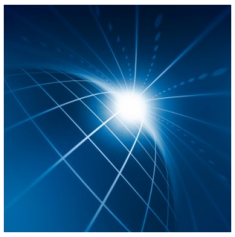
Innovation: Invention and Systems
VMI Leadership Series® No. II

Plus Case Study on

The Container and a System for Cargo Movement Innovation developed by
Malcom McLean, founder of Sea-Land

Vanguard Marketing International, Inc.



Strategic Leadership Issues

- *Define the real problem*
- *Innovate through lateral thinking and deliver true value*
- *Passionately raise standards despite the competition*
- *Trust in seeing what's next; pull the trigger to be what's next*

Innovative Leadership must foresee what's next, and craft innovative solutions to be what's next. Limiting thinking to solutions based only on core competencies can hamper a company's evolution. Often it prevents companies from following through on opportunities to develop new skills necessary to compete for future leadership and profits.

In The Beginning…

On December 31, 1879, in Menlo Park, New Jersey, Thomas Edison made the first public demonstration of his incandescent light bulb. Within one month, he filed a U.S. patent for the electric incandescent lamp; it was during this time he said, "We will make electricity so cheap that only the rich will burn candles." But twenty years later only three percent of the U.S. homes had electric lighting.

Henry Ford did not invent the automobile but his innovation of mass production of large numbers of inexpensive automobiles using the assembly line, **coupled with high wages** for his workers—notably the $5 a day pay scale adopted in 1914, made the automobile a reality and Ford a very rich man. It wasn't the invention but the business innovation that made the automobile what it is today.

The use of a box for storage and as a container for moving goods has been around since recorded time. The earliest versions of the ubiquitous modern day container came into use on railways in the 1920's but it wasn't until the early 1950's that Malcom McLean saw the innovation that would unlock the massive business potential based on this simple invention. What he saw was a system – a continuous stream of goods moving unimpeded across truck, rail and ships – seamlessly from shipper to receiver. But, it would take two decades, a war, and the introduction of computers before the dream would be realized.

Innovative Leadership

Innovative leadership is seeing what's next and even more importantly; it's being what's next. Leadership means shaping and creat-

ing the future through innovative solutions – not waiting for the customer or competitor to show you the way. Leaders find practical and elegantly innovative methods to make inventions useable. Market leaders don't deliver turnkey solutions. They don't present customers with an invention where extra assembly, imagination, and effort are required.

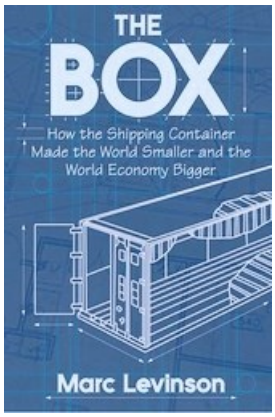
Leaders recognize that customers have challenges and are willing to pay for solutions. Customers expect and deserve innovative ways to solve important problems – solutions to unmet needs that don't require an owner's manual. The harder it is for the customer to understand the value of your solution, the slower the rate of adoption, the slower your time-to-money, and the less likely you are to achieve the pinnacle of success.

Leaders provide the market with great innovation based on any number of inventions. In return, they're well compensated through various means for their efforts. Their great "results" are measured against metrics such as revenue and profit growth.

Interestingly, leaders are able to see past the initial and obvious unmet need as expressed by the market and capture the real issues. For Henry Ford it wasn't about the automobile, it was about creating a mainstream market and freedom for the common man through mass production. For Steve Jobs it wasn't about just another MP3 player and cell phone (the iPhone), it was about creating an emotional attachment, an ethos, and a culture within Apple itself. For Walt Disney it wasn't about theme parks and Mickey, it was about living his imagination. And, for Malcom McLean it wasn't about containers and ships, it was about seamlessly moving cargo.

Innovation: The Container and a System for Cargo Movement

In *The Box*, author Marc Levinson describes how in 1965 the U.S. Government had begun a huge buildup in military forces in Vietnam and in the process created the largest logistical mess in the history of U.S. Armed forces.



The entire country, seven hundred miles long from North-to-South, had a single deepwater port, one railroad line that was largely inoperative and a fragmented highway system, mostly unpaved. There were no cranes - only forklifts. At that time, all cargo came in breakbulk ships meaning everything needed to be unloaded as pieces using cargo nets and then stacked by hand on the docks.

Once a vessel was unloaded, its cargo often sat for days or weeks on the dock. Military recipients often did not know that they had freight waiting. Cargo theft was widespread as long port delays worsened. Lacking warehouse space, Army and Air Force Commanders treated cargo ships as floating warehouses. Ships would move up the river and there they would stay for long durations until

eventually unloaded.

Every month 17,000 additional U.S. Troops were landing in Vietnam. Each 830 man infantry battalion hit the beach with 451 tons of supplies and equipment, and each mechanized battalion with 1,119 tons.

The situation did nothing but deteriorate. Beyond working harder and faster, there were no other solutions thought possible. That is until Malcom McLean, founder of Sea-Land, saw the problem and the innovation necessary to solve it. The innovation Malcom wanted to apply was a combination of inventions and processes – containers, coupled with container ships and a support system. After expending effort to educate decision makers - the Military Sea Transportation Service (MSTS), the Navy's unit responsible for chartering merchant ships to haul supplies, hired Sea-Land to deliver freight via container ships, using its container system. The results were beyond remarkable. Sea-Land delivered the same amount of freight as the break-bulk fleets with half the ships, requiring only one-sixteenth the labor. The "port tie up" problem was solved.

Almost immediately after the innovation was proven, MSTS decided to open the bidding for container service to Vietnam. Three companies were interested but again, Malcom and Sea-Land demonstrated leadership. This time the company offered to provide not only

containers, but chassis, trucks and terminals. It also offered to furnish refrigerated containers, to load and unload its own ships and to deliver the containers with its own trucks and chassis to any point within thirty miles of its piers - all at a fixed price per ton rather than the customary markup over its costs.

Sea-Land's competitors were focused on solving the immediate problem, assuming that if they could get the supplies to the dock efficiently and cheaper than the competition, they had done their job. But, Sea-Land focused on the real problem – getting the goods quickly from the shipper in the U.S. into the hands of the people who needed them in Vietnam. Malcom addressed the core issue while others simply responded based on the RFP.

At each step Sea-Land demonstrated their ability to see what's next and to be what's next while communicating the vision so clearly that it didn't take years for the customer to see that they had the answer to the real problem.

How many companies would have been

affronted when the customer put the business up for bid as soon as they had demonstrated their solution's value? Rather than complain or even compete at the same level of the others, Sea-Land used their time to learn the situation and to develop a unique big picture approach that would move the competition into a non-compete realm. Rather than trying to figure out how to provide a less expensive service in order to win, Sea-Land raised the bar. While the competitors were working to win in the environment defined in the bid, Sea-Land used the opportunity to expand the definition of the customer's problem by extending innovation beyond the docks and creating a new pricing model; it completely eliminated the competition.

Two Perspectives, One Leader

1. Sea-Land saw the issue as that of getting supplies into hands of the warfighter who needed them and as a result, Malcom said the company would unload their ships and deliver the goods using their trucks, chassis and drivers.

2. The competition saw the issue as one that ended at the dock, meaning the issue were to be solved through the use of cranes and the basic container technology. Since most solutions were similar, they decided to compete on price.

Sea-Land used every opportunity to learn and to continuously demonstrate leadership. Imagine the look on Malcom McLean's face every time he thought about the competition teams putting their "freight" proposals together while he was crafting a highly innovative, big picture solution. The U.S. Command learned their lesson as well. They realized that Sea-Land was not a commodity supplier with a fast talking guy selling the latest technology. Instead they were a market leader and one worthy of serious partner considerations.

One year later the U.S. Command determined that reopening the bidding process was no longer necessary. As industry innovators, Sea-Land was now secure in the knowledge that they were the solution of choice. *Sea-Land succeeded by crafting the future through leadership enabling the customer and Sea-Land to move on to other challenges and opportunities.*

From almost nothing in 1965, Sea-Land's Defense Department revenues rose to a cumulative total of $450 million between 1967 and 1973. At its military peak in 1971, $102 million of Vietnam-related contracts accounted for 30% of the company's sales.

From its leadership position, Sea-Land continued to craft the future. With the round trip expenses covered by the US Military for goods traveling only one-way between the West Coast and Vietnam, Malcom saw an opportunity to strike a deal with the world's fastest growing economy during the 1960s. Between 1960 and 1973, with its industrial output quadrupled, goods began heading to the United State's West Coast. Yes, Japan became the next great opportunity for Sea-Land and Malcom McLean.

Malcom translated his *being what's next* in Vietnam to *seeing what's next* in Japan. Their cycle of innovation leadership continued. They didn't need everything lined up before

The Moral of the Story

Don't let the customer or competitor define your solution;

Take inventions and build an innovation that makes them viable and usable;

Deliver true value – value that will enable the customer to move on to other challenges;

Blow the socks off the competition… define your own category so you don't get pigeon-holed.

Lastly, have faith, see what's next, educate, communicate, then pull the trigger and be what's next!

pulling the trigger; they simply needed a viable opportunity and were ready and eager for what came next.

Considerations

When you consider the level of capital and resources applied to invention it can be quite impressive. Yet capital and inadequate resources are applied to **turning the invention into a capability – the innovation**. In our example, the container was the invention, but it took decades, along with the convergence of a number of other inventions, and Malcom's vision to create the innovation… and the financial return. Invention is the base enabler of a capability, product or service. But, without innovation, invention can be lost or remain dormant for years. What a waste!

Innovation is the unique way you design and assemble various elements into an interlocking business model that hopefully represents a highly desirable, high value solution to an unmet need (recognized or not). Elements come from both technology and the business model. They consist of products, the invention, processes, design, positioning, channels, go-to-market strategies, and so forth. Malcom's vision assembled the container, a ship design to efficiently store, haul, load and unload containers (as opposed to the break-bulk ships whose base storage design had not changed since its invention well over a thousand years ago), land based cranes (vs. cargo nets), forklifts (vs. large crews of longshoremen), computers and associated software (vs. paper and working harder & faster).

It is the clearly unique solution to a broader need that differentiates and rewards innovation leaders. Malcom's innovation went so far as to include crews to unload the ships along with trucks and drivers to deliver the containers to receiving stations within 30 miles of the port.

Why is it that Malcom, who owned a trucking line, was able to see the potential and exploit it when people in the shipping line business did not? In fact, once he saw the potential for ships, he sold his original trucking company he had founded with one used truck and had built into the country's largest trucking company, and bought a shipping line. While he pushed the notion of containers it took a long

time before others embraced the idea. People in the industry had been dealing with the problems for years and their answer was to work harder, faster and to improve process efficiencies.

This is the trap that keeps us from seeing what's next. When dealing with a problem, people typically analyze it to death and then develop solutions that are inevitably continuous improvements of what is already being done. Breakthrough innovations rarely occur. Malcom's began by uncovering a core need through analysis of the Army's situation and then he aggregated the problem and needs to a clear and doable level for his company to solve. He brought knowledge, processes and inventions from *all* areas of transportation and also other industries, and through *synthesis*, he raised the bar and created an elegant, breakthrough innovation.

Invention serves no one until it is effectively utilized. Being what's next isn't just about execution, it's about being true to the goal – innovation leadership, which means avoiding the Intellectual Property (IP), Not Invented Here (NIH) trap - creating a bloated solution because of the pressure of loading it with all of your own products and services. Doing so will ultimately result in you NOT being what's next. Every element needs to clearly add to the value of the whole, standing on its own merit before inclusion into the solution that truly solves an unmet need in the market. This requires you to be "indifferent" to everything, except innovation leadership… and that means being open to any and all best-of-breed products and processes while keeping the not-invented-here syndrome at bay.

Here is a simple test you might employ when evaluating an idea as a possible innovation:

- Does the innovation provide the customer with an obvious breakthrough, high value, and differential advantage in their market?
- Will the competition need to either form strategic alliances or make an acquisition to match the innovation?
- Will the competition need to cross business unit boundaries in order to construct a like solution?
- Can the competition simply recast off-the-shelf items available to them to construct a like solution?
- Will each element or assembled group of elements stand on their own?
- Is this an innovation based on the goal of innovation leadership?

To be an innovation leader you need to see what's next by going outside of your domain and bringing the best of many worlds together via synthesis thinking. Being what's next means constructing a solution by choosing the best elements for your solution, while remaining true to your company's core values and the goal of innovation leadership.

Epilogue

Companies that want to stay ahead of their competition must continually demonstrate leading-edge vision and the persistent pursuit of new opportunities. Vanguard Marketing International works with clients to ensure

we, and they, address changing market needs, capitalize on important industry trends, and their brands. These efforts help differentiate their company and innovations throughout the investment community and in prospective markets.

As a follow-up, the reader is encouraged to review Vanguard Marketing's website and published white papers on selected topics related to Vanguard's core competencies at:

http://e-vmi.com/html/papers.html

For more information or to contribute to this or other white papers: Call 480-488-5707