

Advisory Opinion

Transforming the Development of Management Leaders and Management Professionals in the Era of AI Utilization



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Science Council of Japan

**Committee on Management and Business Studies
Subcommittee on the Development of Management
Leaders and Professionals for the Age of AI**

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EXECUTIVE SUMMARY

I Background

While Japan is facing the structural challenge of population decline, rapid technological innovation, including generative AI, is fundamentally transforming the underlying assumptions of society, work, and education. In particular, AI is increasingly reshaping the structure of managerial decision-making. As a result, redefining the competencies required of management leaders and management professionals, and developing educational systems to support them, has become an urgent policy issue.

Against this background, this advisory opinion identifies the challenges and necessary responses to them during the transition period toward 2030 and proposes future directions for the development of management leaders, management professionals, and management education itself. From the perspective of the co-evolution of humans and AI, it also presents an integrated review of three elements across management education: educational content, educational guidelines, and certification systems. This review also applies to higher education, lifelong learning, and national qualification systems.

II Current Status and Issues

In industry, while labor shortages are worsening, expectations are rising for improved productivity through the utilization of AI technologies. Taking into account these changing conditions, new approaches to the development of management leaders are increasingly required. On the other hand, the spread of generative AI is also transforming job allocation and organizational structures. It is therefore urgently necessary to cultivate human resources who can appropriately evaluate and utilize AI-related opportunities and risks across entire business operations.

However, practical management education addressing AI-related risks, governance, and legal and ethical considerations remains insufficiently developed. The same applies to the education of management professionals: although demand for AI utilization continues to expand, practitioners remain cautious about AI adoption in real-world settings, and the development of AI risk-management guidelines has lagged behind.

Accordingly, three major challenges must be addressed: establishing systematic education and training programs to improve AI literacy, clarifying policies for AI utilization in corporations and real-world settings, and promoting the development of management

professionals. In this advisory opinion, AI literacy refers to the overall set of abilities required to understand the fundamental structures and mechanisms of AI, to critically evaluate the reliability and biases of AI outputs, to assess risks from legal and ethical perspectives, and to utilize AI appropriately in line with managerial objectives.

Furthermore, although AI literacy education is progressing in university- and graduate-level management education, the relationships among cognitive competencies (AI understanding and analytical skills), non-cognitive competencies (ethics, judgment, and collaboration), and cross-boundary competencies that integrate such competencies have not yet been sufficiently clarified.

In addition, advanced professional education in fields such as accounting and law requires systematic reform of the entire learning process to adapt it to the AI era, including national examinations, qualification assessments, and Continuing Professional Development (CPD) systems.

III Main Points of the Advisory Opinion

This advisory opinion presents recommendations based on the following three pillars.

(1) Systematizing 'Human Capability + AI' Common Foundational Education

In the management education for the AI era, the following three categories of competencies must be developed in an interrelated and seamless manner: (i) cognitive competencies (AI literacy); (ii) non-cognitive competencies (authenticity, ethical judgment, and empathy); and (iii) integrative and cross-boundary competencies (namely the ability to coordinate multiple domains and stakeholders and to lead initiatives from conception to implementation).

As a common foundation for management education, educational programs should place uniquely human responsibility for judgment and ethics at their core while establishing common foundational courses that address AI-assisted decision-making. Through interdisciplinary learning and practical exercises using real-world data, these programs should aim to develop professionals capable of creating sustainable value in collaboration with AI.

(2) Development and Standardization of Educational Systems

University and graduate-level education should be redesigned with AI literacy as its foundation through curricula that integrate strategy, organization, finance, law, and related fields. Learning outcomes for cognitive, non-cognitive, and integrative competencies should also be clearly defined.

In professional and continuing education, practice-oriented reskilling programs should be standardized, and learning systems should also be established to create a continuous cycle linking university education, in-company training, and professional education. As a common framework to support these efforts, the “Guidelines for Management Education in the AI Era” should be formulated to enable the development of management education that balances standardization and flexibility.

(3) Reform of Certification Systems

In a society where the use of AI is assumed, national qualifications and professional certification systems must shift from knowledge-centered approaches toward systems that appropriately evaluate judgment, ethical responsibility, and practical experience.

By combining staged certification, continuous learning, and experience-based evaluation, the certification systems should be reconstructed to cultivate professionals capable of exercising accountability and public responsibility in AI-assisted decision-making.

Professional fields such as accounting and law require particular attention, as consistent reforms are needed to adapt the entire learning process including pre- and post-examination education, professional training, and Continuing Professional Development (CPD) systems, for the AI era.

The reforms outlined above are mutually reinforcing. Redefining competencies demands new curricula. New curricula require reformed certification systems. Reformed certification systems, in turn, provide the foundation for sustainable professional development.

In an era in which AI is increasingly involved in decision-making, this advisory opinion proposes a reconstruction of management education that places the final responsibility for judgment borne by humans and its ethical foundation at its core. Through collaboration among government, industry, educational institutions, and society, it is essential to promote the development of management leaders and management professionals who will lead the creation of sustainable value through co-evolution with AI.