Service Research and Innovation in Japan

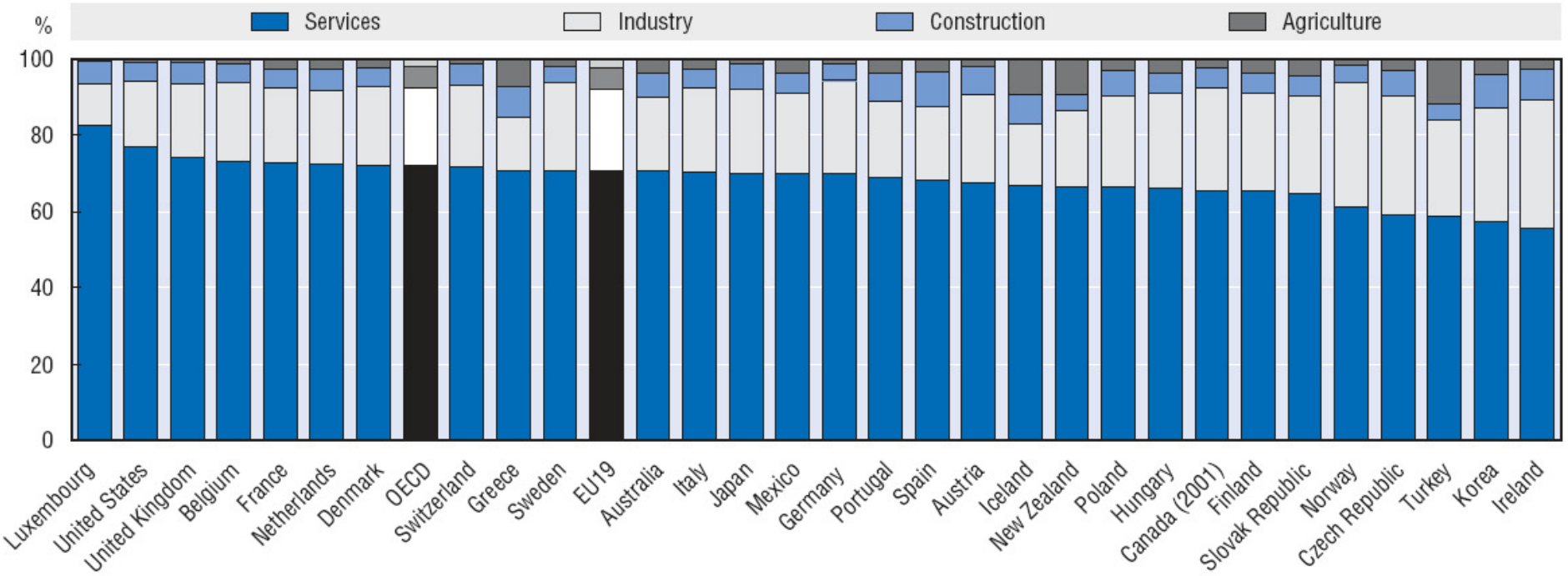
Kazuyoshi Hidaka

Professor of Graduate School of Innovation Management

Tokyo Institute of Technology

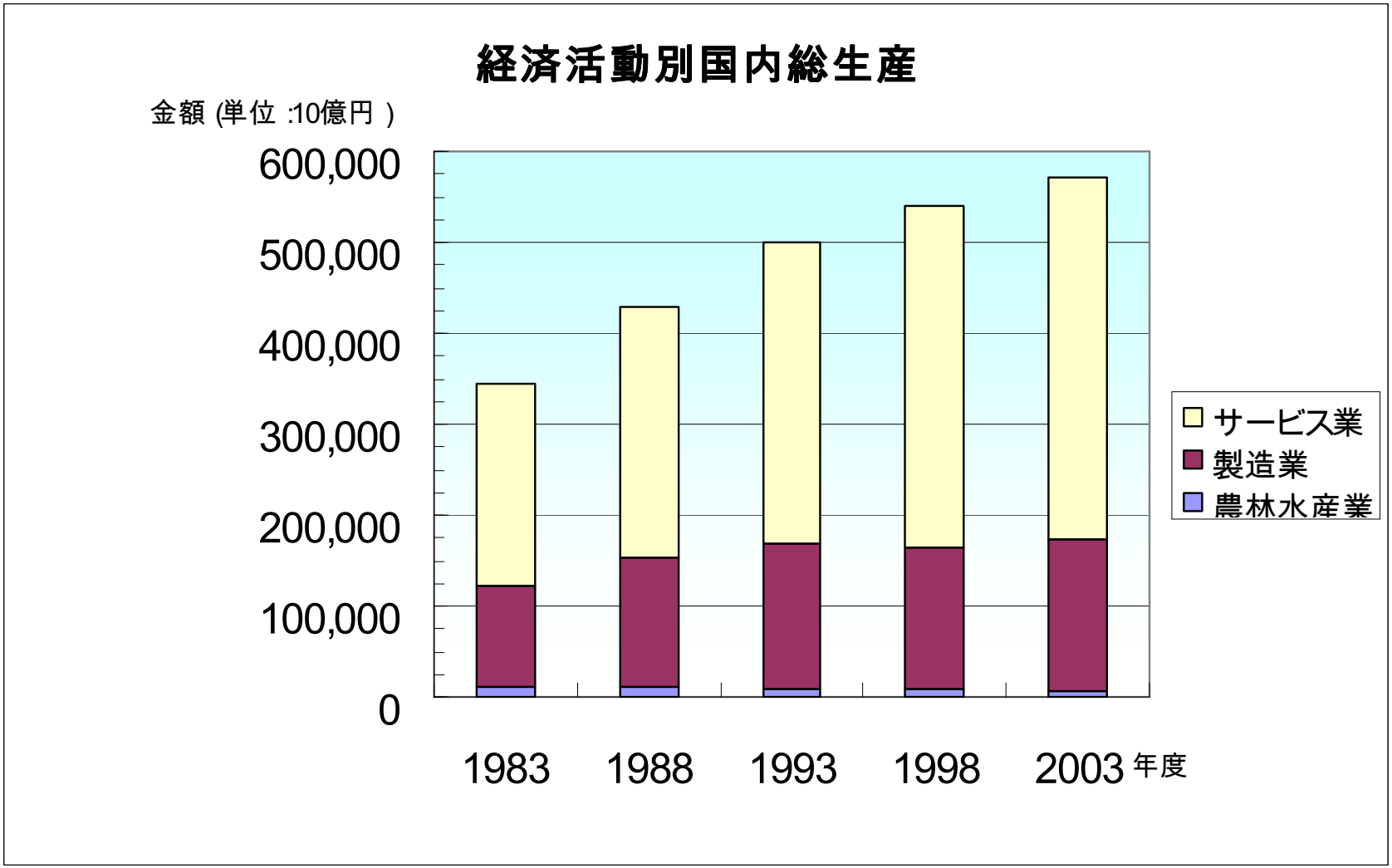
Chair of SRII Japan Chapter

We live in service economy !

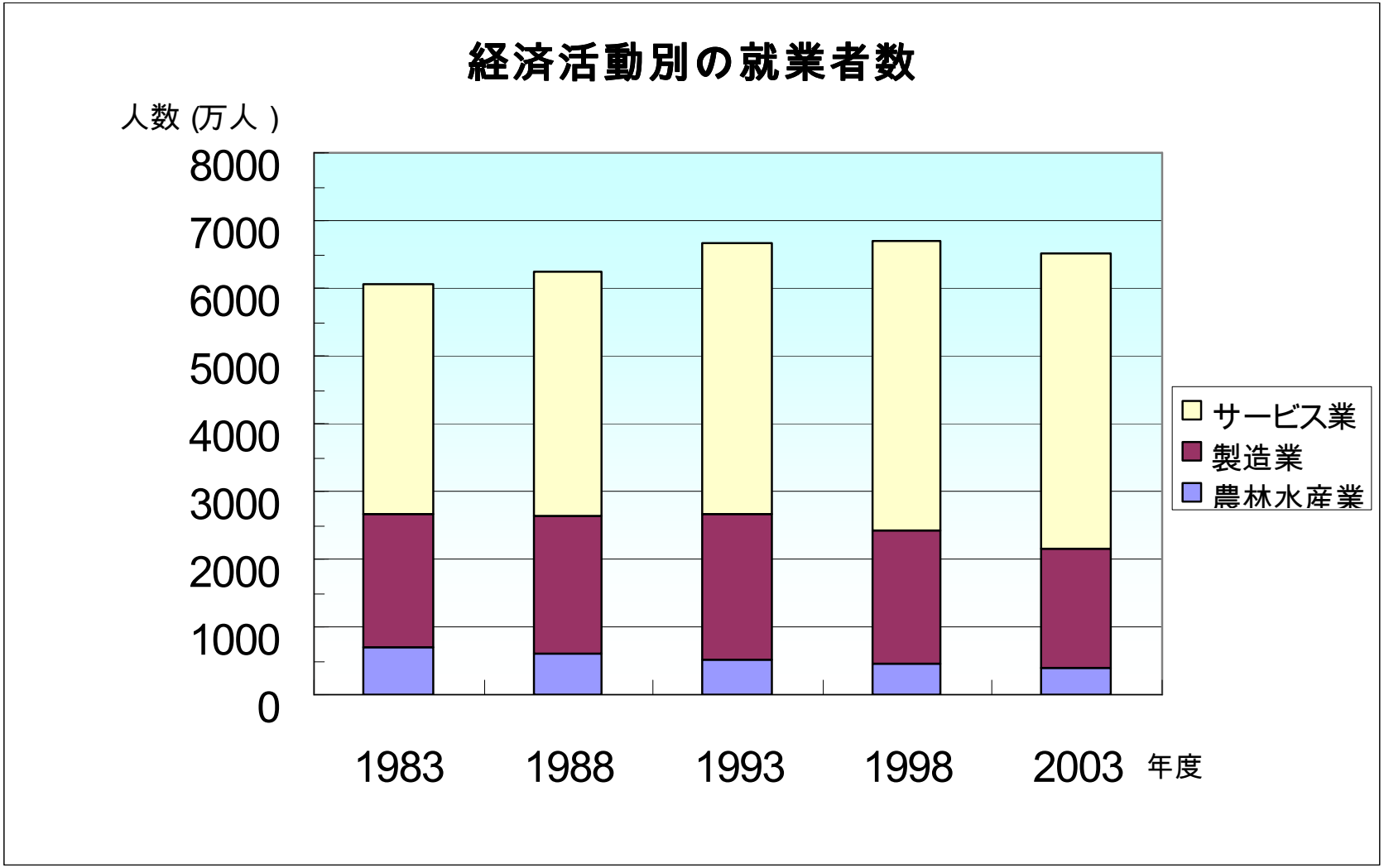


Source: OECD

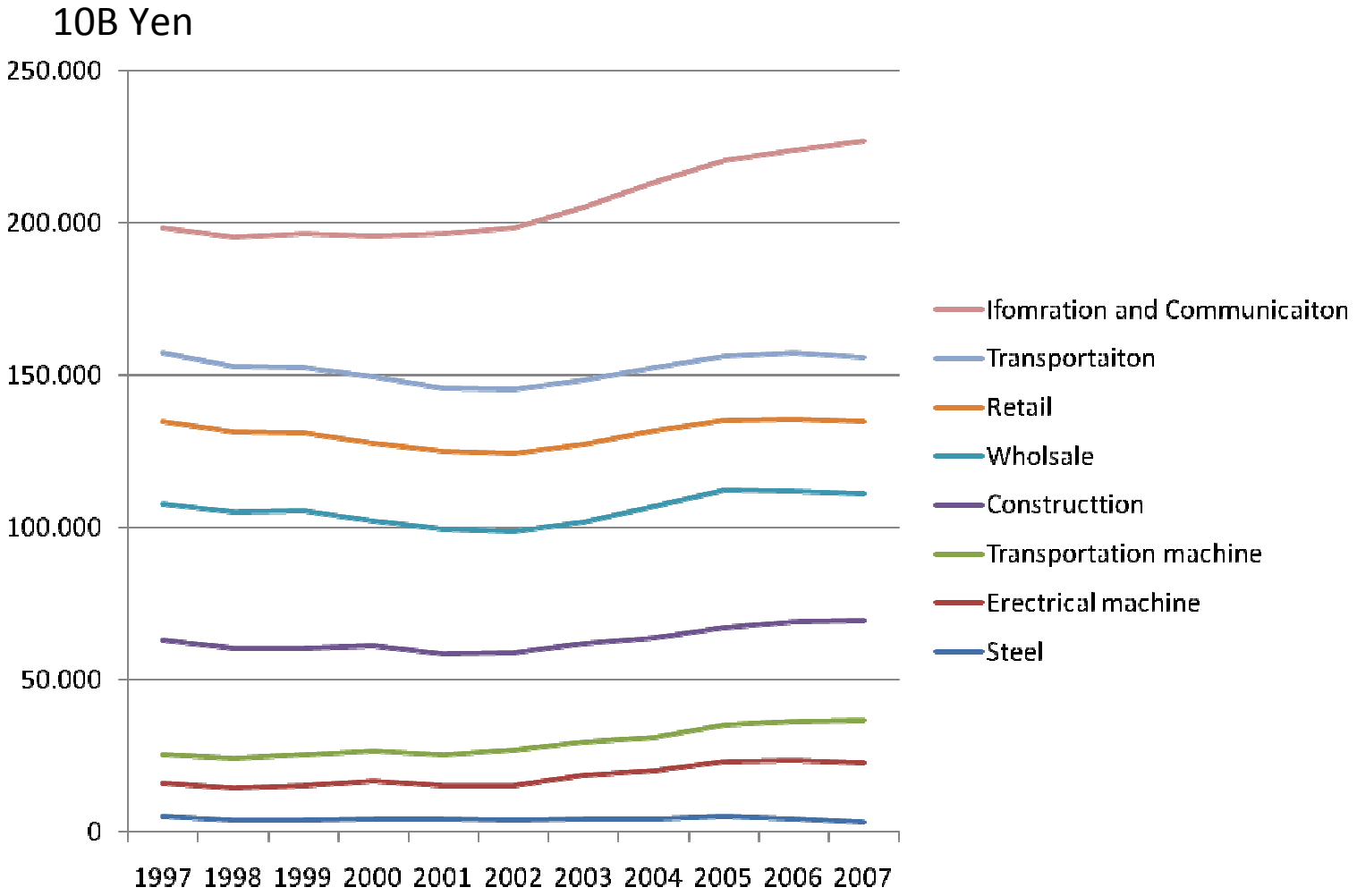
日本の状況：　経済活動別国内総生産



日本の状況：　経済活動別の就業者数



GDP Trajectory in Japan



Symposiums

- Services Sciences Symposium by IBM (September, 2005)
- Services Innovation Symposium by METI (March, 2006)
- Services Sciences Special Session by IPSJ (March, 2006)

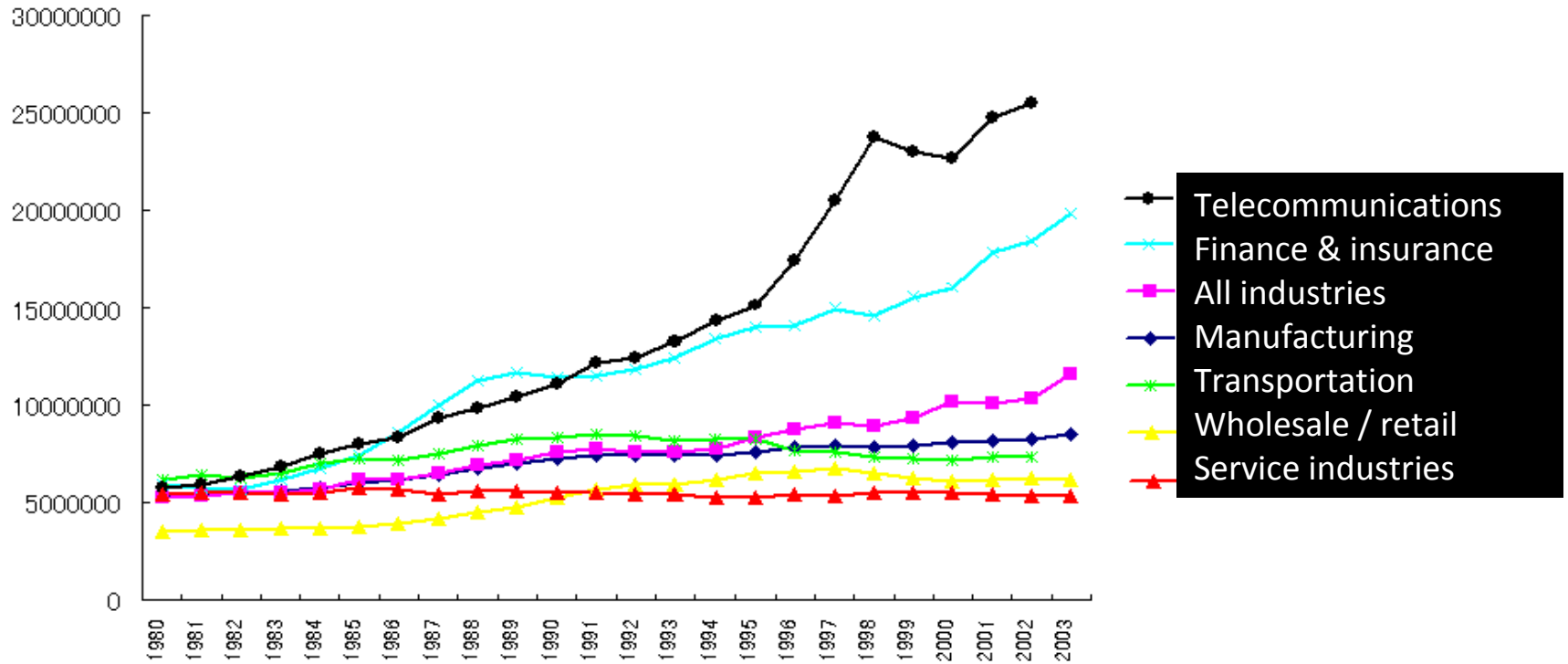
We are low in labor productivity growth rate.

"Towards Innovation and Productivity Improvement in Service Industries", Commerce and Information Bureau Service Unit, Ministry of Economy, Trade and Industry, April 2007; （Source）OECD Compendium of Productivity Indicator 2005, (http://www.meti.go.jp/english/report/downloadfiles/0707ServiceIndustries.pdf)

	US	UK	Germany	Japan
Manufacturing industries	3.3%	2.0%	1.7%	4.1%
Service industries	2.3%	1.3%	0.9%	0.8%

(1995 to 2003)

Change in productivity by industry (yen/person) 1980 to 2003



"Towards Innovation and Productivity Improvement in Service Industries", Commerce and Information Bureau Service Unit, Ministry of Economy, Trade and Industry, April 2007; (Source) System of National Accounts, JIP Data, RIETI, (http://www.meti.go.jp/english/report/downloadfiles/0707ServiceIndustries.pdf)

A program of “Ministry of Education (MOE)” in Japan

- The 3rd Policy on Science and Technology by Government
  - Valid 2006 – 2011
  - Articulates the need of integration among natural science, social science, and human science in the academic program, for services innovation.

- Program for Fostering the People for Services Innovation
  - 1st program: 2007. 9 - 2010.3
    - Total $4.5M for 6 universities, selected among 35 universities
  - 2nd ptogram: 2007.8 - 2011.3
    - Now selection process is undergoing to 5 among 40 universities
  - IBM research leads this MOE services program as a member of selection board.

Program for Fostering the Services Innovators by Ministry of Education in Japan.

http://www.mext.go.jp/b_menu/houdou/19/09/07090311/001.pdf

The 3rd Policy on Science and Technology: "Articulates the need of integration among natural science, social science, and human science in the academic program, for services innovation."

Founded in 2007 (among 35 Universities)

TOHOKU UNIVERSITY

筑波大学 University of Tsukuba

TOKYO TECH Pursuing Excellence

KYOTO UNIVERSITY FOUNDED 1897

明治大学 MEIJI UNIVERSITY

BUNRI'S Bunri University of Hospitality

Founded in 2008 (among 40 Universities)

National University Corporation Keio University

KYOTO UNIVERSITY FOUNDED 1897

KOBE UNIVERSITY

JAIST JAPAN ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY 1990

KANSAI UNIVERSITY

WASEDA University

Program for Fostering the Services Innovators by Ministry of Education in Japan.

- Tohoku University

The goal of the program is to foster Service Innovation “Managers” who can evaluate the productivity of services at the level of sector and practitioner, create new services, and maintain service quality. To achieve the goal, they will develop a new educational program by integrating mathematical science, engineering, eco-nomics, and management science, and also will develop the project to measure, evaluate, and improve service productivity.

- University of Tsukuba

In the master's program of Business Administration and Public Policy, the University of Tsukuba will establish interdisciplinary educational program in the Science of Services to realize customer-focused business innovation. They will also develop an integrated educational database for service innovation, which will be used to foster the high skill service practitioner. Finally, they will develop an education program to be offered by other universities and enterprises.

- Tokyo Institute of Technology

To maximize the societal value of Science and Technology efficiently, the To-kyo Institute of Technology will foster service innovators who can create the so-cietal service value by designing, evaluating, and innovating services based on sci-ence and technology. They will develop a multidisciplinary liberal arts programs for the twenty-first century for graduate students.

- Bunri University of Hospitality

The Bunri University of Technology will develop a packaged educational pro-gram following the case method. They will focus on fostering middle managers in the service practice by developing the skill of analysis, decision, and imagination.

Program for Fostering the Services Innovators by Ministry of Education in Japan.

- Meiji University

To develop a curriculum for fostering service innovators, Meiji University clas-sified service innovations into 2 layers. The first layer is a logical process layer toward standardization, and the second layer is a deviation management layer which manages exceptions and tacit knowledge toward individualization. For the first layer, they will provide integrated knowledge based on management science, theory of services management, information theory, and behavioral science; and for the second, science for tacit knowledge.

- Kyoto University, Graduate School of Management

To foster creation of a “service creative class” that can lead the high quality service society, Kyoto University, Graduate School of Management will develop an educational program for management of service-value creation based on an-thropology and information technology.

- Kyoto University, Graduate School of Pharmaceutical Science

Kyoto University Graduate School of Pharmaceutical Science will develop a course for innovators to lead medical services for this new era, including home care and self-medication.

- Shiga University, Department of Economics

Shiga University will develop a service innovation education course at the un-dergraduate level, aiming to teach basic knowledge of service science to develop creative minds and foster the capacity of evaluating innovation value.

- Kobe University, Research Institute of Economics and Business Administration

Kobe University aims to formalize and categorize service innovation, and are developing video contents based on the case method to teach introduction to ser-vice innovation. They will also collaborate with businesses to gain insight in ser-vice value creation.

Program for Fostering the Services Innovators by Ministry of Education in Japan.

- Japan Advanced Institute of Science and Technology (JAIST)

JAIST will start a new “Management of Service” course for business people, adding to the current “Management of Technology” course, as a common program in the graduate schools of Knowledge Science and Information Science. They will develop programs that cover all aspects of service innovation based on approaches from technology, human science, social science, and economics. (see http://www.jaist.ac.jp/mos/)

- Keio University

Keio University will develop an internship program with IBM Business Con-sulting Services to foster services leaders in the area of knowledge-based profes-sional business services.

- Waseda University

Waseda University will develop a “Financial Market Simulator” using the re-sults of financial engineering. They will also develop an education course using this simulator to foster service leaders for the global financial market.

- Kansai University

Kansai University will develop an education program to foster business con-sultants who have can do analytics of business processes based on the skills from mathematical science and data mining.

文部科学省　Good Practice ポータル
http://gp-portal.jp/src/ippan/index.cfm?year=H19

文部科学省　Good Practice ポータル
http://gp-portal.jp/src/ippan/program.cfm?id=11

H19年度　産学連携による実践型人材育成事業－サービス・イノベーション人材育成－

産学連携による実践型人材育成事業－サービス・イノベーション人材育成－　取組一覧	
大学等	プログラム名 取組名
筑波大学	産学連携による実践型人材育成事業－サービス・イノベーション人材育成－ 顧客志向ビジネス・イノベーションのためのサービス科学に基づく高度専門職業人育成プログラムの開発
東京工業大学	産学連携による実践型人材育成事業－サービス・イノベーション人材育成－ 社会的サービス価値のデザイン・イノベーター育成プログラム
西武文理大学	産学連携による実践型人材育成事業－サービス・イノベーション人材育成－ 高付加価値を生む、シミュレーション・マインドを持ったミドル・マネージャー育成プログラムの構築

文部科学省　Good Practice ポータル
http://gp-portal.jp/src/ippan/program.cfm?id=24

H20年度　産学連携による実践型人材育成事業－サービス・イノベーション人材育成－

産学連携による実践型人材育成事業－サービス・イノベーション人材育成－　取組一覧	
大学等	プログラム名 取組名
滋賀大学	産学連携による実践型人材育成事業－サービス・イノベーション人材育成－ 公共的対話と知的共同作業をベースにイノベーティブな「心の習慣」と「イノベーション評価能力」を養成し、地域的競争力の強化にコミットメントする中核的人材育成事業
北陸先端科学技術大学院大学	産学連携による実践型人材育成事業－サービス・イノベーション人材育成－ 情報科学と知識科学を基盤とするサービスイノベーション人材の育成
慶應義塾大学	産学連携による実践型人材育成事業－サービス・イノベーション人材育成－ エクスペリエンスと講義と研究を一体化したスパイラル修士教育プログラム
早稲田大学	産学連携による実践型人材育成事業－サービス・イノベーション人材育成－ 金融サービス・イノベーション・マネジメント研究
関西大学	産学連携による実践型人材育成事業－サービス・イノベーション人材育成－ プロセスイノベーター育成プログラムの開発

http://www.ristex.jp/servicescience/

Public Investment for Service Research

Original Data was provided by Research Institute of Science and Technology for Society Japan Science and Technology Agency

Interest in Service Research

- Number of proposals for service science investment program by Japan Science and Technology Agency (JST) 2010

Service domain	Number
Health Care	49
Education	22
Public	18
Retail / Hospitality	13
Foods	12
City	12
ICT	10
Transportation	7
Energy / Environment	6
Water	2
Finance	1
Others	14

http://www.ristex.jp/servicescience/EN/index.htm

Service Science, Solutions and Foundation Integrated REsearch Program

In 2010, RISTEX established the service science themed Service Science, Solutions and Foundation Integrated Research Program, and commenced supporting research activities.

The aim of the Program is to identify the specific or latent needs of society and use actual data and case studies to develop technologies and methodologies for solving problems based on a multidisciplinary approach, as well as pursue research designed to establish a "Service Science" research infrastructure.

http://www.ristex.jp/servicescience/EN/project/

Service Science, Solutions and Foundation Integrated REsearch Program

Solution-Oriented Service Science Research, Type A

- Innovation for Service Space Communication by Voice Tweets in Nursing and Caring (Naoshi UCHIHIRA, Toshiba Corporation)
- Visualization and Support of Value Co-creation at Industrial Clusters by Service Systems Modeling (Kyoichi KIJIMA, Tokyo Institute of Technology

Foundation-Oriented Service Science Research, Type B

- Architecting Service with Customer Participation Based on the Analysis of Customer Experience and Design Processes: Sophisticating Tour Design Processes as a Case Study (Tatsunori HARA, University of Tokyo)
- Context Management Approach to Service Value Co-Creation Model (Yoshinori FUJIKAWA, Hitotsubashi University)

http://www.ristex.jp/servicescience/EN/project/

Doctor

Behavior estimate engine

We finished Patient A's check-up at Endoscope examination room

Doctor: Please be cautious in ○○ and follow him up.

Provide voice messages to right people at the right timing

Collaboration

Nurse M: I am coming

Real-time risk management

Endoscope Examination Room

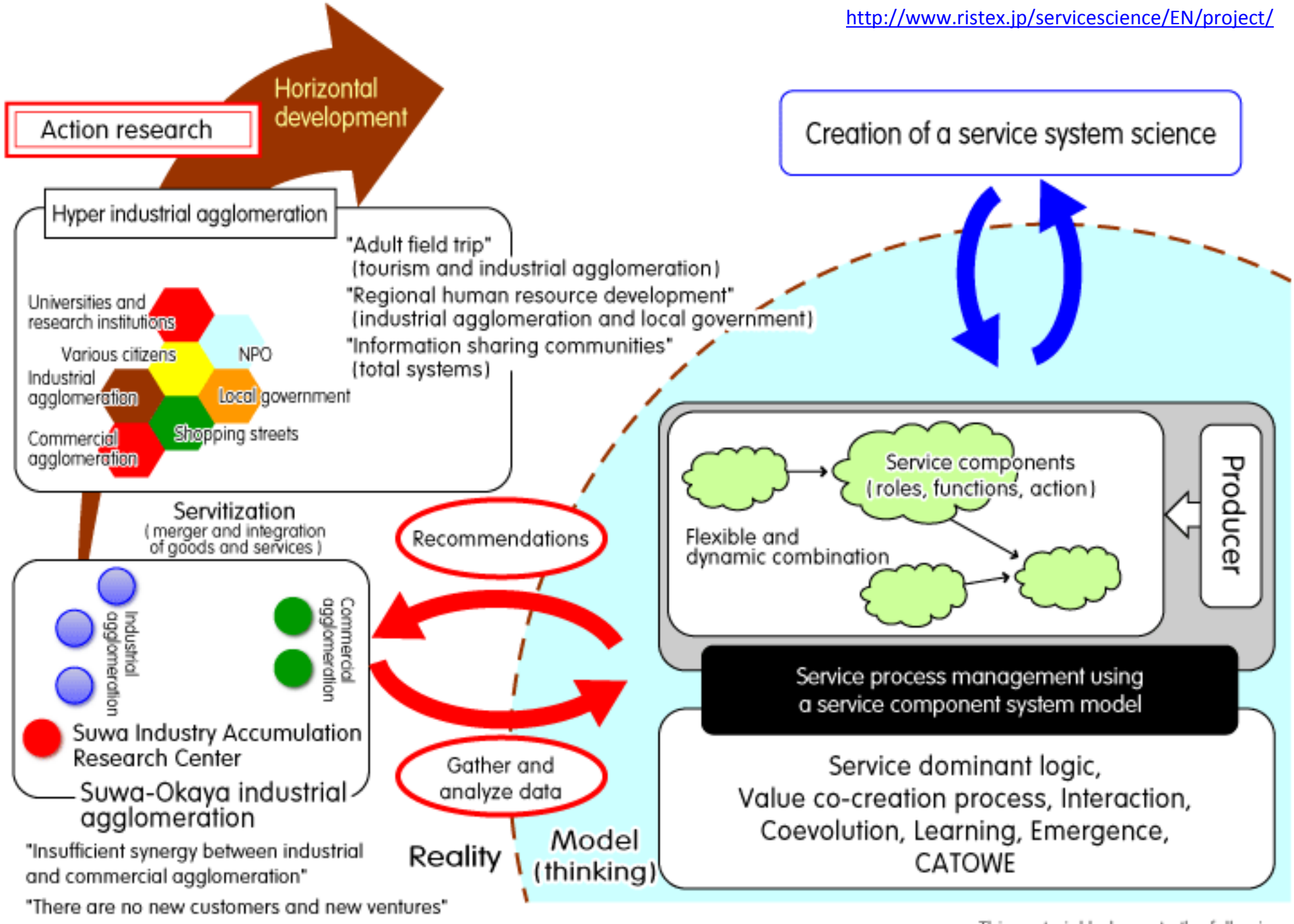
Nurse N: We finished the check-up.

Reference to past records

Nursing records

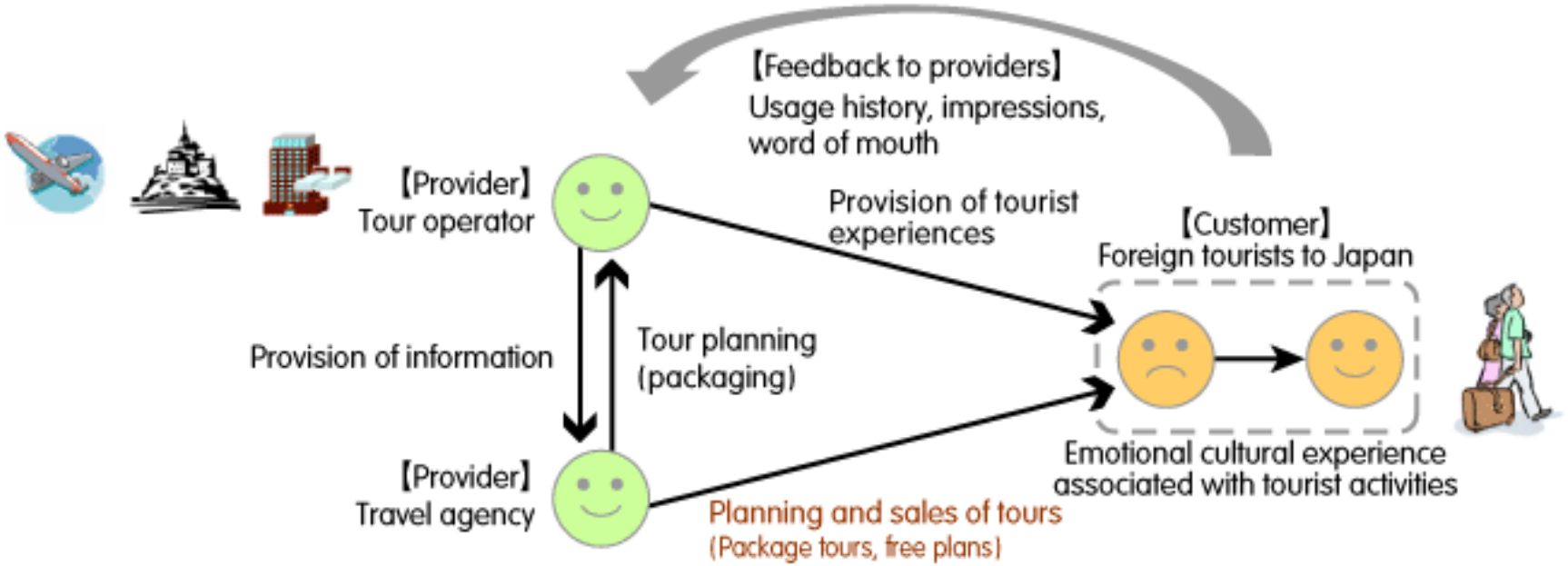
This material belongs to the following:
Project: Innovation for Service Space Communication by Voice Tweets in Nursing and Caring Project Leader: Naoshi UCHIHIRA

http://www.ristex.jp/servicescience/EN/project/



This material belongs to the following:
Project: Visualization and Support of Value Co-creation at Industrial Clusters by Service Systems Modeling Project Leader: Kyoichi KIJIMA

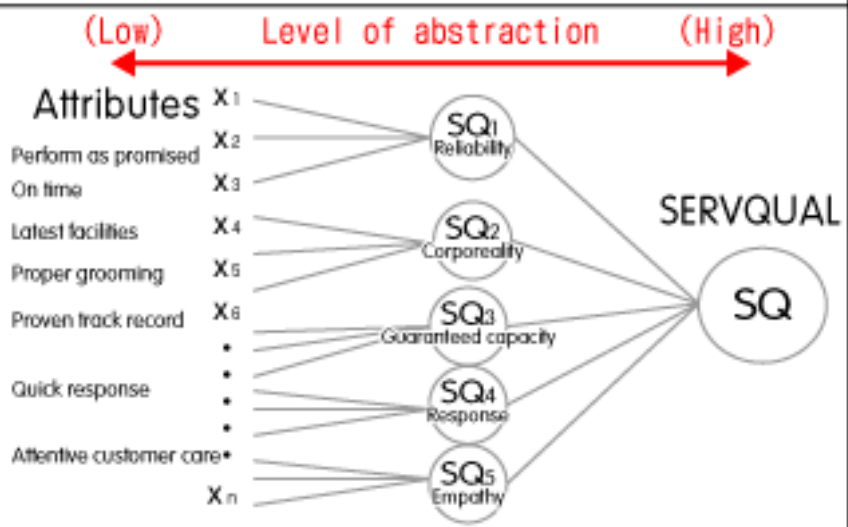
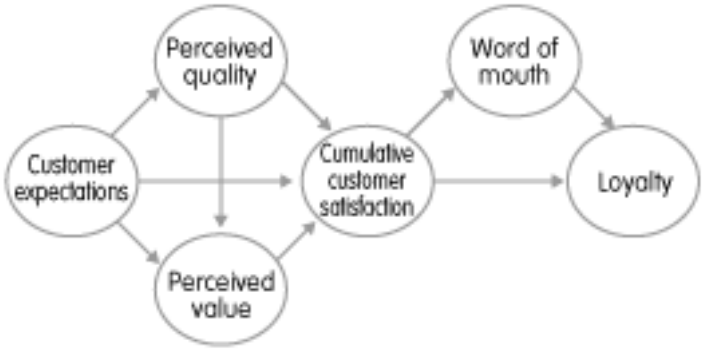
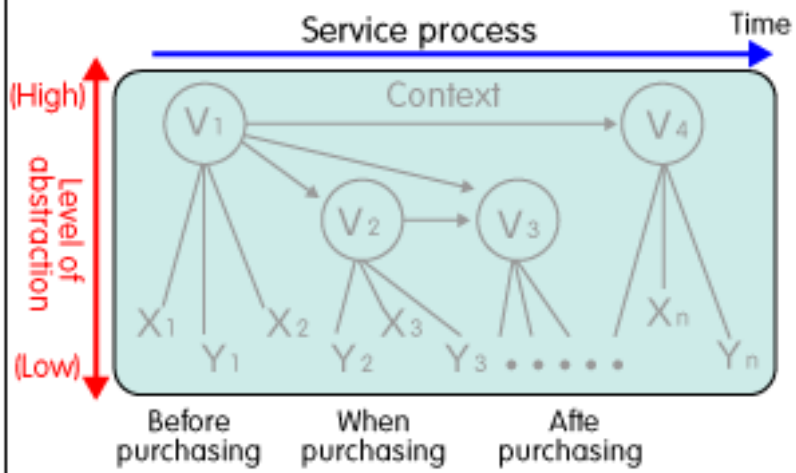
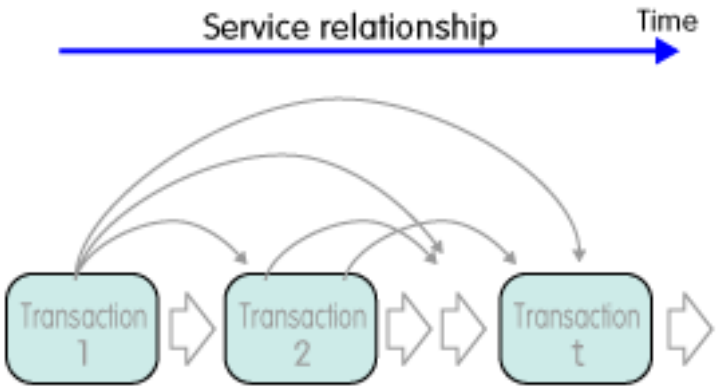
http://www.ristex.jp/servicescience/EN/project/



Research elements	Research in Tourism Services
(a) Service product modeling	Build a model of the entire tourist service from the perspective of the planning process for tourist activities and sightseeing tours
(b) Quantitative evaluation of service components based on analysis of customer experience	Analyze the behavior of foreign tourists visiting Japan to evaluate the attractiveness of tourism resources, and investigate the appeal of potential tourism resources
(c) Method for breaking down and reconstituting services	Sophisticate the planning process of sightseeing tours with a method for breaking down and reconstituting tours
(d) Customer participation service planning support method	Respond flexibly to heterogeneity and diversity and stimulate demand by building a trip planning support system for tourism operators

This material belongs to the following:
Project: Architecting Service with Customer Participation Based on the Analysis of Customer Experience and Design Processes: Sophisticating Tour Design Processes as a Case Study Project Leader: Tatsunori HARA

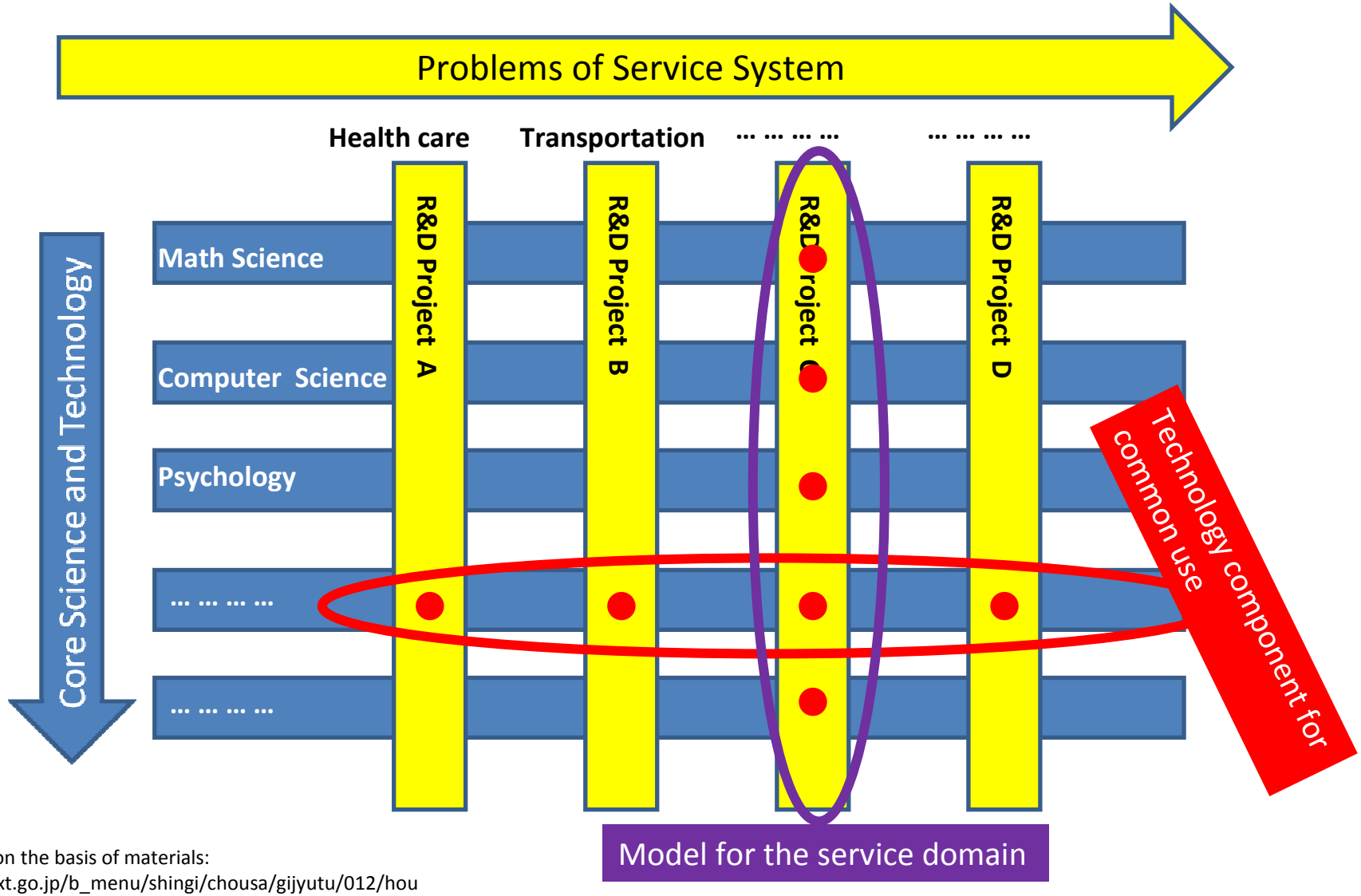
http://www.ristex.jp/servicescience/EN/project/

	Service encounter (single transactions)	Service relationship (multiple ongoing transactions)
Static Conceptual structure		ACSI (American Customer Satisfaction Index) JCSI (Japanese Customer Satisfaction Index) 
Dynamic Conceptual structure + Casual nexus		

*Note 1 - Circles in the figure represent structural concepts Note 2 - X: (Customer evaluation of) Corporate actions Y: Customer's behavior, feelings and thoughts.
Note 3 - V in the bottom left figure represents the co-created value.

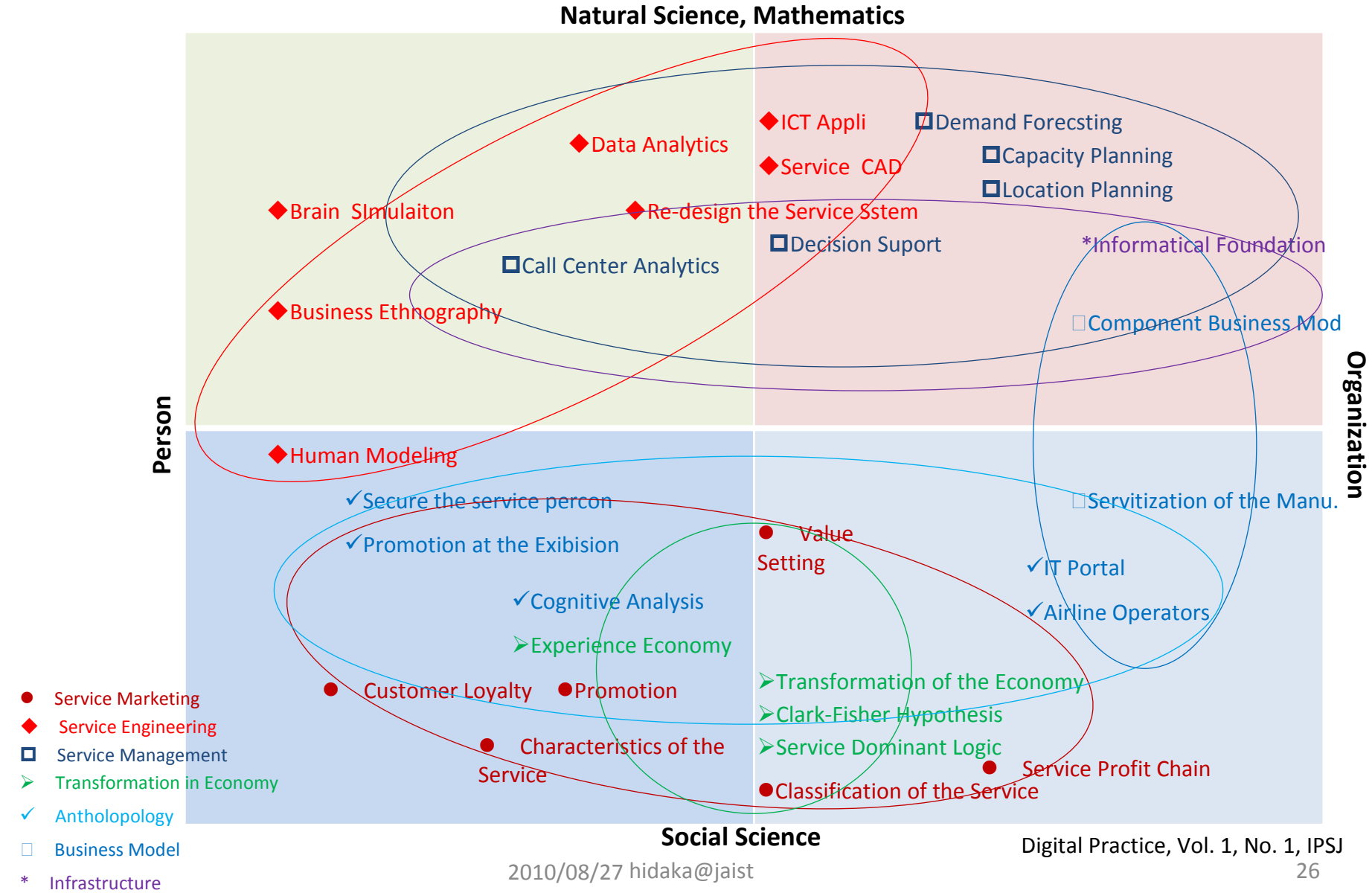
This material belongs to the following:
Project: Context Management Approach to Service Value Co-Creation Model Project Leader: Yoshinori FUJIKAWA

Approach through Multi-disciplinary



Newly created on the basis of materials:
http://www.mext.go.jp/b_menu/shingi/chousa/gijyutu/012/houkoku/__icsFiles/afieldfile/2009/02/24/1246289_1.pdf

Mapping the Service Science and Engineering Projects and Ideas



Investment for research and development in service sector: US vs Japan

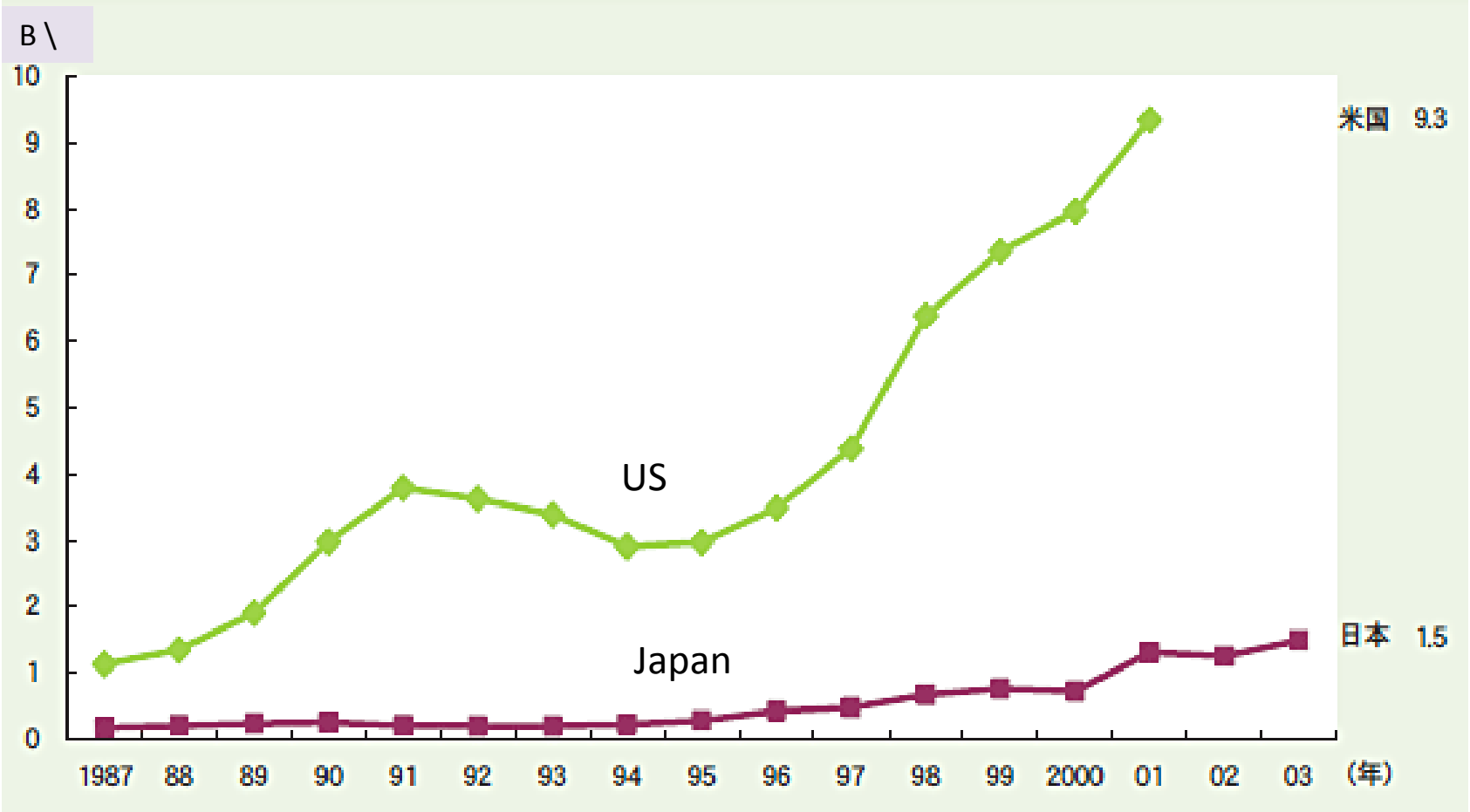


図２．**日米のサービス・セクターにおける研究開発費の推移（平成２０年版　科学技術白書より）**
http://www.mext.go.jp/b_menu/hakusho/html/hpaa200801/08060518/017.htm