

Bahagian Penyelidikan Parlimen Malaysia

“INNOVATION AS A KEY FOR GROWTH”

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Synopsis

There is an old English proverb which says that *Necessity is the mother of invention*. Research have not been able to conclude who exactly coined the saying (although it has sometimes been ascribed to one Richard Franck of his book entitled *Northern Memoirs* (1658)), but the fact is, the saying has been around for at least the last five centuries. It has been known to be used in England way before the Industrial Revolution in the 18th century but has been used more often in its Latin form rather than English *i.e.* “*Mater artium necessitas*”. This article, however, wishes to explore succinctly the question of how important innovation is, as opposed to invention, as a contributor to the growth of our economy today.

The difference between invention and innovation

What is the difference between *invention* and *innovation*? In the strictest sense, *invention* can be defined as the creation of a product or introduction of a process for the **first time**. *Innovation*, on the other hand, occurs if someone improves on or makes a significant contribution to an existing product, process or service. In other words, innovation improves on an existing invention be it product, process or service.

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Looking at the definition, it can be logically put that there are more instances of innovation than invention.

Arguably, wheel is considered as one of the greatest inventions in the history of mankind and has always been used as a comparative symbol whenever a new invention is discovered. Smithsonian Institution (established in 1846) regarded wheel as 100% *homo sapien* innovation as opposed to other innovations which were inspired by the natural world.

Smithsonian Institution points out that no wheels actually exist in nature. According to their studies, evidence indicates that the first known wheels were created to serve as potters wheels around 3,500 BC in Mesopotamia before someone figured out to use them for chariots 300 years later. It revolutionised the transport industry. The rest, as they say, is history.

21st Century Innovation Centric

Fast forward to the 21st century, innovation is regarded as one of the keys, if not the main key, for growth in this century. Economic studies at macroeconomic and microeconomic levels have published thousands of papers which put forward the case of innovation as a key for growth.

Apple Inc is an excellent example of a poster boy of innovation. Steven Paul Jobs range of Apple products has captured the followings of millions globally. Many of Apple products loyalists would be willing to camp outside Apple stores just to be the first to get the latest craze of their products.

However, one should note that Apple (with its iPods) is not credited with the first portable music device as it is Sony which popularized the concept of music anywhere, anytime in the 70s with its Walkman. Apple also is not the one who introduced the online music sharing platform because Kazaa, Napster and Grokster already have their online music sharing platforms way ahead before the establishment of iTunes.

Yet Apple has managed to capture the hearts of many with their innovative products and Apple competitors are trying to play catching up games with Apple to offer alternative products and services to the markets. So, what are the defining key factors that embalm innovation?

George M. Korres and Stylianos Drakopoulos (2009), in their paper entitled ***Economics of Innovation: A Review in Theory and Models***, propose a list of variables for the measurement of scientific and technological activities that analyse the economics of innovation in countries today. These are (among others):-

- Research and Development Expenditure;
- Technology Balance of Payments;
- Patents;
- Scientific and Technical Personnel;
- High Technology;
- Bibliometrics;
- Globalisation (penetration of global markets);
- Education Statistics and Classifications;
- Training Statistics

It is not the intention of this article to delve into the technical factors of the subject but suffice to say that developing the culture of innovation in the 21st century requires many aspects to be considered as suggested above. The above list is by no means exhaustive.

At the microeconomic level, PA Consulting Group in its report titled ***Innovation As Unusual*** (2016) on the aspect of innovation as key for organizational growth states that:

“Innovation should not be the exclusive concern of one member of the organisation. Yes, it should be led by the general direction of the organisations, but it must be a culture that extends to other elements.”

In other words, innovation has been proposed to be developed as a culture of organizations and regarded as a key for growth for business in this millennium.

Malaysian Government: Strategy for Innovation as A Key for Growth

When Prime Minister Datuk Sri Najib Tun Abdul Razak announced that innovation as central for the economic development as we go forward, he is actually re-emphasizing the long-term strategy to use innovation as a key for growth.

The Malaysian Governments has announced many digital initiatives over the past several years to further propel Malaysia's strategic thrust to a knowledge-led economy from our traditional resource-driven economy of the 70s and 80s. At the forefront of this strategy is innovation. The questions that beg to be answered are - how successful is Malaysia currently in pursuing this agenda of innovation? Are we on the right track? Are the various programs and institutions established by the government effective in encouraging and nurturing the culture of innovation in our schools and societies?

The Economic Planning Unit (EPU) of the Prime Minister's Department states that The Eleventh Malaysia Plan (Eleventh Plan), 2016-2020 emphasises on driving ICT in the knowledge economy through innovation and productivity to enhance competitiveness and wealth creation. It further states:-

“The growth of the ICT industry will, in turn, drive the demand for robust digital infrastructure, fundamental to Malaysia’s competitiveness. In addition, accessibility and affordability are equally critical in uplifting the economy and narrowing the socio-economic gap through the provision of digital opportunities to the have-nots. Central to the knowledge economy is a highly skilled and capable workforce to drive innovation, creativity and productivity. It is important to equip the workforce with specialised skills to facilitate growth in the various sectors, including R&D of ICT products and services. This will ensure the nation not only benefits from but also contributes to global ICT advancements.”

(Strategy Paper 15: Driving ICT in the Knowledge Economy)

Highly skilled and capable workforce is central to innovation, creativity and productivity. This in turn is inextricably linked to the education system of the country and its comprehensive training programs, especially for the youths and young generations. This important aspect deserves a separate and thorough analysis.

Global Innovation Index (GII) Report 2015

Global Innovation Index (GII) Report 2015 places Malaysia at the 32nd place out of 141 countries. The annual index produced by Cornell University, INSEAD and World Intellectual Property Organization (WIPO), an agency of United Nations, use the ratio of output innovation and input innovation to rank countries in the world with regards to innovative competitiveness. Switzerland, Sweden, Finland, USA, Singapore, Denmark and Hong Kong are top countries of innovation in 2014 in that order. Malaysia was ranked 33rd out of 143 countries in the previous year.

TABLE A: RANK OF TOP SEVEN COUNTRIES – GLOBAL INNOVATION INDEX REPORT 2015

| Country / Economy | Income | 2014 | | 2013 | | 2012 | | 2011 | |
|-------------------|--------|------|---------------|------|---------------|------|---------------|------|--------------|
| | | Rank | Score (0-100) | Rank | Score (0-100) | Rank | Score (0-100) | Rank | Score (0-10) |
| Switzerland | HI | 1 | 64.78 | 1 | 66.59 | 1 | 68.20 | 1 | 63.82 |
| Sweden | HI | 3 | 62.29 | 2 | 61.36 | 2 | 64.80 | 2 | 62.12 |
| Finland | HI | 4 | 60.67 | 6 | 59.51 | 4 | 61.80 | 5 | 57.50 |
| USA | HI | 6 | 60.09 | 5 | 60.31 | 10 | 57.70 | 7 | 56.57 |
| Singapore | HI | 7 | 59.24 | 8 | 59.41 | 3 | 63.50 | 3 | 59.64 |
| Denmark | HI | 8 | 57.52 | 9 | 58.34 | 7 | 59.90 | 6 | 56.96 |
| Hong Kong (SAR) | HI | 10 | 56.82 | 7 | 59.43 | 8 | 58.70 | 4 | 58.80 |

Source: Global Innovation Index Report 2015

Current Challenges for Malaysia

There is somewhat a growth dilemma in recent years for Malaysia because Malaysia has been perceived to be caught in the middle-income trap+i.e. a position where it is between low-wage economies and highly productive countries which are normally associated with their innovative economies.

As a result, the Government proposed a **New Economic Model (NEM)** in 2010 and this strategy for knowledge-based and innovation-driven economy has been the focus in the 10th (2011 . 2015) and 11th Malaysia Plan (2016 . 2020).

As with most developed economies, the services sector has emerged as a dominant sector for the Malaysian economy. According to the latest statistics published in the Economic Report 2015/2016 by the Ministry of Finance, the services sector contributes 53.8% to the GDP in 2015 compared to manufacturing sector (22.9%), agricultural sector (8.9%), mining sector (8.8%) and construction sector (4.4%). As Malaysia strives to become a high-income nation in the future, comprehensive knowledge of the critical factors for growth becomes a prerequisite for future planning of the economy.

As the services sector is the dominant contributor to the economy, understanding the need for innovation in services sector become more significant for the growth of the economy. Productivity has always been quoted as a yardstick to increase the level of wages for the workers. Slow productivity growth suggests deficiencies in both human resource and capital efficiencies. There is clearly a need for an in-depth study to increase the level of innovation in the services sector.

After all, there are strong linkages between services and manufacturing sectors. Both sectors are closely integrated in a modern economy such that the competitiveness of manufacturing is crucially dependent on the productivity and efficiency of services. Knowledge-intensive services such as telecommunications, software, and engineering serve as catalysts to innovation in almost all sectors of the economy.

Services sector also include the government services delivery such as the public education and public health subsectors in particular, and the whole civil service delivery in general. And in the modern and open economy era that Malaysia is in, innovation in these areas of services must be in tandem with the development and growth of the private sector. Promoting innovation aggressively in the private sector alone would create an imbalance as the country surge forward to become a high-income nation.

Conclusion

As Malaysia strives to be more innovative and continues to be an example to be emulated by many less developed countries (LDCs) around the world, Malaysia too must be willing to learn and practise the discipline and culture of more advanced countries in striving to make innovation as a key for growth. Perhaps the necessity to be competitive and the need to survive in an increasingly competitive global markets would propel Malaysians, be it businesses or individuals, to be more innovative in our ways of work or products that we produce. When successful, that would be fitting for a new proverb, especially in the Malaysian context.