

Article Info

Received: 01 Mar 2022 | Revised Submission: 12 May 2022 | Accepted: 05 Jun 2022 | Available Online: 15 Jun 2022

Purpose-Driven Innovation

Orose Leelakulthanit*

ABSTRACT

Innovation has been given increasing importance as a way to increase productivity and to gain a competitive advantage today's rapidly changing environment. There are however several limitations regarding its implementation, for example, job loss and inequality. This paper discusses how to avoid and tackle these negative impacts of innovation, as well as how to gain greater benefit from innovation by using what the author calls "purposive-driven innovation." The author's definition of this will become clear as the reader proceeds innovation.

Keywords: Purpose; Purpose-driven; Innovation; Technology.

1.0 Introduction

Any organization, as with organisms, has to constantly adjust itself to changes in the environment, and to the many internal conditions within the organization so that it can develop smoothly and avoid failure. In this regard, innovation is a key factor in determining the direction, scale, and speed of the organization's development. Such innovation is not restricted to merely one aspect or part of the organization—it filters from the top to the bottom in every department and regarding every detail of its operation. This innovation is responsible to a great extent for changes in the competitiveness of the organization and in the elements that bring about such competitiveness. It can be seen that innovation both enhances the way in which the organization functions as well as the skills and knowledge of employees-these can be seen as among the most important resources of the organization and its competitiveness. Further, in addition, with the development and growth of the organization, the competition of the organization will gradually change from the competition of traditional elements to the competition of operational capacity, which is one of the great impacts of innovation. Innovation can be considered the dominant factor in increasing the development of productivity.

Innovation is permeable and can be integrated into the productive forces of the organization in

many ways. First, innovation is responsible for the continuous improvement of the quality of workers, not to mention the quality of their work. This can be seen historically-from the age of agriculture and industry to the age of information, and this has been a result of both social progress and innovation together. Secondly, innovation is responsible for the continuous updating of production tools and technology, as can be seen for example in a pilot demonstration project in China-China Intelligent Manufacturing. This project demonstrated after intelligent reformation of the manufacturing operation, there was a twofold increase in production efficiency and operation costs were reduced by more than 20% on average; that is, up to 60%. Additionally. the continuous innovation in production tools also directly results in the development of industrial workers in terms of their knowledge and the information they possess. Thirdly, innovation results in the creation of many new products, which can improve productivity by streamlining the means of production, improving the efficiency of labor, and by reducing labor volume and labor time.

In short, innovation is a way of thinking, a system, a method, and a process, all of which require systematic management and proper decision-making in order for these elements to be successful in the organization—there is no doubt that for the entire organizations, innovation is an essential driving force for growth. However, what is perhaps more important, companies that possess a strong sense of purpose are able to create innovation and take advantage of it to a greater degree. It has been seen that executives that treat purpose as a core driver of strategy and decision-making have reported greater ability to create successful innovation and transformational change and deliver consistent revenue growth: for example 53% of executives who said that their company had a strong sense of purpose stated that their organization was successful in terms of innovation and transformation efforts compared with 31% of those that attempted to articulate a sense of purpose and 19% that did not think about it at all (Harvard Business Review Analytic Services Report, 2015).

It is the intention of this paper to advocate the view that innovation is necessary for the growth of a company in the rapidly changing economy today, although innovation in itself may not be sufficient for healthy business operations in the long run unless the innovation is purpose driven, which the topic to which we now turn.

2.0 Literature Review

2.1 The downside of innovation 2.1.1 Job loss

Among the major drivers of growth and development include technology and production systems, in addition to the development of new industries; these elements have the power to change the world of work in drastic ways, for example by either destroying jobs or creating new ones, not to mention the transformation of the nature of jobs itself. Hence, from the time of the industrial revolution, there has been ambivalence among workers, business people, policymakers, and academics regarding technological progress, and this ambivalence continues today, as there exists numerous debates on the nature of the future world of work. Some people believe that the present changes in technology will take away jobs on a scale beyond counting and even predict a future without jobs (Ford, 2015; Brynjolfsson and McAfee, 2014; Hawking, 2016). On the other hand, some individuals are confident that these new technologies will end in the creation of adjustment and transformative processes that will create new jobs and even a "golden age" of job creation (Perez, 2002;

Vivarelli, 2007). Such optimism is supported by economic history. where historians have demonstrated that although each new wave of technological change has created some job destruction and technological anxiety, in the end new and better jobs are created (Mokyr, Vickers and Ziebarth, 2015; Bessen, 2015). History, however, does not always repeat itself, and some people believe that we are witnessing today a critical movement from what has been the traditional pattern of technological and economic change. These individuals emphasize the unique and disruptive nature of the new technologies, and also highlight the speed with which this change is taking place. Today there are obviously numerous types of technology, more than in the historical past, and the combined effects of these technologies, such as multifunctional sensors, learning robotics, and the Internet of Things or 3D printing, are expected to be deep and wide, and for this reason it is suggested that the contemporary changes in technology will result in huge job losses (Schwab, 2016), unlike in the past where the changes were to a greater extent more monolithic.

2.1.2 Inequality

According to Milanovic (2005, 2016), global inequality can be measured by combining data from household surveys. Milanovic's study (2016) included over 100 countries, and it was indicated that global inequality is higher than the inequality within any single country. This was seen to be true even in the most unequal countries, such as South Africa and Colombia. This reality has been rising steadily for several decades if one ignores the influence of China and more recently India. It was also suggested that Asian families account for the larger part of this change. It was also seen that Latin American and African economies are not developing in the same way as the countries in the West, and indeed, some African countries have lower income per capita now than they had 1950.

Poverty can be seen as the anchor of the lower end of global income distribution. For example, one and a half billion people live on less than \$1.25 per day, and over four billion on less than \$5 per day.¹ A map indication the countries with extreme poverty indicates that more than 20% of the population of India are experiencing a condition of such poverty, and over 40% in many African countries as high as 80 percent.² A map at the national level however does not provide the relevant details. The large majority of the world's poor live in rural environments, and poverty in the countryside has been driving people into the cities for decades, but the economic opportunities there often do not meet their demands or needs.³

If you view innovation in a broad way, it can be seen to be able to meet the development challenges discussed above, but in its current form this is not the case. According to the classic literature on the economics of innovation, private firms are the driving force.--they seek a competitive advantage in the market by introducing new products, which in turn gives them a temporary monopoly.⁴ By charging high prices during the period of a temporary monopoly, the firm can make a profit and grow, and introducing new processes can result in a competitive advantage if it reduces costs or increases productivity. From this point of view, it can be seen that firms drive innovation in order to survive and to be successful in the marketplace. It is interesting that ideas about how firms innovate have evolved along with the evolution of the processes themselves.

In the 1950s and 1960s, focus was placed on research and development within firms, where companies invested strategically in in-house research in order to develop new products that would give them that an advantage over others or even a temporary monopoly. Later, firms reduced these inhouse research efforts but partnered actively with universities in order to search for and obtain ideas that could lead to new products. Today firms are seen, however, as information gathering and processing organizations, ones that draw from a wide variety of sources both inside and outside the organization, in order to innovate in many ways to produce a competitive advantage over others.

Drawing on economic models that focus on where technological innovation stems from, the industrial policies of a country or region typically focus on creating the conditions for a set of firms in a particular geographic area so that they can achieve and maintain a competitive advantage; in this way, they can create jobs and wealth for the region. The dream is to create a "disruptive technology" that will increase local wealth dramatically. The efforts of local or national leaders are focused then on stimulating economic activity *per se*, assuming that what benefits some individuals will eventually benefit everyone. The distributional approach is "trickle down" and has prominent critics (for example, Arocena and Sutz, 2010).

Innovation is likely to be biased toward the needs of affluent consumers since market success is sought above all other goals (Cozzens 2010). "innovation" policies reinforce that National tendency since they are oriented toward economic growth more than other goals. International agreements such as TRIPS, trade-related intellectual property agreements that are part of the World Trade Organization treaty, also reinforce the benefit to firms that use innovation to create a temporary monopoly and collect monopoly "rents." One positive aspect of the digital age is that it has made the global distribution of some products nearly costless, and this results in the creation of markets that are thousands of times bigger, thus allowing for larger profits in less time. Even in terms of physical goods, through information technologies decreased transportation costs better and production coordination have allowed capital to become much more agile with greater mobility and this mobility of capital in turn decreases the ability of national policies to regulate production. In this way it can be seen that technological change is part of the global inequality problem unless it is specifically designed to achieve the opposite-that is, equality. This means that innovation with the purpose of bridging digital divide gap should be made, and this topic will be discussed later on in the present paper.

2.2 Purpose

In HBR's 2015 report, "The Business Case for Purpose," it was indicated that 80% of CEOs felt that purpose was important for their organizations, but fewer than 50% were able to leverage in a meaningful way. One of the problems is that not many leaders know how to think about purpose in a clear and focused way; neither are they able to act on the notion of purpose in a meaningful way. Some companies and individuals see purpose as an individual concern and discuss it in terms of helping to provide people with a meaningful life and work.

On the other hand, some individuals and organizations interpret purpose in terms of an organizational challenge and connect it with altruistic or philanthropic agendas (as with for example the new corporate social responsibility) or as a way to connect to employees and customers; a few organizations however are using purpose in a very distinct and deliberate way.

First, they define purpose in terms of their company's ability to exercise an impact on the meaningful challenges faced by customers in the market or within society, or even globally. Second, they use the notion of purpose as a core driver of their business rather than merely as an altruistic exercise. According to the literature, the articulation of purpose sometimes shifts its focus from the current internal concerns and problems of the organization to the urgent future challenges and needs of customers, society, or even the world. The pursuit of purpose in this sense helps to create innovations that will improve or "disrupt" products, services, and strategies and either change the nature of how the organization functions in existing markets or create entirely new markets. As a result, these companies are able to engage more directly and meaningfully with customers and achieve growth that is directed toward fulfilling more significant or needs. This distinguishes meaningful these organizations from others in ways that are difficult to copy.

2.2.1 A different approach to doing business

A number of contemporary high-growth tech companies have been very clear and honest about the purpose of their organization-some, such as Google, Groupon, and Facebook, include the founder's letters in their IPO prospectuses in order to declare their long-term purposes as opposed to the traditional focus on short-term profits. Purposedriven innovation is not merely for high-growth startups in technology industries, which many would consider to be glamorous; it is for beginning companies in all industries. For example, the average observer may not at first think of the food and beverage sector as innovative or purpose-driven, at least not in any meaningful way, yet the five largest global companies in the industry-Danone, PepsiCo, Nestlé, Unilever, and Mondelez-have shifted the way in which they do business in order to align their purpose more closely with their growth algorithm and strategy.

Paris-based Danone for example is an obvious example of this change and has linked itself to health and nutrition beginning with its founding in 1919 with a mission to achieve "health through food" by encouraging healthier eating habits and sourcing practices; since 1972 Danone has deliberately applied that ideal to its approach to doing business. Specifically, Danone develops markets and sells products with the cooperation of local stakeholders and with the consideration of the needs of local individuals, cultures, and economic circumstances. This has helped Danone to advance its purpose of reducing world hunger and improving\ nutrition while at the same time also achieving growth and a respectable market share.

This approach can still be see decades later. In 2006, the founder of Grameen Bank, Muhammed Yunus, partnered with Danone to develop a Bangladesh-based enterprise, Grameen Danone, which was launched to develop nutritious yogurt that local populations could afford. The company used local saleswomen to sell the inexpensive product on commission and to build interest before developing local production facilities to meet the demand for the product. This is a strategy that clearly aligned purpose (reducing malnutrition and poverty) with practice (a workable business model that helped Danone enter and establish growth in a new market). As a result, Grameen Danone has developed new products and approaches that have been difficult for other companies to copy or compete with. The pursuit of purpose, in other words, has helped the company develop an appealing product that not only meets needs of the market in terms of taste and affordability, and improves health and nutrition, but also has been able to defeat competitors. Danone has not been alone in this; interestingly, Unilever, a company that has been reported to avoid short-term profitability for long-term growth objectives, particularly in emerging markets, has attempted to develop brands linked to special social causes, and it has found that those brands grow at twice the speed of brands that do not have a clear purpose.

Nestle has organized its business around 39 commitments to social values in such areas as nutrition (e.g., reducing salt and sugar in products), rural development (e.g., implementing responsible sourcing), water (e.g., increasing efficient use and sustainability of products), the environment (e.g., improved packaging), and human rights (e.g., eliminating child labor). this approach aligns them with many different purposes that have an impact on the world rather than limiting them to one purpose. PepsiCo for example has formed a growth strategy around an outlook that it terms "Performance with

Purpose" and is investing in sustainable agriculture and environmental practices that serve the corporation's purpose and profitability goals. Mondelez, which is a corporation that is known for being reliant on innovation and talent to garner market shares in a highly competitive environment, outsources its innovation function to networks of startups and retailers in order to develop new consumer offerings and to link those products more closely to the needs of customers.

In a sense, the corporations in the food and beverage industry may be predisposed to "purpose" because they are vulnerable to consumers and to environmental criticism, and are closely linked to health, nutrition, and sourcing issues. However, their purpose-led innovations and strategies are not implemented merely to gain the interest of the public regarding their public-relations-oriented CSR effort—these innovations and strategies concern achieving growth, profitability, and a competitive advantage in the pursuit its purposes.

2.2.2 The purpose of reverse-engineering

Purpose can seem as so intangible or idealistic that many may find it difficult to imagine how they can use purpose to actually bring about innovation and solve the challenges of business. There are however models for doing so that provide a clear path to follow, where the key is to begin with a meaningful purpose and work backwards through the practical challenges (business, technological, market) that may obstruct its development while at the same time employing innovative solutions and business approaches that can overcome them. In this way, purpose as innovation can be seen to be closely aligned with strategy and business models.

Muhammed Yunus, cited in the Grameen Danone example, is a banker that wanted to reduce poverty in Bangladesh (a purpose that obviously represents a global need). Yunus observed the impact that small loans could have on helping people to launch their small businesses with support. By offering micro-loans to female entrepreneurs specifically, Yunus' Grameen Bank was able to reach multiple objectives, funding new business growth, alleviating family poverty, and seeing at the same time a return on its investment.

Elon Musk in the U.S. is widely seen as a visionary, but he is also an excellent example of an innovator that is purpose-driven. Consider how

deliberately he focused on both Tesla and SpaceX with a clear purpose and how he has systematically worked "backward" to overcome barriers and challenges regarding business solutions and innovation. Tesla, for example, can be seen as the outcome and not the initiator of solving the overwhelming global problem of climate change; Musk recognized that climate change was driven primarily by CO2 levels in the atmosphere and that the dominant culprit was fossil fuels. The answer was to switch to solar power, but how do you effect such a massive change in global power consumption? The most significant user of fossil fuels is petroleumpowered vehicles, and Musk's approach was to apply business thinking and solutions to break the problem down into manageable challenges and to solve each one in turn, as can be seen in the following: Purpose (global) — to reduce CO2 emission levels and help save the planet.

- How by (replacing) transitioning energy use from fossil fuels to solar power.
- Through increasing the use of electric vehicles and making it easier to use solar power in the home.
- Obstacle widespread reliance on fossil-fuelpowered automobiles.
- Solution build high-performance electric vehicles.
- Obstacle current battery performance levels are poor.
- Solution bring in the best engineers to build a better battery.
- Obstacle customers do not see electric vehicles as appealing.
- Solution focus on speed, style, and brand to increase high-end demand.
- Obstacle to scale and achieve mass consumption, lower cost models are required.
- Solution build successively cheaper versions and cut out the middle man (dealers) to reduce costs.
- Obstacle need competition to spur demand for electric vehicles and associated services. On open platform to scale is required.
- Solution release all patents for electricvehicle technology.
- Obstacle need to stimulate broad demand for solar power.

• Solution — build a battery pack for home use to allow solar power customers to store and efficiently use that energy.

Musk overcame many obstacles and maintained his focus on the fundamental problems because of the importance of the purpose from his point of view. If he succeeded, he would have changed the world and have achieved a level of significance comparable to Thomas Edison, Henry Ford, and John D. Rockefeller combined.

3.0 Discussion

In order to tackle or even prevent the problems arising from the new innovation of a company, the purpose or reason for doing so is needed in the beginning, if not afterwards. We need a different way of developing new technologies," indicated Daron Acemoglu, MIT Institute Professor of Economics. He cited the clean energy sector as an example. First, according to him, a consensus regarding the problem needs to exist and then a set of goals and measurements that is agreed upon needs to be developed (e.g., that AI and automation would create at least X new jobs for every Y job that it eliminates). Then the goals would simply need to be implemented: "We need to build a consensus that, along the path we're following at the moment, there are going to be increasing problems for labor," Acemoglu suggested. "We need a mindset change. That it is not just about minimizing costs or maximizing R & D tax benefits, but really worrying about what kind of society we're creating and what kind of environment we're creating if we keep on just automating and [eliminating] good jobs" (Leelakulthanit, 2021). The lesson that can be obtained from this MIT conference is that individuals working in the fields of the new technology have to think about how to create jobs and at the same time work in areas of the development of AI, since one of the goals of AI is to increase productivity and to minimize costs, which could result in the destruction of part of the labor market. In order to prevent the problem of employees being laid off, job rotation, reskilling, and upskilling programs may also be required.

Jobs in retail, transportation, manufacturing, and agriculture are highly vulnerable to technological change. Retailers such as Macy's and The Limited are closing hundreds of their stores and cutting tens of thousands of jobs as people are buying more and more products online, and other companies are testing robotic assistants or planning for autonomous stores. Over 33 companies are now working on autonomous vehicles, and this is likely to soon lead to the replacement of many transportation jobs. Robots have taken about 85% of the 5 million manufacturing jobs in the U.S. since 2000, and automated farming is also quickly advancing. While our first reaction might be to help employees find new jobs, what we really need to do is to help companies shift into new markets that are focused on human services and adopt new business models that will allow employees, customers, and communities benefit from these technological changes.

First, companies, especially those with big brickand-mortar stores that are being hurt by online retail, can turn their strategically located buildings into stores that benefit communities. This is already beginning to take place; for example, Walmart in the U.S. now offers optometry services, beauty salons, and restaurants. The possibilities however are not limited to these offerings; why not also offer classes in yoga, fitness, cooking, nutrition, or well-being at an affordable price, or child care, elder care, psychological services, rehabilitation, or meeting space for community groups? This would create new sources of revenue, improve communities, and offer new jobs and skill sets to employees that need to carry out the various jobs at these sites, such as stocking shelves, greeting customers and assisting them, mopping floors, and so forth.

Another way to look at the automation debate is to provide stock to employees, something that many of the world's most creative companies are already doing. This practice helps companies recruit workers and incentivize them, and it also offers a buffer against the downside of the technological unemployment of employees.

Many people think that offering stock only works with entrepreneurs and technology industry workers; however, a number of companies in the food industry, including Chobani and Starbucks, are leading the way in proving that his model can work with factory and retail workers as well. In 2016, Hamdi Ulukaya, founder of Chobani, decided to give 10% of his yogurt company to his 2,000 employees in stocks. While this kind of approach helps employees prepare for unemployment because of the advent of various kinds of technology by transferring more wealth to them and increasing their economic security, it is especially valuable if a company plans to automate its jobs.

If an employee holds stock in a company, and is replaced by a robot, he or she may actually benefit from the robot taking his or her job and doing it better, since his or her stock's value will increase as the company becomes more successful. Imagine if Uber gave out stock to its drivers today—if several years from now it became a successful autonomous car company, its former drivers would gain financially. In this sense, stock options would give workers the possibility of becoming future owners and being the beneficiaries of the robots that replaced them.

In order to fight the problem of poverty, Christensen, Ojomo, and Dillon (2019) in their book The Prosperity Paradox: How Innovation Can Lift Nation Out of Poverty, discuss how innovation can defeat poverty; they mention many cases of how companies could use innovation to drive out poverty. For instance, Celtel (now Airtel) is an excellent example of an African company that they profile in the book. In 1998, the prospect of starting a mobile telecommunications business in sub-Saharan Africa was not thinkable, as most Africans were very poor. However, against those odds, Mo Ibrahim created Celtel, made the mobile phone simple and affordable for millions of Africans, and created a new market in the process. The mobile telecommunications market today there has added roughly \$200 billion in economic value, has provided upwards of \$20 billion in tax revenues, and has created close to four million jobs, thus exemplifying the power of market-creating innovation.

They also introduced readers to Fyodor Biotechnologies, a company that makes noninvasive malaria tests, and Lifestores Pharmacy, which increases access to affordable drugs. These businesses all have one thing in common: their products are so simple, affordable, and accessible that many people are able to be reached; this allows the businesses to prosper and the local economies to benefit from their growth.

They suggest that the mechanisms by which market-creating innovations drive growth are due to three benefits generated by the creation of a new market. First, the organization generates profits that further increase market growth and provide revenue for infrastructure and institution building—typically by way of taxes. Second, the organization creates jobs; this makes the people in a region more productive and makes crime less attractive since it is then perceived that there are better ways to solve problems. Third, the mixture of profits and jobs changes the culture of a region—when citizens begin to see that creating new and exciting markets is a reliable way to develop, a virtuous economic development cycle can result.

The lesson learned from the African context in Christensen, Ojomo, and Dillon's book is that innovation can be a strategy for fighting the poverty problem if new products are purposely designed to be simpler and cheaper, and if they are distributed widely for better accessibility to the products. They can also be targeted to non-consumers that have never used the products before.

4.0 Conclusion

The purposive innovation that has been discussed above could have taken some of the negative consequences into consideration. The major negative impacts of innovation are job loss and inequality. The proper purpose of innovation is to avoid these negative consequences or to find ways to alleviate the problems in the beginning, which is of course better than facing the problems "down the road." Proper purposive innovation can even create opportunities for companies in terms of profit and can also have positive impacts on society and on our planet.

Endnotes

- 1 http://www.globalresearch.ca/one-and-a-half-billionpeople-live-on-less-than-1-25-per-day/5443472.
- 2 http://povertydata.worldbank.org/poverty/home/.
- 3 http://www.un.org/en/globalissues/briefingpapers/rura lpov/index.shtml.
- 4 This section draws on "Technologies and Innovations: Contributing to Peace, Stability, and Fairness," prepared as background for the Congress of Vienna 2015, supported by the Chumir Foundation.

References

 Arocena, R., & Sutz, J. (2010). Weak knowledge demand in the South: learning divides and innovation policies. *Science and Public Policy*, *37*(8), 571-582. doi:10.3152/ 030234210X12767691861137.

- [2] J. (2015. March). Bessen. Toil and technology: Innovative technology is displacing workers to new jobs rather than replacing them entirely. Finance x Development, 52(1), 16+. Retrieved from https://link.gale.com/apps/doc/A404893394/E AIM?u=thnida&sid=EAIM&xid=31c33c4f.
- [3] Brynjolfsson, E., & McAfee, A. (2014). The second machine age: Work, progress, and prosperity in a time of brilliant technologies. New York: W.W. Norton.
- [4] Christensen, C. M., Ojomo, E., & Dillon, K. (2019). The prosperity paradox: How innovation can lift nations out of poverty. New York, NY: HarperBusiness.
- [5] Cozzens, S. E. (2010). Innovation and inequality. In R. E. Smits, S. Kuhlmann, & P. Shapira (Eds.), *The theory and practice of innovation policy: An international research handbook* (pp. 363-386). Cheltenham, UK: Edward Elgar.
- [6] Harvard Business Review Analytic Services. (2015). The business case for purpose. Retrieved from https://hbr.org/resources/ pdfs/comm/ey/19392HBRReportEY.pdf.
- [7] Hawking, S. (2016). This is the most dangerous time for our planet. Retrieved from https://www.theguardian.com/commentisfree/ 2016/dec/01/stephen-hawking-dangeroustime-planet-inequality.

- [8] Ford, M. (2015). *Rise of the robots: Technology and the threat of a jobless future*. New York: Basic Books.
- [9] Leelakulthanit, O. (2021). The potential impacts of artificial intelligence on the happiness of human beings. Asian Journal of Economics, Finance and Management, 3(4), 1-9. Retrieved from https://globalpress hub.com/index.php/AJEFM/article/view/1016.
- [10] Milanovic, B. (2005). Worlds apart measuring international and global inequality. Princeton, NJ: Princeton University Press.
- [11] Milanovic, B. (2016). Global inequality: A new approach for the age of globalization. Cambridge, MA: The Belknap Press of Harvard University Press.
- [12] Mokyr, J., Vickers, C., & Ziebarth, N. L. (2015). The history of technological anxiety and the future of economic growth: Is this time different? *Journal of Economic Perspectives*, 29(3), 31-50. doi:10.1257/ jep.29.3.31.
- [13] Perez, C. (2002). Technological revolutions and financial capital: The dynamics of bubbles and golden ages. Cheltenham, UK: Edward Elgar.
- [14] Schwab, K. (2016). *The fourth industrial revolution*. New York: Crown Business.
- [15] Vivarelli, M. (2007). Innovation and employment: A survey (IZA Discussion Papers 2621). Retrieved from http://anon-ftp. iza.org/dp2621.pdf.