

What is innovation – really?

by **ROGER MARTIN**

Public policy to increase innovation is not working. A major part of the problem is that our governments have developed policies to drive invention, not innovation. The two are not the same, and we must recognize this to achieve effective public policy for the twenty-first century.

What is the difference between invention and innovation?

Invention can be defined as the creation or discovery of something new to the world. Inventions are often producer-driven, following an inventor's curiosity or area of expertise. While they are new, inventions in scientific institutes or corporate labs may or may not have any use in the world.

Innovation is customer-driven, providing a new product or process that adds value to somebody's life. Innovations can improve economic, health, or social well being.

Innovations are often built from inventions. Mobile telephony required new findings in cellular technology; the Internet became widespread after invention of fibre optic technology. But we should not just assume that inventions naturally lead to innovation. And even if they do, that often takes a long time. The US National Research Council found that, in the communications and computer technologies, the average time from invention to market was more than twenty years. As scientist and designer, William Buxton put it, "innovation is far more about prospecting, mining, refining, and adding value to gold than it is about alchemy."¹

Invention and innovation: What's the difference?

INVENTION	INNOVATION
A new-to-the-world discovery/creation	A product, service, or process that creates net new value for customers
Driven primarily by inventor curiosity or research interest	Driven primarily by desire to add customer value
Merit defined by uniqueness	Merit defined by profitable deployment
Based primarily on scientific skills	Based on a broad set of strategic, marketing, operational and technical skills

Innovation creates value in several ways:

- » It can make it possible for consumers to do something that they could not have done at all or as well before, or
- » It can reduce the cost of doing what consumers were previously doing – in two ways:
 - Delivering the same benefits as existing offerings, but at a lower price,
 - Maintaining the price of the product or service, but reducing overall costs of use.

Canada's global leaders provide examples of these sources of innovation.

Innovation enables a superior consumer experience

Four Seasons, the world's leading luxury hotel chain, has succeeded by offering a different guest service model than its competitors. From research, it concluded that luxury for guests meant not grand architecture and décor, the prevailing approach in the luxury hotels business, but rather service that made them feel like they were special. Acting on that insight, the Four Seasons has achieved the highest guest ratings and the best customer loyalty in the industry.

In a similar way, the Cirque du Soleil, the world's leading circus, recognized that circus acts did not fulfill consumers' desires. It reinvented the whole concept of a "circus" and appealed to a wider and more affluent audience.

Innovation reduces costs and consumer prices

Harlequin, the world's leading publisher of romance fiction, realized that if each of its books had exactly the same number of pages and that this number equaled one sheet on the printing press, it could print its books at a lower cost than its competitors. The books could also be shipped in identical cube-efficient boxes and more easily displayed on uniform retailers' shelves. Harlequin also developed mail-order book clubs for their most loyal readers, lowering distribution costs and eliminating the hassle of going to book stores.

¹ William Buxton, "Innovation vs. Invention," Rotman Magazine, Fall 2005, p.52.

Innovation to reduce customers' costs

McCain is the leading producer and seller of frozen potato products in many parts of the world. Most of us would likely expect that its main business is in branded consumer products. But it's not. Its biggest business by far is selling frozen french fries to restaurants and other food-service organizations. Food service operators save considerable labour costs because they no longer have to peel, cut, and fry potatoes from scratch.

Manulife, one of the world's five largest life insurance companies, provides another example of innovation to reduce customer costs. It assembled the technology and developed business processes to create the Manulife One account, enabling home owners to optimize their use of any excess cash to pay down their mortgage or to pay off their credit card debt, thus allowing significant savings on interest costs. In addition, it used its experience with individual and group RRSPs in Canada to become a global leader in more consumer-friendly retirement savings products across the globe.

Does our innovation policy support invention or innovation?

Federal and provincial innovation policies have done little, if anything, to fuel the consumer-driven innovations that made these companies global leaders. Current public policy assumes that if a scientist working in a laboratory or an R&D department comes up with something new, that is innovation. And anything else is not. But that is invention – which should not be confused with innovation.

Obviously, invention is important. But little that our governments do in their current innovation policies helps inventors better understand consumers. Without intimate understanding of consumers or without the pressure of a competitor trying to win them away, it is very unlikely that an inventor will be an innovator. Unless policy changes, we will continue to spend billions of dollars funding invention and get little innovation to show for it.

Of course, there are notable examples of success in our governments' innovation policy. R&D support helped Nortel create the world's first Class 5 fully digital network communications switch, the DMS 100. This was an example of consumer-driven innovation. Existing analog switches were not up to the task of carrying growing telephone traffic speedily and reliably; carriers needed something better. Nortel sales and marketing people saw this opportunity and collaborated with their research colleagues at Bell Northern Research to produce the digital innovation. Even though AT&T Network Systems (later Lucent) dominated the US telecommunications market at the time, Nortel was more customer-focused and won.

Certainly, too, R&D support helped RIM to invent and improve the BlackBerry, now Canada's most important technology product. But the BlackBerry success story is much to do with innovative distribution agreements with telecommunications carriers.

So what?

We will not progress on innovation in Canada, until our policies focus broadly on innovation rather than narrowly on invention. It is important to support a higher education system, where curiosity-based research is funded. But we should not assume that much of this will lead to innovation. Inventions searching for a use have never been a high-payoff endeavour.

If we want more innovation, public policy can help in four ways.

- » Design innovative educational programs that connect inventors, who care about innovation, with business people, who want to pull inventions to consumer-relevant innovations. These programs would be more than coursework; instead, they would match up people to create real innovations and involve innovation financiers. Public funding could be available for winning innovations.
- » Ensure that our innovation policy is balanced between developing the hard science skills and the softer skills that enhance communications skills, consumer understanding, and team building.
- » Recognize that necessity is the mother of invention – and innovation – and ensure that our markets are intensely competitive to pressure our firms to look for ways to add consumer value to their products and processes.
- » Think more broadly about how we finance innovation within existing companies. If we really want to promote more innovation, we should loosen the definition of fundable R&D. Currently the definition is far too tight. None of Four Seasons, Cirque du Soleil, Harlequin, McCain, or Manulife, would have qualified for funding for the innovations that made them world leaders.

With these innovation initiatives, public policy will help us have a vibrant twenty-first century economy.