

Innovative Methods of Funding Pharmaceutical Research

The current business model for the financing of pharmaceutical innovations is fundamentally flawed. Factors that dampen the likelihood of the success of a drug, from its developmental stages to product marketing, are primarily related to the required levels of financial investment, ranging widely from \$150 million to over \$6 billion. However, due to strict regulatory requirements of clinical trials, the probability of drug approval is as low as one in five thousand. The substantial investment required to fund drug development is so risky that it has deterred venture capitalists and other investors alike. As a result, there is a cost to society in that multinational biopharma corporations are not capable of supporting the development of novel and potentially life-saving drugs.

If it is to be sustainable in the long term, the current business model for drug and pharmaceutical research must be reinvented. Jose Fernandez, Robert M. Stein, and Andrew Lo of the Massachusetts Institute of Technology have proposed an innovative solution – termed the megafund special purpose vehicle – that both provides sufficient capital to fund drug development while simultaneously reducing the risks traditionally associated with these investments. Based on extensive research, following the Plan-Do-Check-Act principle in the management of innovation, Fernandez, Stein and Lo have reached the conclusion that it is 99% likely that investors will be repaid and that an annual rate of return of 11.4% is achievable.

While from an academic standpoint, Fernandez, Stein, and Lo's proposal is statistically significant, whether or not it will be successfully implemented requires a thorough analysis under a management of innovation lens. After evaluating the megafund model, as it related to designing and developing lean enterprise through business transformation, cultural transformation, lean product development and knowledge management, process, project, and program innovation through integrated project teams, continuous business analysis, and maintaining an innovative culture, it has been determined that the megafund is currently positioned in a manner that could be successfully incorporated into the current industry.

Undoubtedly, challenges may arise that are attributed to the complexity of the fund, such as fund administration, the requirement for governmental cooperation and the cultural shift required to accept and support this innovative business model. Nevertheless, the concepts of innovation management continue to remain highly applicable and stand to greatly aid the megafund in resolving such issues. It is therefore recommended that the megafund special purpose vehicle follow its current course, integrating innovation management with its overall structure, to ensure a high level of operations and a successful launch.