

Strain then Failure

A marriage fails and people wonder what went wrong. A favorite retail store goes under and we wonder why. A country's economy suddenly collapses and we look for the reason why. Many systems can operate for years slowly straining more and more until suddenly collapsing. The system was resilient until it finally buckled under the strain. We humans often adapt to the stress instead of seeing the danger signals. Systems fail in complex ways. Yet, we often run systems close to the breaking point.

The marriage, the retail store, fish stocks, a country's economy, these are instances of "systems failure".

Systems are the many interlocking actions that work together to build something far larger.

Because of those interlocking actions, systems often have a lot of resiliency. They can handle strains, often for a long time. However, when systems fail, they fail catastrophically. Complex systems fail in complex ways, but they do fail.

We are watching several retail chains slowly collapse. Sears, Nordstrom's, and others are all under strain and many are likely to collapse.

The same thing has happened with many fish stocks. We harvested the fish without worrying about how many there are. Suddenly, we see fewer and fewer and then, the whole supply collapses. It happened to the Atlantic Cod and fisheries on the East Coast disappeared. It is happening to tuna right now. State fish and game commissions now regulate many stocks (fish, deer, birds) so that over harvesting does not happen.

A number of game animals and fish have come back from near disaster because of that regulation.

Many a marriage fails for similar complex reasons. Yes, there can be a single event. However, in many cases, the marriage had been floundering due to a lack of care for many years. The event simply triggered a cascade of failures that brought down the marriage.

Systems often are operated close to the breaking point. Why keep straining the system?

Because it is profitable to do so. As fish stocks dwindle, it is more profitable to keep fishing as the fish go up in value. As a data center reaches capacity, it is highly profitable to add "just one more system" as it is almost all pure profit. A

relationship is taken for granted so that each person can focus on their job or other things that benefit just them.

When a system is strained, humans are able to adapt to that strain. However, that blinds us to the fact that the system is straining. Instead seeing the strain and reducing it, we tend to push harder. Thus, the collapse happens faster.

When a business is under strain, it is either due to a strategy error or people problems. Either one gets worse when we push harder. It is far better to take the time to examine both the strategy and the people to see if they match where we want to take the business.

Identifying when a business is under strain can be challenging. Running a business is stressful by itself. We want to "power through" the problems. But asking if there is improper strain can benefit a lot.

Systems Under Strain May Fail

Individualism vs Group Cohesion

Americans have a strong mythos about individualism. Comparing how police are using facial recognition technology in America vs China shows that mythos. American researchers worry about misidentifications and what happens when the recognition is wrong. Chinese people worry about identifying those who do not fit in.

China is using recognition technology and other technology to help identify people who do not fit in. My Chinese friend talks about how great that the police are able to scan a crowd and pick out the criminals. A recent news report was on how eleven Chinese schools are embedding chips into the student's uniforms to make sure that the students are attending class and allowing for better identification of those who do not conform.

These different mythos and beliefs have deep implications for business also. In America, some employees are objecting when their company takes a military project or when their work gets used by the military. Google stopped participating in one project because of how many employees objected to being part of a military project.

There are also business trade-offs as to what customers to supply – those who want their communications and business records to be kept secret vs those who want the authorities to be able to read anything – in order to keep them safe.

At the core, these differences affect our vision of what the future will be. Americans have had the belief that we can solve any problem. Our whole society is based on the constant striving for the new. China has been around for 5,000 years and stability has been far more important than the new.

It will be interesting to watch the culture clash.

Risky World

We see people glued to their screens while walking and bumping into objects and other people. Brain scans show that children who watch screens many hours a day have thinner frontal cortex than those who don't. In other words, much screen time makes people less capable of thinking.

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Prairie Trail Software, Inc



3821 Beaumont Lane
Plano, TX 75023

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