

## Chapter 18

# Role of Venture Capitalists, Industries and Start– Up Companies in Commercialization of Genomics Science

### ABSTRACT

*The chapter defined venture capital and carefully explained the functions of such enterprise which play monumental role in the technological development of any nation. The intent of many bona-fide VC is to meticulously select worth-while ideas which have the potential for generating income stream to investors and creating needed services and economic opportunities for society. Prototypes of Venture capitalists were presented in the major urban communities across United States. With the ongoing genomic revolution, Venture Capitalists have a significant role to play in investing in several, budding start-up companies. We also discussed the glowing initiatives, demonstrated by leaders and entrepreneurs from China. BGI has become the best institute for other developing nations to emulate. The projected, potential return on investment in genomics has been predicted to be over 100billion US dollar.*

### ROLE OF VENTURE CAPITALISTS, INDUSTRIES, AND START-UP COMPANIES IN COMMERCIALIZATION OF GENOMICS SCIENCE

Key economic characteristics of most industrially developed nations include the existence of Venture Capitalists as one of the economic engines of technological growth and development. Professionally, Venture capitalists assess and ingeniously invest their financial resources in well-thought budding ideas and relevant commercial or scientific projects. From economic and professional perspectives:

Venture capital is financial capital invested into high-potential companies. The role of venture capital is to support the entrepreneurial talent that takes basic science and breakthrough ideas to market by building companies. This risk capital ultimately supports some of the most innovative and promis-

DOI: 10.4018/978-1-4666-8559-8.ch018

ing companies—those that have gone on to change existing industries or create new ones altogether (Thompson Reuters, 2011). Venture capital is a distinct asset class. Venture capital firms, which are professional, institutional capital managers, make investments by purchasing equity in a company. The stock acquired is an illiquid investment that requires the growth of the company for the investors to ultimately reap any potential return. It is this inability of venture capitalists to rapidly enter and exit investments, or “flip” them that aligns their goals with those of the entrepreneurs. Venture capital is intrinsically a long-term investment (Thompson Reuters, 2011).

Venture capitalists critically examine the ideas and the workforce in a budding establishment before creating the financial platform for discussion and potential support for any start-up enterprise. The investors in these funds, called limited partners, are often pension funds, foundations, corporations, endowments, and wealthy individuals, among others. Investment in many ideas and new companies involves risks which the VC must ingeniously assess whether their financial support is worthwhile and meaningful. Given the low liquidity associated with their investment into venture capital funds, limited partners expect large returns—better than those in the stock market—from the funds in which they invest. The funds represent a commitment of capital with a fixed life, typically 10 years. The length of time to expect any return on investment may be upward of five to ten years. It is critically expedient that the amount of financial resources committed to an investment must be dispensable income. The general partner, a group of partners with fiduciary responsibility for the firm with the legal form of a partnership, manages the capital in the fund. The committed capital is called by the general partner from the limited partners to make a portfolio of investments. Ultimately, when investments mature and become liquid, the profits are shared, with the majority going back to the limited partners and the rest shared by the general partner (Thompson, Reuters, 2011).

There are financial risks involved in blind investment, however, without taking these risks the massive development and the technological growth replete in the advanced nations would have stagnated.

The ingenuity of VC and other investors, their dedication and their professional expertise have increased employment opportunities and commercialization of innovation scientific projects, such as genomics which has facilitated the success story regarding the anticipated “returns on investment” in United States and many other industrialized nations. The Battelle’s reported economic returns on investment have been widely publicized as the success story of investment in genomics.

The financial benefit of the project to decode the human genome continues to grow, according to a controversial report released today by the Battelle Memorial Institute. A decade after the project ended, the benefit now hovers near US\$1 trillion. The Human Genome Project, an international effort led by the United States that ran from 1988 to 2003, has delivered \$178 to the US economy for every public dollar spent on the original sequencing, the report says. That is 26% greater than the \$141 return-per-dollar that Battelle, a research contractor based in Columbus, Ohio, had calculated in 2011, in its first attempt to estimate the scientific effort’s financial reach. “The economic impacts generated by the sequencing of the human genome are large, widespread and continue to grow,” says Martin Grueber, the primary author of the report and a research leader in Battelle’s technology partnership practice.

Francis Collins, director of the US National Institutes of Health in Bethesda, Maryland, the organization that spearheaded the genome project, used the report to argue against reductions in federal research spending. “Now is not the time to cut back on biomedical research, when the evidence proves this is such a profoundly important investment in America’s future,” he says.

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