Innovation Fueled by Risk Management

Aaron M. Halpert, ACAS, MAAA

We generally do not tend to think of innovation and risk management as compatible themes. Innovation conjures up images of bold new ideas, thinking outside the box, disrupting established ways of doing things, and breaking new ground. Outdated applications of risk management, on the other hand, focused almost entirely on reducing or transferring risk, primarily by imposing controls, keeping things from getting out of hand, and inside the box. Contemporary enterprise risk management (ERM) programs, which focus not only on the identification, measurement, mitigation, monitoring and communication of risk, but also on capitalizing on risk opportunities, provides a better fit with innovation.

In truth, the two themes are not only compatible, but having an effective ERM protocol actually fuels and enables innovation. This essay makes the case for this compatibility, and offers some ideas from current ERM thinking on how to best use risk management tools to bolster innovation.

MINIMIZING RISKS ASSOCIATED WITH NEW IDEAS

Some have described one of the key pillars of innovation as "never fail to fail."[1] Successful innovation requires a higher tolerance for failure. With failure comes the opportunity to quickly learn from mistakes and inappropriate assumptions about a product or its market, and build a better idea. However, costly failure may not be acceptable to an organization's Board or owners. How do we balance these competing imperatives? Most current approaches to ERM focus on the development of an organization's risk appetite and related risk tolerances. Management and the Board will lay out statements that capture the types and amounts of risk the organization is willing to entertain in conducting its business. Naturally the levels of risk tolerated in different segments of the business will be evaluated in light of the potential returns that can be achieved in each segment. As such, the organization may be willing to tolerate more risk in a new product venture with high potential returns than it would in a mature product producing more limited returns. An articulation of the risk tolerance for innovation products, and how it relates to the organization's overall risk tolerance, will provide an effective framework for pursuing innovation strategies.

Once an idea has been articulated and captured by an organization (usually in a document that summarizes the concept and why it may be attractive to the organization's stakeholders), many effective innovation platforms begin with a process called Minimum Viable Product (MVP) testing. MVP testing accelerates learning by testing a product hypothesis in small scale experimentation for a

[1] "The Eight Pillars of Innovation" by Susan Wojcicki, 2011, http://bit.ly/1qoWpqm.

limited market using minimal resources. As such, MVP testing exemplifies the integration of risk management into the innovation process. By testing on a limited scale and with limited new product features, the risk of undertaking new product ventures that produce disappointing results is minimized.

Looking at this approach more broadly, a small investment in product testing (with relatively high tolerance for limited loss to be experienced in the testing phase) will lead to a refinement of the product/service and marketing plan and also result in a better understanding of the risks associated with product/service implementation. In other words, risk management is not a process that is glued onto an innovation process, but rather is an important component integrated into the approach used to develop new ideas.

AN INNOVATION RISK MANAGEMENT FRAMEWORK

With this in mind, we can sketch out how the risk management function can strengthen the innovation process. The following steps illustrate how risk management specialists can do so:

1. Working with the Board and management to articulate their risk appetite for new innovations and how it relates to the organization's overall risk appetite.

While setting risk tolerance is not an exact science, doing so allows the Board to set risk policy for the organization, and facilitates an ongoing monitoring process for management to demonstrate that risks are maintained within established tolerance levels. As noted earlier, innovation will likely only be successfully achieved through a willingness to take on more risk than an organization would normally consider. Once this is recognized however, the board has an opportunity to set specified higher risk tolerances for innovation efforts with a clear vision of how this fits with the overall risk profile.

2. Reviewing new ideas and their associated product testing plans to develop plausible outcome scenarios, and determine the risks associated with pilot testing efforts. They also provide assurance that the risks associated with these outcomes are within the relatively broad risk tolerances.

Scenario testing and stress testing are important elements in any ERM toolkit. Such an analysis is particularly important in product testing both prior to testing a prototype as well as analyzing results afterwards. At the front end, development of reasonable outcome scenarios provides the innovation team with better insights for developing controls and also helps identify which product features are most susceptible to producing adverse results.

3. Working with the innovation team to review pilot testing results and assist in redefining product attributes and marketing strategies. Concurrently, risks associated with the refined product are

recalibrated, and assurance is provided that the recalibrated risks are within a somewhat narrower risk tolerance level.

Post testing analysis provides clues about whether the risks were fully understood in the first place and also helps to further refine the product/market attributes as well as the controls necessary to keep the full product roll out within defined risk tolerance levels.

4. Assuring that all the relevant controls are in place when the final product launch is recommended to the Board.

This final step brings the pieces together to help launch new product ideas and provide a level of assurance that downside risk is managed at the same time. The more effective the risk management protocols are, the more likely it is that the Board and management will enthusiastically support the organization's efforts.

AN EXAMPLE

Let's consider an example, and see how this process would apply. Suppose an insurer were to assess whether to expand their mechanical breakdown coverage for insured autos to include damage to the auto resulting from engine system hacking. Given the limited knowledge of the exposure (how many systems are susceptible to hacking, how likely are hackers to act, how much damage will result, etc.), the insurer would have to recognize that the financial results attached to this expansion of coverage would be considerably more uncertain than the breakdown coverage to which it is being attached.

By first analyzing a wide range of scenarios that reflect assumptions about who will purchase the coverage, the incidence of hacking, the resulting damage to the auto's systems, etc. the team can develop estimates of the resulting underwriting loss under severely adverse conditions. If the risk is deemed too high relative to the organization's innovation risk tolerance, product features can be scaled back to limit coverage, marketing plans can be limited to certain market segments and geographies, or the project can be deferred to allow more time to better understand the potential incidence of hacking into "the internet of things." Limited prototype versions of the coverage would be tested in limited markets and the results can further inform decisions on product features, pricing, and how broadly the coverage would be marketed for the full roll out.

Finally, risk management professionals can assist in developing controls to assure that the aggregate risk associated with the new coverage remains within pre-determined tolerance levels. In addition to traditional reinsurance considerations, and taking a page from the evolving cyber security world, controls for the program might include industry data on make and model hacking incidents, aggregate exposure monitoring based on available incident frequency, and the likelihood of incidents

affecting several insureds simultaneously.

CONCLUSION

While failure provides a critical opportunity for learning and improving innovation efforts, the risk of failure must be actively managed within the innovating organization's ERM protocols. As such, by providing a framework in which innovation efforts are more confidently undertaken, risk management does not inhibit innovation — it actually fuels it.