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Description	一般講演要旨

Service Research in an enterprise

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Abstract

In 2003, we started “On Demand Innovation Services (ODIS)” initiatives, where researchers work together with business consultants to solve customer issues, and to create innovative solutions. There are three kinds of type implementations of these programs in global research laboratories. Since 2006, Tokyo research moves researchers back to a laboratory. This report is a case study of service researches in an enterprise, focusing on ODIS activities and its follow-on activities.

1. Introduction

The sizes of “services” economies are increasing in Japan as well as the world wide. This comes from the growth of services economies and the shift to services businesses by manufacturing industries, which includes IT-related industries. This growth of services encourages research organizations to contribute to service business. To reply to this business needs, our research organizations started “On Demand Innovation Services (ODIS)” initiatives in 2003, where researchers work together with business consultants to solve customer issues, and to create innovative solutions. Tokyo research created an ODIS residency program and transferred 5-10 researchers into a service organization (business consulting services). Since 2006, Tokyo research moves researchers back to a laboratory. This report is a case study of service researches in an enterprise, focusing on ODIS activities and its follow-on activities.

2. On Demand Innovation Services

In 2003, we started “On Demand Innovation Services (ODIS)” initiatives, where researchers work together with business consultants to solve customer issues, and to create innovative solutions. There are three kinds of type implementations of these programs [1]:

1. Residency type

2. Push (agent) type

3. Pull type

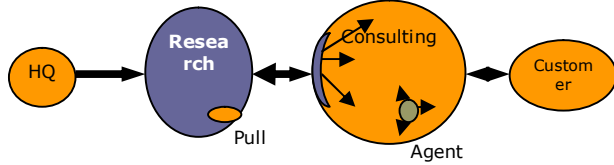
Type 1 transfers researchers to service organizations and facilitates them to work closely with them. This is good when the service organizations have primary stable working locations, but does not fit when the working locations are less localized. When there is a primary meeting place, researchers are able to communicate with service organization members on a timely basis.

Type 2 is good when a research organization has a list of focused existing technology items to sell to service teams. Research agents, who are typically service members who also understand these research technologies, sell the research technologies to service opportunity owners. Opportunity qualifications are assessed by service professionals, without bothering the researchers. This is good to identify relatively large opportunities for focused existing technologies.

Type 3 is for when working locations of service teams are distributed and researchers do not know which technologies will be interested in by which service teams. When solutions are discussed, several technologies are accessed by service professionals and researchers. This approach helps service teams to stay at a research site and to understand technologies.

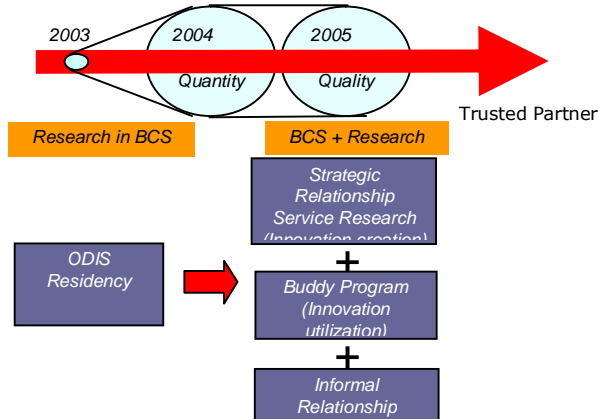
Tokyo research created an ODIS residency program and transferred 5-10 researchers into a service organization (business consulting services). The ODIS research team works very closely with business consultant teams. Initially we did not have clear ideas about what kinds of technologies fitted for the business consulting services, even though we had many experiences working with service teams to create (mainly IT) solutions based on research technologies. Understanding the technologies which they needed were not sufficient when research members work with service teams successfully. But this residency program also helped us to understand their working styles, job priorities, and their thinking by working together in the same environment [2] [3].

Figure 1
On Demand Innovation Services implementations type Residency



Over a two-year period, the number of projects created with business consultants has greatly increased, and we gained experience with many small and short-term projects. In this environment, we developed micro-specialized skills and features around our core skills, which helped mature our existing technologies, and helped adapt them into several solution contexts. In addition, it helped create new offerings through collaborations between researchers and consultants, such as a research and development management consultation. We never thought that such research capabilities could be useful before discussing the opportunities over with consultants. As a result, the residency approach helped us to adapt our existing technologies and experiences into solution spaces, and found our new capabilities, which were not necessarily technical ones, that contribute to services. Our next objectives are to create new research areas to contribute to services.

Figure 2
On Demand Innovation Services transformation



In 2006, we transformed our Tokyo Research ODIS structures from the residency type to the three relationships in Figure 2 to focus on creation of new research areas with service teams. Since 1990, IBM Research has contributed to services and sales teams for solution creation based on research technologies and

know-how allowing for joint creation of valuable solutions. Here, we focus on how research can contribute to business consultation in the “value creation” model. Projects in a value creation model are typically short term, such as three-month engagements. Naturally there are more projects than in other solution development project categories and there are many people to communicate with to find projects for research to work on.

The technology tends to be relatively smaller in such value creation models, and the contribution areas include new service methods (value pricing), business transformations including BPM, business model designs, and innovation management, etc. To contribute in these areas, research needs to transform the original focus skill areas such as technologies, to include new skills areas, such as business, management, and social science area.

Table 1
On Demand Innovation Services history

Period	Start up (9/03-3/04)	Grow (4/04-3/05)	Next shift (4/05-3/06)	Research focus (4/06-)
Objectives	Find out what can be contributed by research capabilities	How to grow research contributions	How to create new research area	How to impact service org by new research area
Result	Existing technologies are identified New offering is created (R&D management)	Expanding existing technologies by changing residency members	Transfer service members to research New research area is identified (Value pricing, BPM)	New research area requires base change, such as business custom and infrastructures.

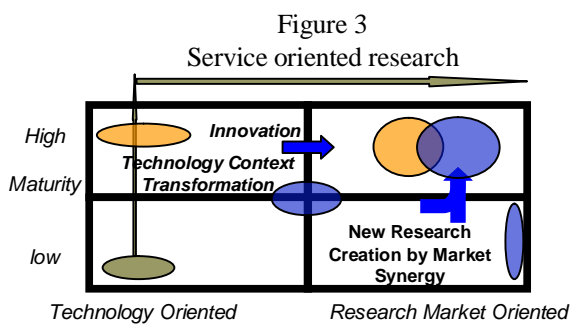
3. Research technology transformation and creation

Through these experiences, we found the following three success cases from the collaborations of researchers and business consultants.

- Contributed via technology context transformation
 - matched matured existing technologies into unexpected new business areas
- Explored new research areas in business service
 - started understanding service offering and those value propositions, by observing how consultants deliver them, and created new systematic approaches
 - utilized service environment to accelerate research area maturity increase via interaction with the business service community

Figure 3 shows these three approaches. The gray area is a traditional research approach, which focuses on product-based technologies. After technologies are

created, they are then transferred to development organizations. Embedding those technologies into products is done by development teams. The box includes only research activities, so most of the gray part after creating the technologies is outside of the box. The orange parts show finding new contexts to adapt relatively mature technologies. The blue parts show two ways to contribute services. One way is to co-create values with services teams in market spaces. This is for technologies which can not be matured in the laboratory environment alone. The other blue parts are to create new ways to approach customer problems, which are based on systematic and scientific approaches.



4. Conclusions

How to create new service research area successfully is a continuous issue. I will look into this in the future. One of result of our activities, I would like to show current job responsibilities of ODIS members at Table 2.

Table 2
Current job responsibility of ODIS members

New research	Original technology	Relationship	Job change (TRL)	Job change (service, sw)	Total
3	4	5	3	8	23
Service research			Other		
12			11		23

This shows about a half of members took new jobs which are not related with service business directly. A half of members are continuing working in service research as a role of creating new research, implementing them, back to exiting technology based research which they are originally doing before joining ODIS residency program, or relationship role to focus on connecting business needs and technologies in research organization. This table does not include research members who are not joining ODIS residency program, but working in service research. Including these number,

ODIS initiative created new research type who has research background as well as interest in service research. In addition, existing research programs, such as FOAK (First Of A Kind), which research and S&D jointly create a project for a particular customer to solve their issues by leading edge research technologies, and IT based project engagements are continued to be important mechanisms to transfer research capabilities into service business. Most of our success is related with IT based technologies until now. We look forward to studying new technology creation in business consulting service areas. .

7. References

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