Universities have to be able to demonstrate the dynamic impact of their research’s contributions to economic, social and national progress and well-being.

University research is a powerful stimulus for economic development leading to measurable improvements both in GDP and employment. University research has the potential to produce breakthrough advances that can fundamentally alter our economic growth and quality of life. Frank Van de Wege, for example, in his book, "The Creation of the Future", has illustrated how how research can transform economies and societies. And although not all research leads to such world-changing results, it does produce a steady stream of new ideas and technologies. These, in turn, lead to innovation and continuous improvements in productivity and quality of life.

University research also has an economic impact by equipping students with the ability to generate new ideas. Companies will benefit by hiring graduates with knowledge and research skills. University graduates help firms become more efficient and productive, and help them to introduce new products and processes.

The significant measures of the impact of University research are the impact of the personal research process and writing skills of its researchers.

The impact measures of research embrace the evidence of innovations, patents, venture, licensing, high-level consulting and commercial research projects.

A fresh perspective to broaden the impact of university research will consider the results of research and research outputs that are indisputable evidence of broad business, community, societal and national impact:

(a) Venturing
Refers to the creation of new commercial, as well as not for profit, ventures by university professors, and sometimes together with their students. These ventures usually emerge from an opportunity arising out of a professor’s, or some professors’, accumulated professional and research experience rather than from one particular discovery or technology package. The emergence of the venture need not be, and often is not, influenced by the university technology transfer agencies.

(b) Consulting
High-level consultancy usually have significant impact on policy formulation in both the private and public sectors. The results of consulting could also lead to job creation, especially when it is associated with the commercialization of innovations.

(c) Contract Research
Contract research and collaborative projects are a significant evidence of research excellence. They also promote direct communication between researchers and in universities and researchers in government and industry sectors. The extent of knowledge exchange (both ways) is sensitive dependent upon the nature of the relationship. Longer-term relationships and ones of a program rather than short project character have greater impact because they allow for development of means of translation between the distinct milieus. Thus, long-term activities including industrial research chairs and research consortia are usually the most productive and have the best impact.

(d) Spin-off and Technology Transfer
These refer to the formation of a new enterprise, or licensing to an established firm, based on specific outputs of a research program such as a patentable technology or a focused technology package. Some studies suggest that this is a factor comparable to the economic impact of consulting and of contract or collaborative research.

(e) Policy Research and Analysis
A major impact of research done in universities is felt in policy analysis and formation in both public and private organizations. Professors should participate in external policy formation. Policy advice usually has frequent innovative outcomes.

The future is yet to be determined. As we broaden our curriculum, and adopt fresh mental perspectives, in order to broaden our impact on businesses, community and society, we will in fact be embarking on a journey of future creation that is within our grasp.

Our milestone indicators are the following "steps":

(1) Scholarship: The creation and application of knowledge, with an emphasis on scholarly inquiry, research, experimentation, investigation and creative production.

(2) Entrepreneurship: The creation of employment opportunities, including discoveries, innovations and the creation of new business ventures.

(3) Citizenship: The ability to apply knowledge and skills for responsible community life and action. Both faculty and students must commit to active public engagement and ethical purpose.

(4) Stewardship: The responsibility of the university to carry out its unique role in society, which is to promote intellectual inquiry. Faculty members of the university community are stewards of knowledge and entrusted to instill in their students an appreciation for the responsibilities that accompany education.

(5) Leadership: Motivating faculty and students to take actions that would not otherwise have been taken. Leadership is measured by the extent to which an individual or groups of individuals can influence and energize the ideas, actions and capabilities of others toward the betterment of society, and the creation of a better future society.

(6) Partnership: Mobilising faculty and students to work collaboratively to address complex issues and problems, both within the university and beyond the boundaries of the university campus. A university cannot expect to be able to provide solutions by working in isolation. It can only do so by interacting with others. By working in partnerships, faculty members will gain an understanding and appreciation of what can be accomplished together with businesses, industry and the community that could not have been accomplished alone.

In closing this essay, it is fitting to recall an observation by Senior Minister Lee Kuan Yew some 37 years ago when he addresses a Youth Leadership Meeting: "It is amazing the number of highly intelligent persons in the world who make no contribution at all to the well-being of their fellow-men". Impact is indeed the only justification of scholarship and learning.

“Wealth flows directly from innovation, not optimization; that is, wealth is not gained from perfecting the known, but by imperfectly seizing the unknown.”

Kevin Kelly

“Knowledge is not enough; we must apply. Willing is not enough; we must do.”

Goethe