

Title	産業競争力の国際比較に関する総合指標の研究 ~ 日本の産業競争力を決定づける要因とは ~
Author(s)	石井, 岳
Citation	
Issue Date	2002-03
Type	Thesis or Dissertation
Text version	author
URL	http://hdl.handle.net/10119/343
Rights	
Description	Supervisor: 亀岡 秋男, 知識科学研究科, 修士

Comprehensive Indicators for Evaluating World Industrial Competitiveness

- Critical Factors that Determine
Industrial Competitiveness of Japan -

Gaku Ishii

School of Knowledge Science,
Japan Advanced Institute of Science and Technology
March 2002

Keywords: competitiveness, comprehensive indicators, industrial competitiveness,
productivity, strategy for competitiveness, comparative advantage

The purpose of this study is to show the critical factors that determine industrial competitiveness of Japan and to propose new concepts when evaluating it, by investigating comprehensive indicators for evaluating competitiveness.

Competitiveness is a very ambiguous concept, because it can change its character for the purpose and the object of competition. Especially, nation's competitiveness differs from company's competitiveness.

Krugman(1994) criticized nation's competitiveness as "A Dangerous Obsession" based on a economic theory of comparative advantage. On the other hand, Porter(1990) asserted that the environment, which encourage innovation, and technology produce comparative advantage rather than cheap labor force and abundant resources, whereas he recognized the importance of this theory. Thus, when we discuss competitiveness, it is very important to show clearly what competitiveness is.

Therefore, this study analyzed four comprehensive indicators for evaluating world competitiveness (IMD: WCY, COC: COC-Index, JCER: A research of Potential Competitiveness, WEF: GCR^①), and attempted to clarify the concept and the calculation method of these four indicators. These indicators define the base of competitiveness as productivity (GDP per capita), and unify the factor contributing largely to the improvement in productivity for the comparison of nation's capacity. The nation's capacity is the degree how business conditions of the country encourage corporate activity and innovation.

Additionally, with the other viewpoint, this study analyzed the research that investigated the critical factors determining world industrial competitiveness. The following results were obtained in this analysis.

- * The critical factor of the industrial technologies in comparative advantage differs from the one in comparative disadvantage.
- * The industrial technologies in comparative advantage have already established base technologies and developed R&D process.
- * The industrial technologies in comparative disadvantage don't have the infrastructure enough to develop base technologies.

These results suggest that we should have the strategies in each industrial technology and the critical factor determining the competitiveness of industrial technology is the infrastructure, called "Plat-form", encouraging technological innovation.

From the above two viewpoints, this study obtained the following conclusions to the question what the critical factors of future industrial competitiveness are.

- (1) In order to strengthen industrial competitiveness of Japan, it is important to improve the infrastructure that create and develop technologies. However, under the situation that technological obsolescing accelerates, it becomes more important to continue creating new technology. At that time, the cooperation which connects a different special study field and a specialist and which encourages creativity and diversity is needed.

^① IMD (International Institute of Management Development) : WCY (The World Competitiveness Yearbook)
COC (Council on Competitiveness) : COC-Index (Innovation Index)
JCER (Japan Center for Economic Research)
WEF (World Economic Forum) : GCR (The Global Competitiveness Report)

- (2) The cooperation is realized by "Attractiveness" which attracts people and companies and which does not ask nationality for them. That is, how the environment, which encourages their activities, can be preparing becomes the factor determining competitiveness.

Moreover, this study also got the following conclusions about development of industrial competitiveness indicator in the future.

- (1) Industrial competitiveness should changes its identitiy with the viewpoint how the infrustructure of a product field attempted to strengthen its competitiveness is improved.
- (2) The base of competitiveness is made into the productivity in the infrustructure. And the time when a factor contributes to the improvement in productivity is adjusted; so industrial competitiveness indicator should be developed.

In addition, the object of this research is a framework which evaluating industrial competitiveness. Therefore, empirical study is a future subject.