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TRAINING WORKSHOP ON TECHNOLOGY MANAGEMENT

Contract No: 98/209

ADMINISTRATIVE STAFF COLLEGE OF INDIA
Bella Vista
Hyderabad – 500 049
India

UNIDO Project No: TF/GLO96/105

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Synopsis

The objective of the workshop was to provide the managers of SMEs in developing countries with a broad insight overview of the major aspects related to technology management at enterprise level. The workshop consisted of five modules as given in the terms of reference, namely:

1. signals for change
2. technology strategy
3. technology acquisition
4. implementing technology and
5. learning to improve technology management.

In all 33 participants attended the workshop. 24 executives were from SMEs and nine officers were from State Bank of India looking after SMEs from various divisions. After the completion of the workshop UNIDO carried out an evaluation about the effectiveness of the workshop.

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Background

The rapid growth of the developing economies requires that enterprises manage the technology in a systematic manner. It is essential that developing countries define technology policies and strategies such that they are able to manage the innovation process. The weakness in managing the innovation process causes firms in developing countries to lag behind in technology and hence in industrial competitiveness. It is essential that executives of SMEs, especially from that of developing countries are exposed to various aspects of technology management with live and practical examples so that they can become effective technology change agents. With this in view, a five-day training programme was organized at Hyderabad by UNIDO. UNIDO provided the course material for delivering the workshop in an effective manner. UNIDO also provided all the necessary inputs for making the workshop very effective in communicating to the executives from SMEs. SMEs play a major role in Indian economy as it account for 40 percent of the exports.

Objective

The objective of the workshop is to provide the managers of SMEs from Indian companies with a broad overview of major aspects related to technology management so as to help them to improve their technical competence for managing the technological change. This has become essential as most of the economies are attempting to get integrated with the global economy.

Strategy

The basic strategy of technology management is to obtain sustainable competitive advantage through a series of measures such as:

- creating the know how to manage the innovation process
- developing effective linkages such that invention to application processes are managed effectively
- evolving effective networks among innovation centres and industries and
- coordinating of policies for the development of high technology programmes and business promotion.

Main Elements of the Training Workshop

The structure and contents of the workshop was designed and structured based on the UNIDO/ICS training modules on technology management.

The five modules covered are

- signals for change
- technology strategy
- technology acquisition
- implementing technology and
- learning to improve technology management.

The Workshop schedule and list of participants are given in Appendix

Workshop Details

The workshop structure is the one envisaged by the UNIDO for technology management. The structure is given in Fig.1. The workshop details are explained below:

The programme started with opening ceremony by Mr.T.L.Sankar. This was followed by the Inaugural address from Mr.A.A.Solomon, Chief General Manager, State Bank of India. He stressed the need for improving productivity through the use of advance technology and its proper management at the firm level. Dr.Miyake from UNIDO explained the objectives of the Workshop. This was followed by the five modules.

Module I: Signals for change

This module looked at the first stage of the change process and explored the following

- challenges in the new environment
- emerging future threats and opportunities in the new environment
- learning about the environment.

The main objective of the module was to explore current threats and opportunities and to learn about the tools and techniques for scanning and signal processing. The module structure was five-part presentation consisting of

- the innovation imperative
- understanding the change
- the trouble with technology
- building a tool kit for monitoring signals for change.

This was followed by a multimedia presentation on global technology change.

Module II: Technology Strategy

This module dealt with the following issues

- how the firm analyses signals about potential threats and opportunities involving technological change
- how the firm chooses between different technological options
- how the firm plans for the resourcing and implementation of those choices. The module explained the manner in which a firm can develop its technology strategy by addressing issues such as
- strategic technology analysis
- strategic technology options and
- strategic planning.

This module ended with the demonstration of the use of Internet technology, for scanning the technological environment. Executives from SMEs can benefit enormously through the use of Internet technology. Information on best management practices is very easily accessible from the Internet.

Module III: Technology Acquisition

This module examined the different routes through which a firm can acquire the technological knowledge it needs to exploit the strategic options. The module consisted of three sections, namely:

- technology acquisition options
- choosing appropriate options and
- analysis of various acquisition options.

A UNIDO video on “Acquiring technology through licensing” was demonstrated to the workshop participants. This video indicated the major considerations in technology licensing. After that two case

studies from two firms which are innovation driven, were presented. These presentations helped the workshop to balance the concepts and practice, so that participants could relate the concepts and practice of technology management.

Module IV: Implementing Technology

This module explored various factors need to be considered for the successful implementation of technology, namely:

- design of technology implementation projects
- implementation problems
- designing and using project teams
- parallel implementation
- change management and
- project launch.

The module indicated steps needed for moving from planning and negotiating to active process of launching the newly acquired technology. Two case studies were used for supplementing the concepts. Both these firms have been able to meet the competitive challenges. These case studies indicated clearly the steps involved in technology implementation.

Module V: Learning to improve technology management

This module looked at ways in which learning can be captured from the technology management process. This involved two steps namely

- Development of improved technical capability and
- Development of more effective management of the process of technological change. The module explored three main themes namely:

- the overall process of learning and the need to develop a complete learning cycle
- specific tools and techniques to facilitate learning from technology management projects and
- mechanisms for enabling the learning process to take place.

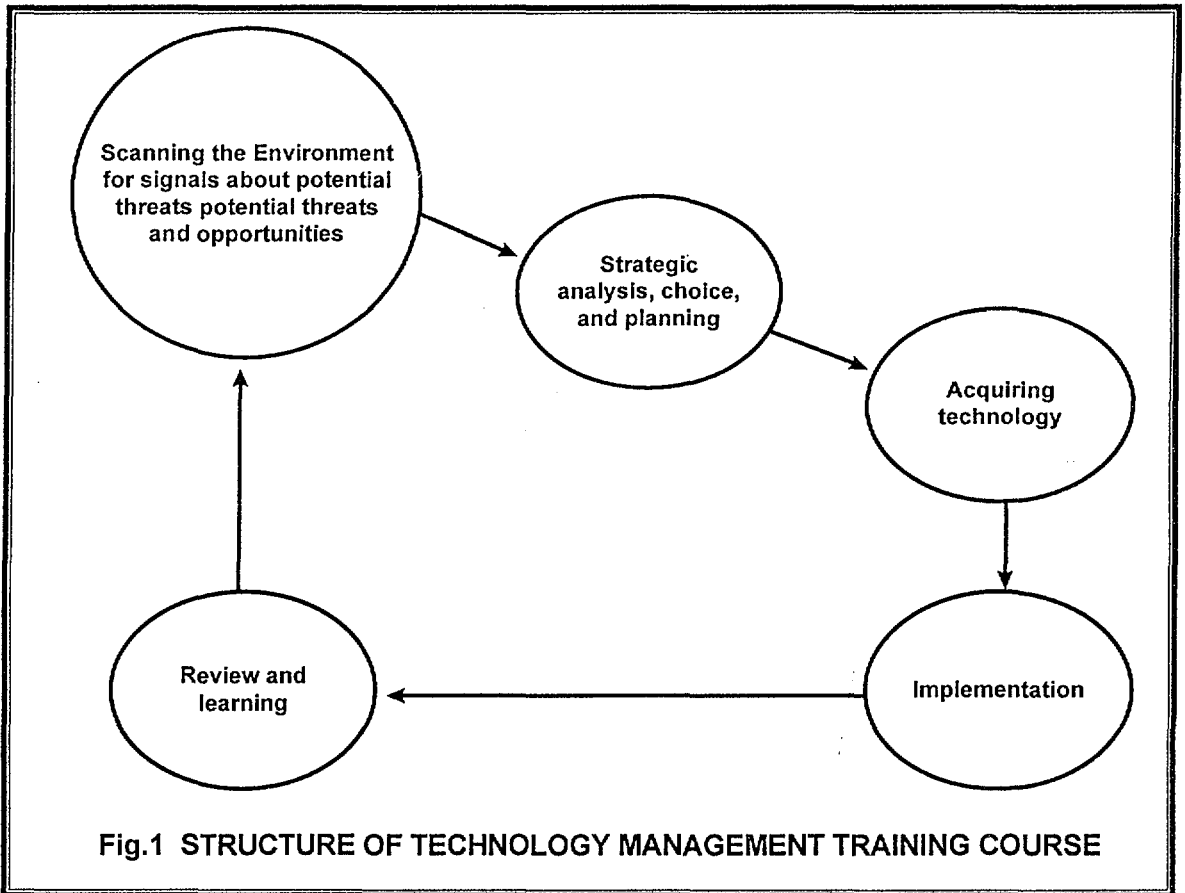
This was followed by a presentation on technology audit. This was followed by a learning review and the evaluation session followed by closing ceremonies. In the closing ceremony Mr.R.Sengupta, Chief General Manager, State Bank of India highlighted the need for upgrading the technical capability, so that the firms can meet the competitive challenges. Dr.Miyake summed up the UNIDO's efforts in strengthening the technical capability in developing countries through a series of integrated programmes.

Conclusions

The workshop participants found that the workshop will facilitate the process of technology change. The case studies helped in relating the concepts and practice. It was suggested that small and Medium Enterprises have to improve their technological capability and more such workshops need to be organized. It was also suggested similar workshops are organized at various locations, and for major industrial clusters. Another recommendation was to evolve workshops, which are industry specific such as

- pharmaceuticals
- automobile components
- light engineering and
- electronics.

Some of the references used the workshop are given in Appendix.



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UNDP/UNIDO/ASCI/SBI
Joint Training Course
on
Technology Management
3-7 August, 1998
Hyderabad, India

Training Course Schedule

Venue : Administrative Staff College of India

Conference Hall No : I

Monday 3rd August 1998

Time	Topic	Speaker
0900-0930	Registration	
0930-1000	Opening Ceremony	Mr. T.L. Sankar Principal, A S C I
	Inaugural Address	Mr. A. A. Solomon CGM, SBI
	Introductory Remarks	Dr. T. Miyake UNIDO, Vienna
1000-1030	Coffee Break	
1030-1130	Signals for Change - I - The Innovation Imperative - Understanding the Change	Dr. B. Bowonder
1130-1230	Signals for Change - II - Internationalisation	Dr. B. Bowonder
1230-1330	Lunch Break	
1330-1530	Signals for Change - III - The Trouble with Technology - Building a Toolkit - Summary	Dr. B. Bowonder
1530-1545	Coffee Break	
1545-1730	Global Technology Scene : A Multimedia Presentation	Dr. B. Bowonder

Tuesday 4th August 1998

TIME	TOPIC	SPEAKER
0900-1015	Technology Strategy - Introduction to Technology Strategy	Dr. B. Bowonder
1015-1030	Coffee Break	
1030-1130	Technology Strategy - Strategic Analysis	Dr.B.Bowonder
1135-1300	Technology Strategy - Choice & Planning	Dr.B.Bowonder
1300-1400	Lunch Break	
1400-1515	Techology Strategy - Business Alliance Strategy	Dr. B. Bowonder
1515-1530	Coffee Break	
1530-1730	Sourcing Information Using Internet	Dr.N.K.Gopalakrishnan

Wednesday 5th August 1998

TIME	TOPIC	SPEAKER
0900-1015	Technology Acquisition & Negotiation - Technology Acquisition Options - Choosing Appropriate Options	Dr. B. Bowonder
1015-1030	Coffee Break	
1030-1215	Technology Acquisition & Transfer - Technology Acquisition Option Details - Summary	Dr. B. Bowonder
1215-1300	UNIDO Video "Acquiring Technology through Licensing"	Dr. T. Miyake
1300-1400	Lunch Break	
1400-1515	Strategies of Praj Industries in a Globalizing Market	Mr. P. Chowdhary C&MD Praj Industries Pune
1515-1530	Coffee Break	
1530-1630	Implementing Technology	Dr. B. Bowonder
1630-1730	The Emergence of Titan as a Market Leader	Mr M. Chakravarti General Manager Titan Industires Ltd Bangalore

Thursday 6th August 1998

TIME	TOPIC	SPEAKER
0900-1015	Implementing Technology At SFL	Dr.B.Bowonder
1015-1030	Coffee Break	
1030-1300	Implementing Technology	Dr. B. Bowonder
1300-1400	Lunch Break	
1400-1515	Implementing Technology - Change Management - Plan to Action - Summary	Dr. B. Bowonder
1515-1530	Coffee Break	
1530-1730	Technology Implementation : - TELCO Experience	Dr. B. Bowonder

Friday 7th August 1998

TIME	TOPIC	SPEAKER
0900-1015	Learning to Improve Technology Management - Introduction - Learning to Improve Technology Management - Mechanism for Learning	Dr. B. Bowonder
1015-1030	Coffee Break	
1030-1130	Learning to Improve Technology Management - Continuous Improvement	Dr. B. Bowonder
1130-1245	Technology Management Audit	Dr. B. Bowonder
1300-1400	Lunch Break	
1400-1500	Learning Review	Dr.T.Miyake Mr.S.S.Sarma Dr.B.Bowonder
1500-1515	Coffee Break	
1515-1600	Closing Ceremonies	Mr.R.Sengupta CGM, SBI, CO Dr.T.Miyake UNIDO, Vienna

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2. B. Bowonder, organizational Behaviour of Research Organizations with foens on Internal and user Dynamics: A case study of Dr.Reddy's Lab, Administrative Staff College of India, Hyderabad,1998.
3. B.Bowonder, competitive and Technology Management Strategy: A Case study of TELCO, International Journal Of Technology Management, Vol. 15,No.6/7, PP 646-680,1998.