KBE Systems Part 2: Project Development and Ground Warfare

Our previous article, the first in our series, observed the criticality of considering Project Savings and Return on Investment for a project’s destiny to success or listlessness.

The article incorporated the historical allegory of the HMS Dreadnought and provided instances from the HMS Dreadnought’s history where different types of savings lead to Return on Investment.

The second article in this series will continue to use historical allegories to discuss critical aspects to a project’s success, this time within the framework of ground warfare and its development over the centuries.

In the execution of any project, three analogous principles are crucial elements to success. Phrased differently, a successful engineering project must have effective communication, execution and development.

To utilize our allegory, the development of tanks used in land warfare dates back to the time of the Egyptians.

The chariots used in the Egyptian times proved the requirement of a weapons platform capable of moving at “horse speed,” rather than the walking speed of infantry. This changed the face of battle and became a force multiplier used to effectively conquer the enemy.

As this idea of mobility developed over time, it became obvious that not only mobility of the weaponry was needed, but also the rapid communication of thought between weapons systems. This grew in response to the changing machinery on the battlefield.

At first, solutions such as drums and trumpets were used as a way to communicate tactics between cavalry, archers and infantry. Battle standards, flags and the like were used to mark the locations of troops for commanders; however, as distance, speed and noise of battle grew, other methods were needed for effective communication.

By World War II, the Germans had perfected a two-way radio for real time communication between armored units and between commanders and their tactical units.
The combination of a tank and a two-way radio was again game changing as a force multiplier. It allowed the independent use of tanks, rather than as a supplementary piece of the infantry. The union of speed and communication became the hallmark of the blitzkrieg and has now been incorporated by every modern army in the world through the doctrine of combined arms.

The essentiality of communication to the success of a project and to an organization is highlighted by the success within this example. Effective two-way communication is just as important to the various small business units within your corporation as it was for any “tanker.” Working in coordination within your unit, with other units, and in the overall management of your project is a force multiplier for both an army and your business.

The second factor essential to a successful project is in its execution. Continuing with the metaphor of ground warfare, the World War II standoff between the Russian T34 tanks and the German Tiger Tanks exemplifies a key point within a project’s execution.

At the Battle of Kursk in 1943, the combat between the Germans and the Russians focused on the opposing sides’ tank warfare. The Germans arrived with far superior frontal armor on their Tiger tanks, which could not be pierced by the Soviet’s T34 tanks that carried 78 mm guns. The German tanks carried 88 mm guns. With the German’s armor and gun power against the Soviet’s inferior quality, the Germans appeared unstoppable.

However the Soviets held an advantage. They could produce their simpler, less sophisticated and fast tanks quickly and efficiently, giving them a power in numbers.

Despite the technical prowess of German engineering, Russians eventually won over the Germans with their tank model, the T34. This victory was achieved in large part through their ability to produce, repair, and reproduce their tank model.
Each German tank was built with extreme attention to cutting edge engineering and meticulous craftsmanship that would dominate the battlefield. However, this engineering and meticulous craftsmanship came with a huge production penalty. German tanks could not be produced quickly, nor could they be easily repaired in the field. The Russians took the opposite tack, building with straightforward engineering and betting that numbers would ultimately overpower the enemy. Additionally, they focused on the speed of their tanks. They placed a premium on putting a large number of fast tanks onto the battlefield and keeping them in the fight. Because of this, the Russians were able to increase efficiencies, giving them greater numbers at the beginning of the battle and replacing their losses after it.

The lesson to take from this for KBE projects is this: focusing on the rapid and efficient execution of your project is key to a successful conclusion.

Although planning is crucial, over planning and excessive analysis can be detrimental to your project, where as a balance of planning and execution is crucial to success.

Finally, the third crucial element to a project is its development.

Over time, each new mobile weapons platform was developed from a need to defeat the enemy as well as protect itself and its’ crew; it did this by first relying on increased speed, then armor, then firepower, and finally by varying the proportions of each. Additionally, the development of mobile warfare advanced based on eliminating the weaknesses in previous models within each of these areas.

From the first Egyptian chariot to the American Abrams tank that is used today, developments and trade-offs necessitated technological advances in all three areas. Each tank’s
success was based on the ability to adapt to the present battlefield, and develop and deploy faster than adversaries.

The progression of tank warfare, particularly in our example of the Russians and Germans in World War II, is an excellent example of a business case where development became a crucial element to victory. The objective? Winning the war. The method? Continued infrastructure justification for the development of speed, armor and firepower within the tanks.

This infrastructure justification can be taken into account for our project development and our ability to efficiently and creatively develop technology that will advance in its field.

Referenced Sources

PBS Documentary “Ground War,” Episode 2: Battlefield Mobility


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