



PROJECT IMPLEMENTATION PLAN

PIP Issue Date	22 November 2019
PIP Revision 1 Issue Date	17 July 2020
Project Code	18-RP-42-GE-DON-C-04
Title	Research on Case Studies of Manufacturing Transformation Strategies for Industry 4.0
Reference	APO Project Notification 18-RP-42-GE-DON-C dated 18 April 2018
Timing and Duration	May 2020–October 2020 (six months) Coordination Meeting: 29–30 July 2020 (two days) (online meeting)
Venue	APO Secretariat
Number of Overseas Experts	One chief expert and up to eight national experts from the Republic of China, India, Indonesia, Japan, Republic of Korea, Malaysia, Singapore, and Thailand
Closing Date for Nominations of National Experts	28 February 2020 (experts have been selected)

Change History of Program Implementation Plan

Revision	Date of Issue	Clause	Modifications
Revision 1	17 July 2020	Timing and Duration	The timing of the coordination meeting has changed from 15–17 July 2020, New Delhi, India, to 29–30 July 2020, online meeting
		3. Scope and Methodology	Scope under section 3 has been revised as follows. 1) Coordination meeting of experts: A meeting will be held virtually 29–30 July 2020 3) <Newly added> Dissemination of research findings and publication launch: A meeting will be held 7–9 October 2020 in New Delhi, India, to share the findings with relevant stakeholders in governments, manufacturing SMEs, and others of the COE on IT for Industry 4.0.
		6. Financial Arrangements	Financial Arrangements section has been revised in accordance with the arrangements of virtual coordination meeting of experts, and research findings dissemination and publication launch meeting held 7–9 October 2020 in New Delhi, India
		8. Preparatory Work by	Preparatory Work by National Experts in

		National Experts	section 8 has been revised in accordance with the arrangement for a virtual coordination meeting of experts.
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1. Objectives

- a. To identify best practices in developing strategies for sustaining business growth under the impact of Industry 4.0;
- b. To document cases of successful business strategies for manufacturing transformation; and
- c. To draw implications for manufacturers to stay competitive in global value chains in the era of Industry 4.0.

2. Background

The rapid growth of new-generation technologies has transformed production systems. Technological changes are reshaping the ways manufacturing companies strategize for growth with new economic opportunities. In the APO region, where manufacturing remains dominant, the impact of new technologies on businesses is obvious. Manufacturers are transforming to stay competitive in global value chains and overcome challenges like distributed sourcing with increased supplier and partner complexity and greater local and global competition. Protecting domestic markets from international rivals while simultaneously tapping new markets for long-term growth is a key concern. At the same time, greater regulation resulting from standard-based factors like ISO compliance is enforced throughout an increasingly interconnected world. Fragmenting customer demand with changing consumer behavior is another concern of manufacturers.

Manufacturing firms are taking a variety of approaches to transform their businesses and find ways to differentiate themselves. The impact of technological change varies according to company size, sector, and region as well as the awareness of the leadership. There is no single strategy to fit all and no common formula for success. With this background, the Center of Excellence (COE) on IT for Industry 4.0 set up in 2017 under the auspices of the NPC, India, and the APO will conduct research to compile and analyze successful transformation strategies allowing manufacturing firms to remain relevant and sustain growth in the era of rapid technological advances. It will also draw some implications for the manufacturers to stay relevant in the future.

3. Scope and Methodology

Scope

- 1) Coordination meeting of experts: A meeting will be held virtually 29–30 July 2020. The tentative topics of discussion are:
 - a. Preliminary reports on cases of successful business strategies for manufacturing transformation;
 - b. Data availability, sources, collection, and analysis as well as number of cases and sectoral coverage;
 - c. Perspectives on business strategies to be used in the analysis;
 - d. Framework for analyzing the results of business strategies; and
 - e. Consistency and format of the final report.
- 2) Conducting in-country research prior to the coordination meeting: Each national expert will collect and analyze data under the guidance of the chief expert based on the research methodology, framework, and timeline circulated. The experts will be responsible for collecting cases, analyzing them, and writing a preliminary report prior to the coordination meeting.

After the coordination meeting, each national expert will finalize and refine his/her report for review, submission, and acceptance by the chief expert and APO within the agreed timeline.

- 3) Dissemination of research findings and publication launch: A meeting will be held 7–9 October 2020 in New Delhi, India, to share the findings with relevant stakeholders in governments, manufacturing SMEs, and others of the COE on IT for Industry 4.0. The tentative topics for the meeting are:
 - a. Examples of successful business strategies for manufacturing transformation;
 - b. Best practices in developing strategies for sustaining business growth under the impact of Industry 4.0;

- c. How manufacturers can stay competitive in global value chains in the era of Industry 4.0; and
- d. Recommended activities by governments and the COE on IT for Industry 4.0 to support manufacturing SMEs.

Methodology

One chief expert will lead the team of national experts in performing the research.

Chief expert’s tasks:

- 1) Developing the guidelines, formulating the overall framework, and outlining the report structure for the research;
- 2) Providing support and advice to the national experts in conducting the research including case collection and analysis;
- 3) Reviewing the national experts’ preliminary reports and giving feedback prior to and during the coordination meeting of experts;
- 4) Reviewing the final draft of the national experts’ reports to ensure the quality of the work; and
- 5) Preparing the final report and submitting it to the APO Secretariat by the deadline.

National experts’ tasks:

- 1) Collecting data at the national level following the methodology, framework, and timeline circulated by the APO;
- 2) Writing preliminary reports on cases of successful business strategies for manufacturing transformation, with analyses and results based on the data collected;
- 3) Presenting preliminary reports during the coordination meeting;
- 4) Revising the reports following agreement during the coordination meeting and reflecting the comments of the chief expert and APO;
- 5) Submitting the reports in the agreed format to the chief expert and APO by the deadline; and
- 6) Cooperating with the chief expert to ensure the quality and consistency of the final report.

4. Qualifications of National Experts

The national experts are expected to possess the following qualifications:

Present Position	Researchers or policy analysts who have sufficient background in and knowledge of manufacturing transformation strategies and Industry 4.0.
Experience	At least five years of experience in the position described above.
Education	University degree or higher in technology management, engineering, or a related field from a recognized university/institution.
Language	Sufficient English proficiency to communicate with the APO Secretariat and chief expert on matters related to the research and excellent writing skills.
Health	Physically and mentally fit to commit him/herself to a one-year period of research.
Age	Candidates who fit the above profile are typically between 35 and 50 years of age.
Other	A strong commitment to undertaking and completing the research within the time frame is necessary, along with published articles, books, or substantive reports on manufacturing transformation strategies and Industry 4.0.

5. Qualifications of the Chief Expert

The APO will appoint a chief expert for this project to guide the group of national experts in undertaking the research. The APO-appointed chief expert must possess the following:

- a. Extensive knowledge of manufacturing digitization and transformation strategies for Industry 4.0,

with publications in English on those topics;

- b. Excellent English writing and presentation skills, as the final report will be written in English; and
- c. Strong commitment to undertaking and completing the research project within the given time frame and producing the consolidated analyses of all national reports.

6. Financial Arrangements

To be met by the APO

- a. Honoraria for the chief and national experts to be paid upon completion of the final research report.
- b. All assignment costs for the chief and national experts including daily subsistence allowances, miscellaneous expenses, and round-trip international airfare by the most direct route between the international airport nearest to the experts' place of work and New Delhi for attending the research findings dissemination and publication launch meeting.
- c. Local implementation costs for the meeting package including meeting room rental and required equipment. Only invoices provided by the third parties may qualify for reimbursement to be made.

To be met by the host country of the meeting to disseminate the research findings and publication launch (India)

- a. All local implementation costs not covered by the APO; and
- b. Administrative costs of the project incurred by the NPC, including personnel costs and other costs related to preparation and coordination work.

To be met by experts or participating countries

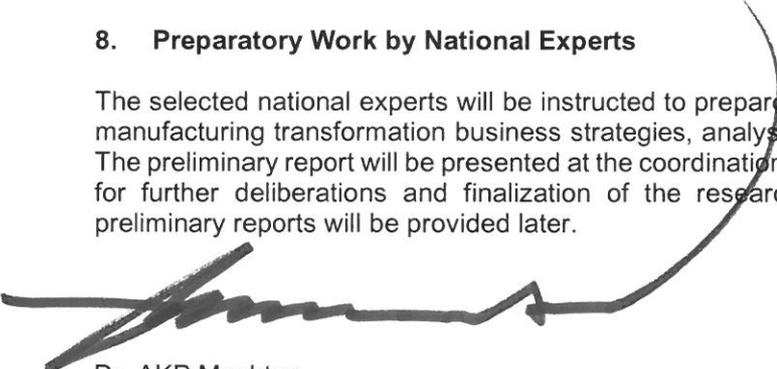
- a. Any expenses incurred by the experts for extra stay at the venue before and/or after the official project period due to early arrival, late departure, or any other reason must be borne by the experts attending the research findings dissemination and publication launch meeting.
- b. All local implementation costs incurred by the national experts when conducting the research and related activities at the national level.
- c. All costs associated with the cancellation of attendance at the research findings dissemination and publication launch meeting by national experts or participating countries after the issuance of the Letters of Assignment.

7. Actions by Member Countries

- a. Member countries included in the research are requested to submit appropriate nominations (preferably more than two for consideration) by 28 February 2020, in line with the provisions in section 4.
- b. Each nomination should be accompanied by the candidate's biodata on the standard APO form in duplicate along with a passport-sized photograph. In addition to the standard APO form, nominees should also prepare a list of publications, research, and/or consulting projects they have undertaken in this field. A nomination lacking any of these documents will not be considered.
- c. The selection of national experts will be based strictly upon their professional qualifications and experience, academic background, and commitment to this research.

8. Preparatory Work by National Experts

The selected national experts will be instructed to prepare a preliminary report on successful cases of manufacturing transformation business strategies, analyses, and results based on the data collected. The preliminary report will be presented at the coordination meeting held virtually and will form the basis for further deliberations and finalization of the research output. The detailed guidelines for the preliminary reports will be provided later.



Dr. AKP Mochtan
Secretary-General