Part 1

An Introduction to Marketing Navigation

1 A new way to steer your plan to success

A perilous voyage

On October 22, 1707 a fleet of 21 British warships commanded by Sir Cloudesley Shovell was sailing home towards Portsmouth, England. The ships were rounding the coast of Brittany in northwest France and heading into the English Channel. After three weeks at sea and battles with French and Spanish warships, the crews were looking forward to returning home.

However, the weather had been abysmal for days and had now turned into an Atlantic storm. As the rain lashed the decks, a dismal day turned to a dark night and the ships rolled in the heavy seas.

At 8pm, the 90-gun flagship, HMS Association, suddenly struck rocks. She went down in minutes losing all 800 men on board. Soon after, the 70-gun warship HMS Eagle and the 50-gun HMS Romney also hit rocks nearby and sunk, with just one survivor. Another ship, HMS Firebrand, also hit rocks but was lifted off by a wave. She struggled on but sank soon afterwards, losing more lives.

In all, 2000 men lost their lives that night. It was a titanic tragedy and one of the greatest disasters ever to befall the Royal Navy. News of the tragedy shocked the nation and an investigation was immediately commissioned to determine its cause.

So what went wrong?

The cause was a serious navigational error related to an age-old mariner's problem: measuring longitude. They simply did not know where they were!

The common method of navigation used at that time was called 'dead reckoning.' The navigator would estimate the ship's position based on an already determined previous position or 'fix.' The speed of the ship was

estimated by dropping a wooden log into the sea that was tied to a rope with knots at regular intervals. The navigator calculated the speed by measuring the 'rate of knots' with a marine sandglass and used a compass to determine the direction of travel. When possible this was combined with astronomical observations and depth recordings to achieve greater accuracy. This was a very inexact science but there was simply no better method known to mankind.

The investigators discovered that as the fleet sailed toward the English Channel, Admiral Shovell had sought the advice of his navigation officers as to their position. He was told that the fleet was near Brittany. It was not. The fleet was, in fact, more than 90 miles off course and heading straight for the rocky shores of the Isles of Scilly, a small group of islands 28 miles southwest of Land's End, England. It was a tragic error that would have fatal consequences.

In 1714, alarmed at the continuing heavy losses to naval and merchant ships, the British Parliament sought to find a permanent solution to this intractable problem. It offered a substantial prize of £20,000 (over three million US dollars today) to anyone that could invent a way of measuring longitude to within half a degree. The race to win 'The Longitude Prize' was on!

There were two competing solutions. One was based on astronomy. It had been known for centuries that the moon, planets and stars travelled through the night sky on predictable courses, acting, it was said, as the Creator's clock. If the paths of the stars could be accurately measured and recorded, navigators would be able to determine their ships' positions. The Royal Observatory in Greenwich, England, was established for that very purpose. However, in addition to having an incomplete record of the paths of the heavenly bodies, astronomers also faced challenges with taking precise readings of their positions while on a rolling ship, with skies often overcast and the moon only being visible on 20 days out of each month. There was also the small matter of having enough skilled sailors who could reliably perform the complex mathematical calculations required!

The other solution was based on accurate timekeeping. Scientists had known for over 100 years that longitude could be determined based on the Earth's rotation. The Earth rotates 360 degrees (one revolution) in exactly 24 hours, which equates to 15 degrees per hour. Therefore, navigators knew that if the local time on the ship was, for example, one hour later than the local time at Greenwich, they were exactly 15 degrees west of there.