



Better value: implementing a value chain for innovation management

Innovating in itself is not hard – people come up with good ideas everyday. But it is turning those innovations into integrated, functioning models for the benefit of the business that is the challenge. An EY team in Chile has developed a value chain model for innovation management in the mining industry that does just that.



Author

Eugenio Cantuarias Senior Manager
Performance Improvement
EY, Chile

Better value: implementing a value chain for innovation management

Innovation is the latest focus for business strategy worldwide and, with ever-increasing pressures on funding and resources, it is little wonder. But it's not just about coming up with new ideas.

An innovation value chain ensures these ideas progress to funding, are converted to products and, finally, distributed across the company or, in this case, the mining industry.

The Parque Científico Tecnológico (PC&T) is a collaborative project with the Universidad Católica Del Norte (UCN) to generate an industry of advanced mining services and innovation in the Antofagasta region of Chile. The aim of this center is to gradually replace imports and generate export potential to guarantee the sustainability of the region beyond the depletion of minerals.

This initiative will contribute to the economic and social development of the region and the country, through the promotion, dissemination and support for research, technological development and innovation. It also hopes to establish a prolific environment that facilitates the achievement of human and material resources to technology transfer and entrepreneurship.

The PC&T project involves leveraging the existing centers and equipment of the UCN, plus the installation of various foreign national technology centers to promote research (both basic and applied) and technology transfer – as well as providing scientific and technological services. It also aims to make more attractive the installation of technology companies (domestic and foreign) and innovative

subject matter experts (SMEs) under the PC&T umbrella.

This center will be the link between the demands of the mining and the scientific and technological sectors in the region. In setting up this project, there were five main objectives:

- ▶ Position the UCN and the PC&T as an example of innovation management for the mining industry
- ▶ Create innovative SMEs
- ▶ Protect intellectual property
- ▶ Help unleash the innovation process

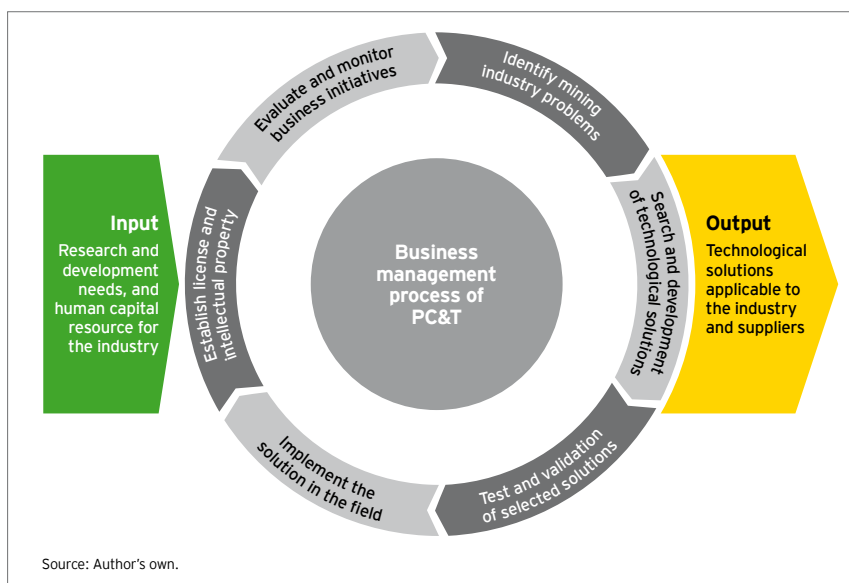
- ▶ Increase productivity and competitiveness of the region

The need for a value chain

The aim behind establishing an innovation management value chain for the PC&T was to help in responding to the research and development needs of the industry, regional and national community, and to help position UCN as a leader in innovation management in the mining industry.

For the PC&T to fulfil its aims, the innovations coming out of the center need to be managed in a way that ensures

Figure 1. UCN's high-level innovation management methodology



they reach their full potential. Without an efficient value chain, good ideas may go unfunded, undeveloped and unrealized. This can become a corporate problem because creative employees quickly become disillusioned when none of the ideas that emerge during brainstorming sessions ever see the light of day. Such employees eventually leave to find a more innovative place to work.

Facilitating industry interaction and the demand for innovation services

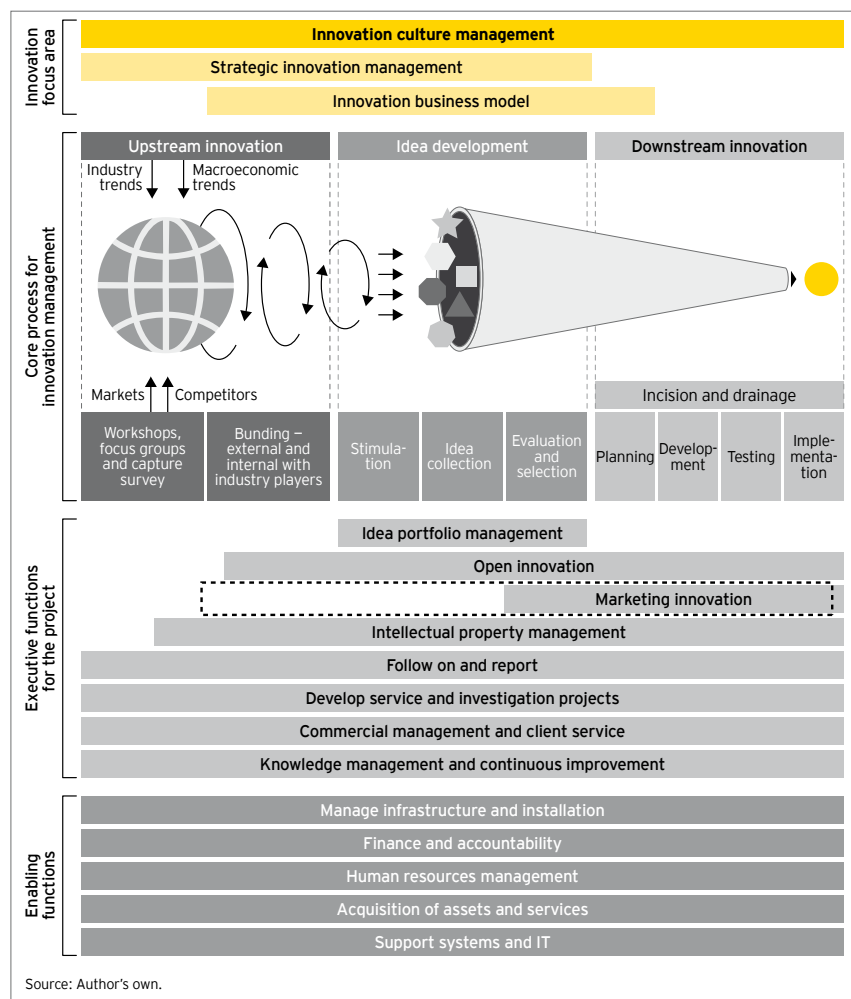
A value chain innovation management framework covers internal and external influences that support the business and its products. Designing and implementing an effective value chain for innovation management involves several processes.

Firstly, there needs to be an innovative culture, to stimulate and encourage the abilities of the teams for change and innovation within UCN and PC&T. This should be bolstered by innovation strategy and the creation of a growth strategy to explore further innovative opportunities for PC&T.

An innovation business model, which includes the identification of new service segments and products, is crucial in defining the market for future services and products. Once these steps have been taken, time needs to be allocated to the planning and implementation of the model and transformation schedule to identify a strategy for successful roll-out.

In parallel, taking place in the background, administrative tasks such

Figure 2. Innovation framework



as portfolio administration, innovation marketing and intellectual property management must be considered.

These processes fall under three stages:

1. Upstream innovation: where the ideas and problems of the industry are measured and analyzed using a diverse team, with differing expertise, to find a solution under an open innovation management framework.
2. Idea development: where the creation of ideas are stimulated, promoted, evaluated and selected.
3. Downstream innovation: in this final stage, the idea is taken on

as an innovation project, where it is researched, developed and implemented.

Portfolio idea management

To give focus and structure to idea generation, and to capture, classify and evaluate the effects on the potential innovation projects portfolio, a company must consider the interdependencies and risks of any idea or opportunity. An ideal portfolio will have a broad spread of the different initiatives.

Better value: implementing a value chain for innovation management

Interdependency in an innovation asset portfolio

Beside the individual value in each opportunity, the model must consider the interdependency between the innovation or service opportunity (innovation assets). There are at least four types of interdependencies:

1. Time horizon: if the model only considers short-term initiatives, the sustainability of the portfolio and the organization could be at risk. However, if only long-term initiatives are put forward, it may not generate the necessary cash flow for business survival. It is critical to find a suitable balance between initiatives with a focus on both the long and short term.
2. Market "cannibalization": if you have multiple projects aiming to satisfy a similar need, they may not generate a linear growth return. It is important that the ideas in the portfolio aren't supplementary. Maintaining a balance in this sense is critical for the sustainability of PC&T.
3. Competition for limited resources: many initiatives may require access to the same scarce resource. It is better for the execution of some of them to reduce the dependency on the same resource.
4. External factors: some opportunities have value only in combination with other opportunities or factors and not individually, because together they mitigate external risks. This situation is similar to the diversification of a financial portfolio.



Innovation asset management

To implement innovation asset management efficiently, a company must identify and diagnose the innovation assets and then communicate these across the

whole organization (in this example, UCN) and, of course, maintain this approach over time. Success here comes with practice, procedures and tools that can help to systematize the whole process.



As for all management models, to be complete, it is essential to design and implement performance measurement mechanisms for the whole innovation ecosystem. For UCN, the EY team had to

first define preliminary key performance indicators (KPIs) measuring the innovation management of the PC&T aligned to the value chain and business model, strategy and goals. Then, the next step was to assure alignment between the KPIs and the open innovation management performance measurements of PC&T.

The methodology behind the implementation of innovation management was firstly to identify and agree a detailed work plan, diagnose the situation drawing on an understanding of the organization in its original state, and then develop and agree the future state design.

For the PC&T project, creating a value chain for innovation management meant strengthening the capacity to deliver innovative and competitive solutions for the industry, both to small and large companies and their suppliers. There were also benefits in the systemization, formalizing and integration of innovation and investigation assets of the UCN and relevant internal stakeholders.

A knock-on effect of this was the strengthening of an innovation management culture within the university, an expansion in the organization's capacity to access new resources and an increase in the generation of intellectual property associated with the investigation results.

Conclusion

When it comes to innovation management, one model will not fit all and, certainly, will not work for a complex and diverse innovation ecosystem such as that present in a university. The EY innovation model was created in response to this need: to

Without an efficient value chain, good ideas may go unfunded, undeveloped and unrealized.

help companies manage innovation. In order for it to be implemented effectively and produce successful results, it requires the identification of key needs and stakeholders. ■