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# Obstacles to emergence of high/new technology parks, ventures and clusters in Japan

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## Abstract

The feasibility of and obstacles to government policies to promote high/new technology (HNT) parks, ventures and clusters are examined mainly in regard to the value systems in the administration and businesses (AB) world and the science and technology (ST) world. Using the language analysis method developed in the philosophy of science, semantic gaps concerning science and research between the two worlds were analyzed and demonstrated as leading the Japanese ST policies into contradictions. Cultural factors such as value gaps between the two worlds are shown to be responsible for the unsuccessful outcome of the ST policies. It is advised to reverse the current ST policies as a short-range policy and to foster ST potential in local areas by renovating traditional fermentation and other techniques and starting up ST-promoting tourism enterprises as a long-range policy.

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*Keywords:* High technology; Technopark; Venture; Cluster; Fermentation; Local development

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## 1. Introduction

Economic growth caused the concentration of population and industries on major cities such as Tokyo in the 1960s. This led to the central government's planned move of industrial and R&D establishments (including universities) to local cities and rural areas. Local governments initially welcomed the move-in of big industries and universities to activate the local economies. Around 1970, however, residents began

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to blame pollution from industry. In the 1980s, with support from central government, local governments built technoparks for relatively pollution-free industries such as information and other high/new technology (HNT) industries and R&D laboratories (labs) as well as colleges. In the 1990s, a recession caused by financial collapse hit the Japanese economy. Then central government began to promote the startup of ventures, and local governments expected the spontaneous clustering of ventures. Thus far, however, most technoparks fail to attract HNT establishments, only a limited number of HNT ventures were started up, and no cluster is visible.

This situation raises the research question: Why the series of policies of promoting HNT parks, ventures and clusters remain unsuccessful and how to make them work in short as well as long-range views? Think-tanks have conducted some research on this, but they failed to predict the unsuccessful outcomes probably because they depended on the government for the data collection and may have hesitated in presenting frank findings to the government (except for a foreign analyst [1]). This paper will avoid relying on governmental data and choose a conceptual method rather than a data analysis approach.

## **2. Methodology**

As the major factor for the success and failure is cultural, this paper will examine the cultural aspects of innovation such as values and ethos rather than monetary and other material factors. Conceptual methods have been developed in traditional disciplines such as philosophy. In the last century, philosophy developed the language analysis method for the analysis of science. This will be applied to analyzing the concepts of science and research. It also developed the contradiction analysis method for the systematization of mathematics and logic-based synthesis of diverse disciplines. This will be applied to the validity examination of policies.

Among various aspects of Science and Technology (ST) policies, this paper will examine the cultural aspect, specifically the value system, because many analysts have attributed the Japanese success in innovation to her way of management based on her culture and value. The analysis methods of culture or value owe to the philosophy in the late 18th to early 20th centuries, namely, the value philosophy and cultural anthropology by Kant himself and later by Neo-Kantian School and Wiener School. Avoiding metaphysical discussions and leaving general theories [2–7] and definitions [8] to other works, this paper will treat specific cases. Technoparks [9,10], ventures [11–15], clusters [8,16–21], innovative culture [22–25] and R&D [26–28] in regions and their impact on regions [29–31] along with low technology such as food technology [32] and others [33,34] were discussed in globally circulated publications with the focuses on western cases or a few Asian cases in highly developed areas [35,36], while this paper will study cases of Chiba prefecture as a somewhat emerging area. This paper will also discuss the unavailability of ST workforce in different aspects from others [37–39]. As regional economy depends on tourism, this paper will consider the effect of tourism on ST, which is usually neglected except for Bayraktarogu and Kutanis [40]. This paper will specifically discuss the collapse of uni-culture and the emergence of bi-value system with conflicting values and ethic. For this reason, this paper will use the contradiction analysis method in discussing cultural aspects of ST policies.

In examining the feasibility of ST policies, this paper will discuss what obstructs the implementation of the policies. A major obstacle may be the negligence of the split of values about ST. Government has long been accustomed to the uni-culture and hence fails to recognize the value gap between the

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