Perspectives: Six Myths of Innovation Policy

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There is broad, bipartisan agreement that spurring economic growth needs to be at the top of the policy agenda in both the U.S. and in Europe--and that fostering innovation is one of the best ways to do it. As a result, over the last three years, the U.S. Congress has reauthorized the America COMPETES Act and the Department of Commerce has put renewed focus on innovation. Likewise, the European Union has made an "Innovation Union" one of seven flagship initiatives in its Europe 2020 Strategy. Unfortunately, these efforts are limited and often lack the necessary political support because both policy makers and the general public misunderstand innovation and how best to promote it. This article examines six "myths of innovation policy."

MYTH 1: INNOVATION EQUALS INVENTION

Scott Berkin's book, "The Myths of Innovation," is required reading for anyone who wishes to truly understand innovation. A recurring theme throughout the book is that just coming up with a good idea is not enough. He writes that one important myth is "that good ideas are rare." Actually, according to Berkin, "Good ideas are everywhere; what's uncommon is people with the conviction to put their reputation behind ideas." This same theme recurs throughout a compendium, in which Berkin compiled 177 "myths" that other authors have documented.

Because policy makers often equate innovation with invention, an inordinate amount of the debate (and funding) devoted to innovation policy has focused on research and development. While R&D investments by governments and the private sector have provided large, well-documented returns on investment, according to Geoffrey Moore, the co-founder of Intel, "R&D investment is not a commitment to innovation." Much more is needed.

MYTH 2: MORE PATENTS AND COPYRIGHTS WILL SPUR MORE INNOVATION

The United States was built by innovators. One of the Founding Fathers, Ben Franklin, was an inventor and tinkerer. Abraham Lincoln was awarded a patent--a device to lift boats over obstructions and shoals. The United States has innovation policy embedded in the Constitution: "To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." Since those words were written in 1787, the scope of intellectual property rights and penalties for violations of such rights have increased dramatically, fed by the belief that protecting inventions and creative works will foster more innovation and creativity. But in recent years, it has become increasingly clear that it is possible to have too many patents and copyrights. As a result, a number of U.S. court rulings have examined whether to limit patents and copyrights. Most recently, the Supreme Court decided that is it not possible to patent naturally occurring genetic sequences. According to a recent Bloomberg Government study, this will open up the market for new genetic tests--and new competitors. Similarly, in the cellphone and smartphone market, Apple, Samsung, and other manufacturers have been using their portfolios of patents to sue each other and block the sale of each other's products. Throughout the information technology industry, fights over patents have delayed development and adoption of badly-needed standards and held back the use of valuable open-source software. The National Academies of Sciences published recently a book that called for more research and data on how copyright can limit innovation.

Fortunately, some provisions of the America Invents Act, which was enacted in September 2011, and is now being implemented by the U.S. Patent and Trademark Office, should reduce the number of vague or spurious patents, which have led to expensive, protracted lawsuits. In early June, President Obama announced a new initiative to fight "patent trolls" whose lawsuits can block innovation and investment in new technologies. Likewise, the Federal Trade Commission may investigate patent trolls. The House Energy and Commerce Committee has begun a series of hearings on copyright reform that will be an opportunity to examine whether overly broad application and enforcement of copyrights can hinder innovation.

MYTH 3: INNOVATION IS JUST ABOUT TECHNOLOGY

Too often policy makers (and the general public) equate innovation to devices they touch and feel and to the software they use and play with. But many of the most important innovations of the last fifty years have involved processes, new business models, and management. The success of Dell Inc. was not due to technological innovations. Rather it was due to the innovative idea of waiting until a customer placed an online order before building a machine, eliminating billions of dollars of inventory and depreciation costs.

Because policy makers so often equate innovation with technology, much of the legislation and funding for "innovation" goes to training students in the "hard" sciences and engineering and to bolstering U.S. manufacturing capabilities. All this is necessary but not sufficient. Innovation also requires social scientists,

designers and managers. It requires innovation in the services sector, which constitutes more than 70% of the U.S. GDP. And that requires multidisciplinary teams that can combine their skills to come up with new products, develop new ways to produce them, find new markets, and develop new ways to learn from and respond to their customers.

MYTH 4: INNOVATION IS INFLUENCED BY POLICY NOT CULTURE

This may be the most problematic myth about innovation. On Capitol Hill and in Brussels, there seems to be a belief that if only governments adopt the right tax policies, adequately fund R&D, enforce patents and copyrights, and support manufacturing, innovative, then start-ups will pop up everywhere and supercharge economic growth. Unfortunately, that misses an underlying problem: In many parts of the U.S. and Europe, innovation is not really welcome. It is misunderstood and even feared. Table 1 provides my caricature of how Europe, the East Coast, and West Coast respond to innovation and new technologies.

TABLE 1. THREE CULTURES OF INNOVATION (OVERSIMPLIFIED)

	Europe	East Coast	West Coast
Principle	Precautionary	Profit	Prototype
Motivation	Rights	Money and Power	Fun
Heroes	Philosophers Kant, Descartes	Lawyers Winkelvoss twins	Hackers Zuckerberg, Jobs
Verb	Study	Litigate	Innovate
Organization	Government Lab	IBM or GE	Start-up
Motto	What is possible must be delayed	What is possible is threatening	What is possible is inevitable
Policy Goal	Assessment	Lawsuits	Many Choices

The cultural resistance to innovation was a focus of the Innovation and Jobs Summit held in March in Menlo Park, California in March. The Summit was organized by the International Institute for Innovation Journalism in partnership with Bloomberg Government, the Kauffman Foundation, Qualcomm, Google, SRI International, Ideo, and other organizations. For two days, high-tech CEOs and entrepreneurs, Silicon Valley venture capitalists, former government officials from the US, Sweden, Israel, and elsewhere, academics, and other innovation experts debated a wide range of specific innovation policy proposals. A particularly interesting discussion was sparked by two papers examining how to find and foster risk-taking, entrepreneurial talent among K-12 students. Another paper described German programs to move workers displaced by technological change into new sectors and new jobs, thus reducing public skepticism about new technologies. Many analysts credit such programs for the success that Germany has had in retooling its manufacturing sector and sustaining economic growth while much of the rest of Europe is still in recession.

Another cultural barrier to innovation is the longing for a permanent, even life-long job. At the Summit, one participant said, "We need to reframe the discussion about employment. We should talk of 'work' not full-time 'jobs' because life-long careers are gone." If a culture (and government policies) make it easier to shift jobs or to work multiple, part-time jobs, it will be easier for innovative companies to assemble the unique talent they need to grow quickly. Likewise, if changing jobs (or even careers) is considered normal, fear of losing your job due to technological change lessens. One speaker pointed to Obamacare as potentially the most important step to spur U.S. innovation in decades because it will enable more budding entrepreneurs to leave jobs at large companies that provide health care to try something new.

But there are other cultural barriers. Even though the French invented the word "entrepreneur," French parents

are very reluctant to have their children marry one--far safer to marry a bureaucrat or a lawyer. Likewise, many cultures teach their children that they live in a "fixed pie world," where there is a constant struggle to get more of the pie. Innovators think differently. Buckminster Fuller, the inventor of the geodesic dome, was fond of pointing out that politicians see scarcity and try to figure out how to allocate it while engineers see scarcity and try to create abundance. At a European Institute event in Washington DC in April, Viviane Reding, the Vice President of the European Commission (and previously the Commissioner for Information Society and Media), was asked about how Europe could create a "culture of innovation." She admitted that her son, who works in the IT sector, was living in Silicon Valley and was likely to remain there until Europe became more innovation-friendly. She proudly mentioned the reform of European bankruptcy laws, which should allow entrepreneurs to fail faster, but that will only happen if cultural norms allow people who have gone bankrupt to have a second chance. Today, Europeans honor risk takers--but only when they succeed.

MYTH 5: INNOVATION IS ONLY ABOUT STARTUPS

Almost any discussion of innovation policy will include a mention of startup companies and incubators to host and nurture them. But if policymakers want to create jobs, they should be just as concerned about helping a fifty-person startup grow to five hundred employees because that creates nine times as many jobs (and not just for engineers). Growing to scale often requires employees with different skill sets than those required for a startup. In particular, a larger company usually requires more process and more managers--but processes and managers who are flexible enough to respond to new technological innovations and changing market conditions. Training managers who know technology and know how to innovate is not something most universities know how to do. At the Innovation and Jobs Summit there was a lively discussion of how to radically rethink universities to enable cross-disciplinary majors for "double deep" students, use MOOCs (massive open online courses), and better serve mid-career students.

MYTH 6: ONLY YOUNG PEOPLE BENEFIT FROM INNOVATION

This may be the biggest barrier to effective national and state policies for innovation. The general public (and television and movie producers) usually imagine innovators and entrepreneurs as young, college-age kids--almost always male. But recent studies have found that many of the most successful entrepreneurs have spent at least a decade or two in large or medium-sized companies or in academia before finding the resources and the partners (and the courage) needed to start a new business.

Elderly, retired Americans probably need innovation more than any other demographic--and yet they don't realize it. Obviously, innovation in health care can have a direct impact on their daily lives (and their budgets.) But, less obviously, sustaining innovation is essential if retirees are going to see the returns on their investments needed to sustain a pleasant retirement. Without more innovation, U.S. growth rates will continue to stagnate. Worse, unemployment will stay high, which means the grandchildren of retirees will struggle to find good-paying jobs. Yet, members of the American Association of Retired People (AARP) are not pushing for more effective innovation policy.

CONCLUSION

Because of these myths, U.S. and European innovation policies do not utilize the full range of levers that could be used to spur growth and innovation. The focus on R&D, science and engineering education, R&D tax credits and patents is necessary but not sufficient. Not all innovators and entrepreneurs are computer science majors, under 30, and working at a startup. If policy makers realize this, and their policy proposals reflect it, their efforts to spur innovation will be much more effective.

Equally important, there will be more broad-based support for such policies. Today, in both the U.S. and in Europe, there is more rhetoric about innovation than real, new funding for effective initiatives. The programs authorized by the America COMPETES Act Amendments of 2011 have not been fully funded by the Congressional appropriations committees. One reason may be that policy makers have failed to educate their constituents on how innovation matters to all ages and all sectors.

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