

## Winning Customers with Market-Driven Innovation

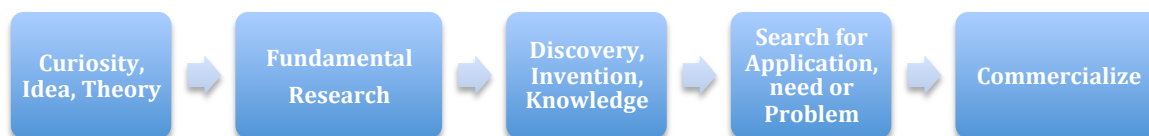
Eric Cook P.Eng., Executive Director, Research and Productivity Council

Innovation has captured the interest of policy makers, economists, politicians, and entrepreneurs, and for good reason. Competition from emerging markets, shortened product life cycles, free trade agreements, rising energy costs and fluctuating currency rates have dramatically impacted our core industry sectors such as manufactured goods. Innovation holds promise for overcoming many of these challenges; this is evident when scanning the Fortune 500 most profitable companies showing prominent innovators such as Apple, GE, Google, and Merck.

The frenzy regarding innovation is generally positive, but the hype has resulted in innovation becoming overused and frequently misunderstood. Innovation requires both a novel idea and the creation of value. Much of what is celebrated as 'innovation' by the media and recognition programs is missing the value component. 'Innovation' without social or economic value, is merely invention. Invention is an appetizer for the active mind. It can be satisfying to human curiosity, it can be fascinating, and newsworthy but without value, it is not innovation. Startup companies may enjoy the recognition that comes with invention, but should not lose focus on the need to generate value.

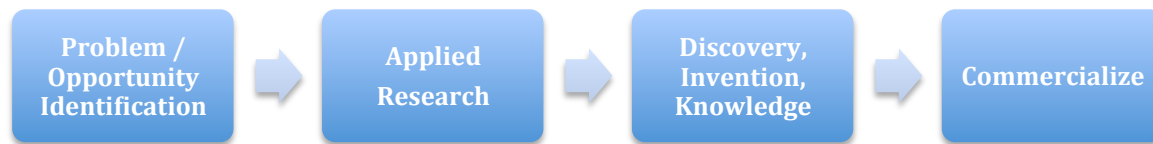
Our passion for creativity and invention is reflected in our research strategies and investments. These investments have produced a wealth of knowledge, discoveries and inventions. However, despite a colossal effort, the number of new products, new companies, and productivity improvements resulting from this knowledge has fallen short of expectations. The disappointment with the outcomes has resulted in many studies, new initiatives, and special funding programs but a balanced innovation strategy might hold the best promise for improved results.

The technology-push strategy, as depicted in Figure 1, normally starts with a curiosity, leads to basic or fundamental research and, when successful, generates knowledge and discoveries. The next step is the attempt to identify applications for the knowledge that will lead to commercialization. It is these last two steps where results have been below expectations. A significant effort has been invested in an attempt to improve outcomes at this stage.



**Figure 1: Technology Push Innovation**

However, there is an alternate, complementary path that tends to be overlooked. The alternate pathway is "market-led" or "pull-innovation". Market-led innovation, as depicted in Figure 2, starts with a market-driven problem or opportunity. From there, applied research and where necessary, fundamental research, is conducted, or accessed, to develop a solution. When an effective solution is identified, there is a good probability the marketplace will adopt it since there was a pre-existing need. Rather than investing in the production of knowledge and discoveries with the hope that a commercial need will be identified, market-led research starts with a commercial opportunity and pursues the knowledge necessary to develop a solution.



**Figure 2: Market-led or Pull Innovation**

Starting with an application or opportunity focuses the research effort and results in a commercial influence from the onset. Compared to curiosity-driven research, market-driven research may have less potential to result in disruptive innovation and may be overlooked by the media and recognition programs, but it promises to be more prolific with commercialization, which should motivate entrepreneurs.

Sustaining competitiveness in a global economy requires effective and productive innovation. To achieve this, a balance of both market-led and curiosity-driven research is needed. Market-led innovation, that is innovation that starts with recognizing a problem or opportunity originating in the market, is a complementary, but critical component of an innovative economy. Most importantly, market-led research holds promising potential to result in paying customers, the ultimate recognition for entrepreneurs.

#### **About Eric Cook**

Eric's business experience includes 20 years of leadership in high tech companies involved in advanced manufacturing, space science, aerospace, wireless communications and nuclear energy. Eric has participated in numerous innovation initiatives for federal and provincial governments as well as industry groups. He is a Global Fellow with the Eco Innovation Program at the l'Université Paris-Sud and is currently serving on the Council of Canadian Academies' Expert Panels studying the State of Science and Technology in Canada and the State of Industrial Research and Development in Canada.

Eric is the Executive Director and CEO of the Research and Productivity Council (RPC). Located in Fredericton, New Brunswick, Canada, RPC is a crown corporation offering contract research & development, and technical services. RPC provides technical expertise both regionally and globally to more than 900 clients annually serving the environmental, aquaculture, manufacturing, mining and energy sectors.