JTECS-TPA-TNI Model

-Introduction of successful case of technical cooperation in Japan-

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Outline

- Introduction of JTECS, TPA, & TNI
- Background (History)
- JTECS-TPA-TNI Model
- Activities
- Networking Mechanism
- Keys to Success for JTECS-TPA-TNI Model
- Prospects for the Future
Introduction of JTECS, TPA, TNI

• JTECS

  Objective: To contribute to industrial Development of Thailand and the neighboring countries through supporting activities of TPA and TNI

  Established: July 7th, 1972

  Activities:

  ① Support of Technology Promotion Association (TPA)
  ② Support of Thai-Nichi Institute of Technology (TNI)
TPA (Technology Promotion Association)

Objective:

1. Human Resource Development of Thai Industry
2. Technological Transfer from Japan
3. To Promote Thailand-Japan Relationship

Established: Jan. 24th, 1973

Activities: Training and Seminar

- Japanese Language School
- Publishing of Books
- Instruments Calibration
- Consulting Service
1. Objective: To produce highly qualified graduate in the field of industrial technology and business management.

2. Established: June, 2007

3. Faculty:
   - Engineering (Automotive Eng, Production Eng, etc)
   - IT, Industrial Mgt., Business Administration, etc.

4. Number of Students (as of 2014): 5,059
Background (History)

• Rise of severe anti Japanese movement in Thailand
  ↓
  • Japanese Economic Cooperation had to be renewed from promoting export to adapt to the needs of Thai Recipients managed by a private sector
    ↓
    • METI entrusted Goichi Hozumi with this mission
H.E. Sommai Hoontrakool
Chairman of Founder Committee of TPA
Finance Minister
One of Thai’s best-known economists

Goichi Hozumi
1st President, JTECS
Asia Students Cultural Association (ASCA)
The Association for Overseas Technical Scholarship (AOTS)
Through meeting with many ex-students, Hozumi found:

1. Thai people saw Japanese economic cooperation as designed to benefit Japan, not Thai industry.
2. Ex-students had great eagerness to contribute to Thai development.

Hozumi proposed METI:

• To make TPA’s counterpart in Japan to create and support Thai organizations JTECS.
• To establish an organization which contribute to develop Thai industry by Thai people themselves TPA.
JTECS was inaugurated by Hozumi with the renewed principle Equal-Partnership, Respect of Thai Autonomy

TPA was established by many young returnees from Japanese Univ. H.E. Sommai volunteered as the Chairman of Founder Committee to TPA

TPA kept a neutral (not pro-Japanese) attitude
Japan’s Commitments on supporting TPA

1. TPA has the independence in operating the activities useful to Thai Society.
2. Japan side will financially support in constructing TPA building in Thailand.
3. Japan side will support in establishing the technical college in the future.
4. JTECS is the only one contact point of coordination between TPA and Japan side.
5. In order to independently operate activities by TPA, Japan will assist TPA only with financial supports or funds.
JTECS-TPA-TNI Model

Assistance Funds from the Japanese Government (METI)

Funds from the private sector in Japan (JTECS members)

JTECS

Facilitator or Coordinator

TPA

TNI

Provider

Beneficiaries
TPA Achievements: Development Stages

Stage 1  Technology Transfer (1973-1981)
Stage 2  Technology Promoter (1982-1997)
Stage 3  Technology Disseminator (1998-2006)
Stage 4  Technology Educator (2007~)

As a result, TPA is currently providing main activities to Thai industries such as Technology Training, Culture & Language Training, Publishing & Technical services.
Stage 1 Technology Transfer (1973-1981)

Primary Introduction of Japanese technology

- Started with a school of language and culture
  → Japanese language course, Thai language course
- Seminar for introduction of Japanese technology by inviting Japanese experts with TPA members acting as translators
- Publication of textbooks in Thai language
TPA Sukhumvit Building 1975
From 1973 to Present
Many Texts and Journals were published
Stage 2: Technology Promoter (1982-1997)

Education or training of Thai experts, trainers and consultants

- Transfer of Japanese technology by Thai people themselves

1. Dissemination of QC activities (TQM, QC circle etc), Kaizen, TPM etc
2. Starting Industrial & Laboratory Calibration Center
3. TPA Robot Contest Thailand Championship
Industrial & laboratory Instrument Calibration Center
On the Roles of Technology Promoter

Public Training

Special Course by foreign experts

Study Mission

Award
TPA Robot Contest Thailand Championship

- Starting Diagnosis and Consultancy Services
  train about 200 SME mgt. consultants with fund of Japanese Government
- Expansion of calibration services:
  on-site calibration service etc.
  more than 30% share in Thailand
- Increase of demand of training
  ⇒ conduct of many kinds of training programs
The Opening Ceremony of TPI
by
HRH Princess
Maha Chakri Sirindhorn
27 January 1998

New Institute Building
at Pattanakarn Branch
Industrial & Laboratory instrument Calibration Center at TPI

- the first calibration Center in Thailand
- more than 30% share in Thailand
- conform to TIS17025(ISO/IEC17025) issued by Thai Industrial Standards Institute covering every industry

- many kind of services;
  On-site calibration service, calibration service of whole factory etc.
Shindan Project – Diagnosis and Consultancy Services
TPA Automation Kaizen Award
Thailand Productivity Award

Kaizen Journal
Stage 4: Technology Educator (2007- )

- TNI was established in 2007 to realize the dream of TPA members to produce highly qualified graduates in industrial technology and business mgt.
Thai–Nichi Institute of Technology (TNI)
Thai-Nichi Institute of Technology (TNI)

- Established in 2006 by Technology Promotion Association (Thailand-Japan) or TPA.
- Cooperated by Thai and Japanese, Government org. and private industrial sector.
- Aim to produce highly qualified graduate in industrial technology and business management
- **Adopt Japanese Monozukuri style teaching.**
- Teach Japanese and Enterprise Corporate Culture
- Supported by Thai and Japanese industries in HRD.
- Strong network of Japanese Universities and Institutions.
TNI Monozukuri Teaching

- Basic Science and Engineering (Theory and practice).
- Engineering technology and skill.
- Learn by making products or carrying out projects.
- Project based Learning.
- Use of industrial grade equipments and instruction by industrial professionals
- Industry Internship and Industry linkage
Outline of TNI education structure

Employment after Graduation

Master’s degree program

Corporate Culture

Senior Project

Industry Internship

English

Engineering Technology and Skill

Japanese

Basic Science and Engineering

Language

Project Based Learning
Fundamental Engineering Knowledge
(Theory and Practice)

• Basic Science
  Mathematics, Physics, Chemistry

• Fundamental Engineering
  Mechanics,
  Electrical and Electronics,
  Material,
  Thermodynamic,
  Control system,
  Computer programming,
  Engineering drawing
  Mechanical workshop
Engineering Technology and skill
(Laboratory work and Projects)

• CAD/CAM/CAE
• Mold and Die Technology
• 3-D Modeling technique and CAE
• Precision machining technology
• Machine control system
• Automatic devices and Robotic technology
• Industrial product design
• Measuring Instruments and Product testing
Project based Learning

- Class projects
- Students projects
- Team projects for contest
- Senior Project
- Industry Internship project
- Co-research project with Industry.
Cooperation from Industry

- Assist in Curriculum development
- Donation of scholarships and training equipments.
- Provide instructors to teach at TNI.
- Provide equipments in the factory for students training.
- Industry Internship and training.
- Sponsor of research projects and student projects.
- Employment of TNI graduates.
Cooperative Education
Industry Internship and Training

400 Students intern in 200 cooperative companies every year

4 month internship and 2 month training program

Pre-Internship course work prior to internship and training
Industry Internship Projects

• Application of TPS for improvement of standard work

Before

After

ใช้ธูป Roller ถ้าเพียงเป็น Stopper
dึงออกไปสิ้นลงภายใน Stopper

ทำตัวเก็บดื่นโดยใช้ที่ตั้งขึ้นบน ลดเวลาในการยกขึ้นอีกได้ 1.32 วินาที

Level up Efficiency Washing Tray UC Line
by Kara Kuri and Standardized work

Installing of Kara Kuri Chutter

Area saving

18.36 m² = 367,200 Baht

Stock Lead time reduce 11.2 to 5.4 Hrs
HAMANO-PRODUCTS.CO.,LTD
(株式会社 浜野製作所)
Design of bicycle saddle

Shizuoka Ken
Mold design
PM Shinzo Abe gave advice on TNI Monozukuri
TNI Networks

Japanese companies
In Thailand, JCC, JETRO

Scholarship
Experts
Equipments
Internship

Lecturers
Equipments
Textbooks

TPA
Technology Promotion Association
(Thailand-Japan)

Exchange of students and staffs
Co-researches
Information

Experts
Scholarship
Equipments

Japanese Universities
ABK

Japanese Gov./Org.
METI, MEXT, JICA
JTECS, HIDA

Public/Private
Organizations in Japan

Thai companies
FTI, TCC
Thai Institutions and Organizations

Japanese companies

Thailand
Japan

Experts
Scholarship
Equipments

Internship

Information
Keys to Success of JTECS-TPA-TNI Model

• Keeping basic principles of the founder

• Ideal and action of executive committee and staff
  Voluntary activities

• TPA-TNI widely recognized in the Thai society

• Flexible to change in needs of time

• Technical input from Japan
  through JTECS

• Strong Network Mechanism
Prospects for the Future

1. To provide support to educate highly qualified Thai personnel
   TNI aims to be an educational center of Monozukuri to produce high-valued engineers.
   and strengthen the function of R & D utilizing the network of industry-academic collaboration between Thailand and Japan.
   TPA & TNI should develop industrial design and development program for engineers and entrepreneurs

2. To help Thailand participate in the HRD for the development of industry in neighboring countries
   To transfer the existing hands-on know-how/experiences to engineers and supervisors of countries nearby
   To disseminate TNI Monozukuri Teaching to neighboring countries
Thank you very much