for purchase on the open market. Rather, they are already part of an organization’s resource inventory. Considerable introspection is required, first, to identify them and, second, to leverage them in appropriate ways.

The most direct route to a sustained competitive advantage is through intangible knowledge-based resources that cannot be imitated and for which there are no viable substitutes. For an intangible resource to be imitated, a competitor must overcome two barriers: (1) the competitor must understand its rival’s sustained competitive advantage and be able to identify clearly what intangible resource created it; and (2) the competitor must be able to duplicate that resource and its causal linkage.

Even if competitors can eventually imitate the advantages just described, imitation does not confer a sustained competitive advantage. Imitators will, at best, only be able to neutralize the advantage their rivals once enjoyed. Once imitation is achieved, the resources imitated automatically become less rare and valuable. Imitation is made difficult, however, because rarely does a firm with a sustained competitive advantage possess only one key resource. Relevant resources are usually multiple and interrelated. For instance, an organization’s culture might encourage training. Training, in turn, permits empowerment of employees. Empowerment helps produce effective leaders, who can develop innovative strategies. Simply imitating one resource is insufficient. As Pfeffer succinctly states the case, “It is easy to copy one thing but much more difficult to copy numerous things.”

Often the best hope for a firm that does not possess key resources is an environmental change that can render its competitor’s resources less valuable. Changes in technology made Smith-Corona’s competitive advantage obsolete, changes in buyer behavior brought an end to the domination of the Sears catalog, and changes in government regulations reduced AT&T’s competitive advantage.

Endnotes

Changes in technology made Smith-Corona’s competitive advantage obsolete, changes in buyer behavior brought an end to the domination of the Sears catalog, and changes in government regulations reduced AT&T’s competitive advantage.
The valuable apprenticeship experiences common to naval officers.

13 Marcus, The age of Nelson . . ., 221.
15 This statement may surprise readers who are familiar with John Paul Jones' success against the Royal Navy frigate, Serapis. But that contest was a minor engagement between two medium-sized vessels, not a major battle involving capital ships. Jones himself was a product of the British maritime tradition. He was born in Pennsylvania and obtained his sailing skills through service in the British merchant marine from 1752 through 1772. He served in the American navy for only five years before accepting an offer to become an admiral in the Russian fleet.
19 Miller & Shamsie, The resource-based view of the firm in two environments ..., 540.
21 O'Brian, op. cit., 278.
24 Barney, Firm resources and sustained competitive advantage, 117.
26 Although PepsiCo recently divested itself of its fast food businesses—Taco Bell, KFC, and Pizza Hut—this decision was not a result of inappropriate diversification or of cultural rigidity. PepsiCo's foray into the fast food industry was a related acquisition that was intended to forge synergies between the company's soft drink lines and fast food products. Even though the subsequent performance of the fast food businesses proved disappointing, these business units were hardly money losers.
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