

Has Innovation Stalled?

By Gerard J. Tellis

Throughout history, innovation has improved the welfare of consumers and promoted the wealth of companies and nations. Yet critics ask, if innovation is so promising, why is it not curing the economic malaise of developed economies? Has innovation stalled?

The current economic malaise of developed economies is a result of financial excesses in the recent past. Actually, some of those excesses may have been fueled by the perceived promise of radical innovations. Boons are often triggered when consumers and investors overspend on the promise of radical innovations; unfortunately boons are followed by busts. The economy takes time to rid the excesses from the system and heal. Viewed through a narrow lens, a recession seems like the arrest of innovation and the beginning of hopelessness. However, through the long lens of history, a recession is a mere dip in the inexorable advance of technology through innovation.

To support this point let me describe the results of one study. Professor Ashish Sood and I looked at technological evolution in seven industries over long periods of time, ranging from 30 years to 120 years. These industries were outdoor lighting, automobile batteries, desktop memory, computer displays, desktop printers, and analgesics. What we found is surprising and encouraging. First, all through time, innovations spawn many new technologies in every one of these industries; importantly, the emergence of these technologies occurs at an increasingly rapid pace. Second, within each technology, innovations give rise to improvements in performance and lowering in prices; these improvements are also occurring at an increasing pace. Third, the relative improvement in technology is increasing over time. Our research provides compelling evidence that innovation is still progressing at a faster rate over time.

Moreover, my extensive research in innovation suggests that innovation is more vibrant today than at any time in the past.¹ The evidence for this comes from at least three sources: radical innovations on the horizon, constant price declines, technological leapfrogging in emerging markets, and integration of emerging markets in world economy. Let's consider each of them.

First, the world is at the cusp of a technological revolution as big or bigger than any in the past. Consider just a few of such radical innovations on the horizon. In the next decade or two 3D-printing will revolutionize manufacturing by enabling individuals to print or order products to precisely meet their own needs. Online university courses will bring to the masses around the world exclusive courses from the top faculty at prestigious universities; previously these courses were reserved for the very smart or a

¹ *Unrelenting Innovation: How to Create a Culture of Market Dominance*, Jossey-Bass, Warren-Bennis Leadership Series

very privileged few. Revolutions in the production of natural gas from shale and green energy will bring down the cost of energy that will benefit every facet of the economy. Advances in genetics will enable genetically modified foods and personally effective medicine that will revolutionize food products and treatment of illnesses, respectively

Second, throughout history, innovation has contributed to the steady improvement in the quality of products and a steady reduction of prices. Think of transportation, entertainment, appliances, homes, medical benefits today versus 400 years ago, 100 years ago, or even a mere 20 years ago. In terms of the products and services available, the average person today is better off than many a prince or duke of prior centuries. All those improvements were possible through innovation. In the short term, prices in nominal dollars seem to rise constantly. But through the lens of history and affordability, prices for most products or services are inexorably declining, costing a much smaller fraction of the average worker's salary today than they did decades earlier.

Third, my research with Deepa Chandrasekaran on the global diffusion of innovations suggests that emerging markets are witnessing massive technological leapfrogging. This term refers to emerging markets adopting a new technology before an older one. For example, broadband in South Asia is penetrating markets faster than roads and railways; online banking in parts of Africa is penetrating faster than brick and mortar banking; mobile phones in most emerging markets has penetrated faster than landlines; the penetration of smart phones and tablets will soon exceed that of personal computers; and biometric ID in India has already penetrated faster than numeric ID. These new technologies drive a rapid improvement in services and living standards in emerging markets.

Fourth, all of the above innovations will speed the integration of emerging markets into the world economy. In China and India, hundreds of millions of people have already been incorporated into the middle class; there and elsewhere, many more will do so in coming decades. These millions will increase the supply of low cost products and services to and increase the demand of high end products and services from developed economies. But the real revolution will occur when these millions become innovators and entrepreneurs in their own right. It will generate low cost innovations in medical equipment and services, household gadgets, mobile services, and other categories.

The excesses of investors, the folly of national leaders, and war reverses the progress from innovation, with losses, pain, and misery for many. Fortunately, the advance of innovation, though sometimes invisible, is constant and increasing. The fruits of innovation are reaching an ever larger fraction of the world population with multiple benefits for all.

Gerard J. Tellis is Neely Chair of American Enterprise, Director of the Center for Global Innovation, and Professor of Marketing, Management and Organization at the USC Marshall School of Business. His recent book is, *Unrelenting Innovation: How to Create a Culture of Market Dominance*, Jossey-Bass, Warren-Bennis Leadership Series.