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GenAI Transformation Glitches

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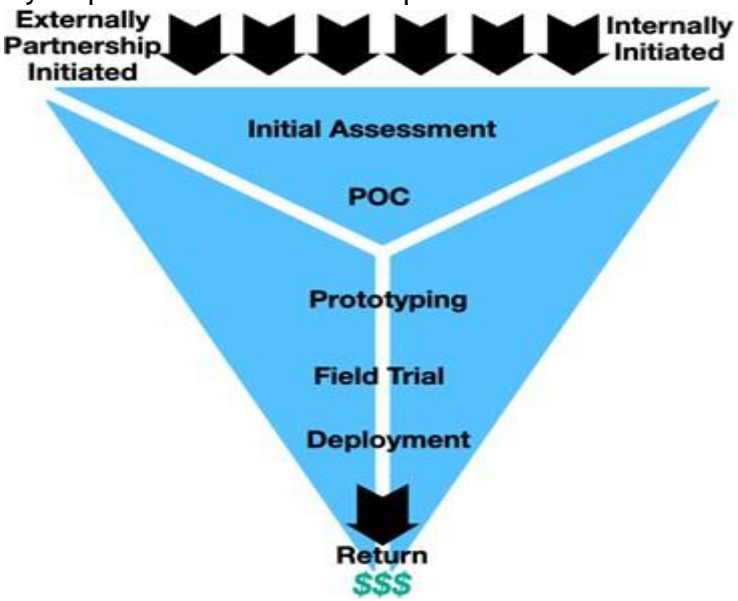
Everyone's talking about GenAI transformation. Some companies have instituted well thought out innovation funnels to manage the process, but theyare still having trouble. There are glitches that are causing trouble. These glitches are process problems that create vulnerabilities for trouble. As process problems, if they're well understood they can be prevented or overcome.

Key Steps in GenAI Innovation Funnel and Where Breakdowns Occur

The key steps in the Innovation funnel shown in the Illustration below are: Concept Input (either internal or external); Initial Assessment; Proof of Concept (POC); Prototyping; Field Trial; and Deployment. Each step has key breakdown vulnerabilities. The concepts around the innovation funnel are not new. Nor are the vulnerabilities. GenAI innovation is suffering from the vulnerabilities seen in previous generations of technology evolution while adding new factors. Below is an outline of the vulnerabilities and key steps that can be taken to prevent or overcome them.



Technical Understanding

One of the biggest problems surrounding GenAI is the amount of noise. That is, how many people who lack basic current technical GenAI information appear to be making authoritative pronouncements. A recent example is the large number of authoritative pronouncements coming from people who don't understand that DeepSeek's R1 is a fine tuning of a previous foundation model (DeepSeek V3). Not a newly, fully pre-trained model. That fine tuning is dramatically less work than fundamental model pre-training.

This is particularly difficult with GenAI because of how fundamentally different it is from previous generations of technology evolution, and GenAI's cycle time. Ways of thinking about previous generations of both conventional and AI systems don't work with GenAI. This is compounded by GenAI's fast cycle time. Looking from the outside, it appears that each major vendor/lab has a new dramatically improved system approximately every 6 months. Each vendor has its own calendar. The result is that there are dramatically new systems premiering every few weeks. Add to this the amount of new published research and it is easy to get lost. It may be counter intuitive, but it is good to value sources that freely admit that they don't know everything all the time.

There is so much excitement about GenAI that there can be a tendency to overuse it. That is, the instinct now is to use GenAI when an earlier generation of technology would do a better job. The result of all this is that opportunities will be missed. Things will be tried that are impossible. And projects may be initiated without proper consideration of potential negative side effects. Lack of technical skill sets can cause problems in later stages as well, such as using the wrong criteria to judge success in prototyping and field trials, or simple technical execution failures that are not inherent to the proposed innovation.

These vulnerabilities can be prevented or overcome in a combination of ways. First and most important is to be cautious about GenAI information sources. Some otherwise trustworthy media sources cannot be relied upon when it comes to GenAI.

Using ways to filter out the noise is important. One of the best ways is to ask questions. Approach every source of GenAI information critically. Encourage reading of technical information, including papers from technical journals. YouTube videos can be helpful. But, there is a lot of noise on YouTube. So here again, be cautious. Information services and consultants will offer to provide "everything you need." Here again, be cautious. Use external sources that have been thoroughly vetted.

Finally, as an organization, invest in keeping key technical people current in their technical expertise, particularly with reference to GenAI. This goes for both technical and management roles.

Business Model Interaction

Many times a technical innovation will generate an opportunity for, or require, a business model innovation. This can result in resistance. Some will argue that the new business opportunity will cannibalize existing lines of business. Sometimes the new business model will have the effect of moving budget/power from one part of the company to another, triggering internal political opposition. In other cases, the business model will require changing skill sets in sales, marketing, or finance, again producing resistance. These kinds of vulnerabilities can appear at each of the levels in the innovation funnel.

These vulnerabilities can be prevented or overcome in two ways. Inside the existing organization, senior management can mandate that such business model resistance will not be allowed to influence decisions in the innovation funnel. Another alternative is to create a separate organization that houses the innovation funnel. To overcome this vulnerability, such an organization would contain a combination of business, technology, product, and marketing people.

Discontinuity Between Advanced Technology and Operations

In organizations that have large and powerful operations groups, similar vulnerabilities can exist. They involve all the factors at work around business models. But there can be one further factor. In organizations where operations groups are continuously stressed, there can be fundamental discontinuities between the groups responsible for the innovation funnel and operations. A satirical way that is used to describe this vulnerability is, "Don't bother me with your ideas about machine guns. I am too busy making swords."

This is a frequent problem in Telcos. They typically have advanced technology groups responsible for innovation and large operations groups responsible for keeping the network running. A common telco response to this problem is to focus the advanced technology group on international standards groups. Then, rely on those standard groups to drive innovation that the operations group can't successfully resist. This produces two unfortunate results. First, the innovation process ends up under the control of a small number of powerful vendors whose incentives are to keep selling existing high margin products and services. Second, there is no significant differentiation between Telcos providing service in the same area. This plays a big role in the ossification seen in today's Telco's.

One approach that has been tried to prevent or overcome these vulnerabilities is to move individuals back and forth between operations and advanced technology. Unfortunately, experience has shown that those individuals quickly become captured by the new group's culture. What has worked better is creating specific teams combining dedicated technology and operations people. Doing this on a project by project basis creates a very high hurdle in the approval process, making it difficult to move on from the early levels of the funnel. A better approach is to create a general group that combines technology and operations for the whole funnel. It is also possible to combine these people with the business, technology, product, and marketing people.

Not Invented Here

In organizations where there is a development component as well as technology and operations, there can often be resistance from internal development groups, similar to business model and operations vulnerabilities. This resistance can be based on pride, fear of budget loss, power loss, or other political jockeying. The resistance can be particularly strong when innovations involve inputs from outside the company.

The same approaches that work for technology/operations discontinuities can work here. The separate innovation group with both technology and operations staff can be expanded to include people with development skills. Here again, it is also possible to combine these people with the business, technology, product, marketing, and operations people.

No Budget at Key Stages

The final vulnerability involves budgets, particularly in the later levels of the innovation funnel. It can be very difficult if every attempt to start a POC or field trial has to get separate budget approval competing against all other potential claims on funding. In these situations, the percentage of success is very low and the delay cycle in approval can be way too long. Also, this kind of process tends to approve only very large efforts that appear to have guaranteed success or, following a herd instinct, it is deemed every company in the industry feels they have to have one. There is no recognition of the importance of allowing for failure to achieve true innovation. BT (the U.K. Telco) has had a good funnel process that has been impeded by this problem for many years.

The way to prevent this vulnerability is to provide a budget allocation every cycle for innovation projects. Then, each proposed innovation is not competing against every activity in the whole company. Rather, it is competing against other potential projects in the funnel, as it should be. This also forces senior management to recognize and commit to innovation in every budget cycle. And in a public corporation, it results in stockholders being able to see if the company is committed to the innovation it often talks about.

Successful Examples

Although it takes serious effort to overcome these potential glitches in the GenAI innovation funnel, there are some good examples of success. Because of the newness of the technology, those examples tend to be in the organizations responsible for creating it.

Alphabet is a good example of creating a separate organization to foster innovation. John Hennessy, the Chairman of the Board of Alphabet and President Emeritus of Stanford University, during his reprise of his Turing Award Lecture at a Stanford colloquium said that when a company waits to find out that a new technology has arisen that disrupts the business it is in, it is generally too late for that company to find the next thing. He pointed to Xerox as an example. He said that innovation must be an ongoing process. This approach can be seen in the creation of Alphabet (before the innovation portfolio was combined with Google and Alphabet was the umbrella. Alphabet's acquisition of Deep Mind can be seen as bringing in an outside partner (as shown in the illustration). The integration of innovations developed at Deep Mind in Google's services and the semiconductors that power those services can be seen as another innovation funnel.

Meta's creation of FAIR in New York is also a good example of creating a separate organization to foster innovation in GenAI. This had two particularly interesting aspects. First, FAIR was created a continent away from Meta headquarters, similar to the IBM PC Group being housed in Florida well away from headquarters in New York. This provides some insulation from the *not invented here* pressure that otherwise might come from colocating with headquarters. Second, Meta chose to let FAIR pursue an Open Source business model, which appears to have had significant advantages.

Apple has an ongoing history of failures on the road to dramatic successes — the Lisa before the Mac; the Newton before the iPhone; etc. Now the company has taken the same approach with GenAI, launching a GenAI aggregated news service that failed in its first week.

GenAI transformation is an important part of any company's planning and execution process. The challenge is how to make well thought out innovation funnels effective in producing valuable results. To do this, companies have to put in place measures to overcome the potential glitches that can impair the funnel's operation.