



PRODUCTION DEVELOPMENT- CAPABILITY MANAGEMENT

OVERVIEW

Michael Porter & Mark Kramer (Creating Shared Value: How to Reinvent Capitalism - and unleash a wave of innovation and growth, 2011) discuss how shared value could reshape capitalism and its relationship to society and to bring them back together. There are three areas to consider: (1) reviewing the benefits consumers receive from the product and its marketing; (2) examining the definition of productivity in the value chain of the business, and (3) working together as a team towards local development.



The company PTT Exploration and Production Plc (PTTEP) has supported KVIS since 2013 with an aim to systematically develop science and technology and for Thailand to emerge as a leading country in these industries.

PTTEP: PRODUCTION DEVELOPMENT- CAPABILITY MANAGEMENT

❖ KVIS & VISTEC

The development of the country has led to economic progress, and it is the need for scientific and technological knowledge that is an essential basis for this drive. Even though Thailand has many scientists, the amount of research and scientific innovation is minimal compared to leading countries such as Korea and Japan. Most of the top schools and universities in Thailand are not focusing on education regarding excellence in science, technology, and research.

PTTEP recognizes the importance of developing a science education as well as the importance of its systematic and continuous research. It is the foundation of the country's development and advancement, and it is in line with the implementation of social education projects which enhance community development.

PTTEP has joined the PTT Group to establish higher education institutions and schools that focus on science and technology in 2013, with the grace of HRH Princess Maha Chakri Sirindhorn.

High schools located in Wang Chan District, Rayong, which are not far from the major industrial areas of Thailand, can be used for research and technology development to meet the needs of the industry.

KVIS & VISTEC has been established since 2013 with a total budget of 1,500 million Baht and is a joint project with PTT Group (PPT, GC, PTTEP, TOP, IRPC, GPSC). It aims to establish the Foundation for Science and Technology (RAIST) and the Rayong School of Science (RASA) for higher education institutions and schools that focus on science.

KVIS aims to produce Thai students with excellence in science and ready for higher education studies. The school is open to high school education. Science selected students from more than 4,617 over countries. As a result, there are only 72 students selected (based on the application for the Grade 4 examination in the academic year 2018, with two rounds). The course will focus on the theory and practice. They have opportunities in admission over 78 institutions both in the country and overseas in fields such as Nuclear Physics, Mechanical Engineering, Medical Sciences, and Aerospace / Satellite Engineering Science.

Meanwhile, VISTEC aims to produce researchers and to develop technology that supports Exploration & Production business to reduce the negative impact on the environment. The Frontier Research Center (FRC) is a research and technology support facility, it also helps to reduce the cost of employment and produces two direct research projects for PTTEP which employ VISTEC to proceed as follows;

1.) Research and development of technologies for the conversion of carbon dioxide into valuable substances.

This project is a research and development of technology aimed at designing processes to convert carbon dioxide into a substrate in various industries such as plastics and garments. This will increase the value of carbon dioxide and will reduce greenhouse gas emissions. The project aims to develop commercial production processes with lower production costs compared to other technologies. The current research and development status is still in the laboratory phase.

2.) Research and development of natural gas replacement technology for higher value substances.

It is a research and development project for technologies that convert natural gas into a higher value added substance. The goal is to develop a technology that can scale production to suit the company's natural gas capacity. At present, the status of research is still in the laboratory phase. Despite acknowledgment in scientific and technological research in the country, the program has contributed specific knowledge for 60 students, both Master degree and Doctorate Degree.

SHARED VALUE INITIATIVE

❖ Social results

The social impact of this initiative essentially supports activities which enhance knowledge and development. It is not intended to offer concrete results such as donations to charity but results in the form of skill and experience for KVIS and VISTEC students and graduates. It is a change in the traditional nature of social support like philanthropic. Part of its aim is social activities which result in productivity and the success and personal advancement of the participants (the grantees). The mastery gained by working in the exploration and production of petroleum is vital for the development of this industry as a significant economic branch of Thailand.

❖ Business results

From a business perspective, PTTEP is investing in student research and is a benefactor of the VISTEC and KVIS teaching and learning. By working together with the VISTEC Institute, a leading international institution, PTTEP is able to save up to 50% of the total cost of outsourcing with the equivalent result rather than hiring experts and consultants from Thailand or abroad, they use this budget to finance student research and new methods within VISTEC and KVIS. Thus, in addition to the social benefits this offers to the participants, it improves the financial efficiency and productivity of PTTEP.

COMPARISON IN RESEARCHING EXPENSES: VISTEC and Overseas Institution

Project	Phase	Project Duration (year)	Service cost (MM THB) VISTEC	Service cos (MM THB) International University
Research and development of technologies for the conversion of carbon dioxide into valuable substances	Lab-scale	2	2.472	4.560
Research and development of natural gas replacement technology for higher value substances.	Lab-scale	1	1.236	2.280