

# Innovation of Working Style through Business Ethnography and Organizational Monitor

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**Understanding the nature of clients' work is a precondition for helping them to solve challenges posed by their business practices. Fujitsu has been committed to developing and deploying Business Ethnography that merges ethnographic qualitative analysis, frequently used in the areas of marketing and product design, with conventional quantitative analysis, not for study but as business. While ethnography has been used in the area of research, our current approach utilizes this methodology to understand the nature of clients' work. Also, in the field of research on organizations which has become widely recognized in some international ethnography associations including EPIC, Fujitsu's approach of Organizational Monitor has been developed and implemented by integrating the factors of quantitative analysis emphasizing the continuous and proactive commitments to innovation by organizations and individuals. It is regarded as an approach that goes beyond the conventional academic approaches that focus only on the reporting of exploration and interpretation of the facts observed in business scenes. This paper introduces a new approach based on these two types of ethnographic technique that adds a new aspect to the conventional working style.**

## 1. Introduction

Understanding the nature of clients' work is a precondition for helping them to overcome the challenges posed by their business practices. The conventional approaches to understanding the trends of clients' work from their viewpoints have been centered on questionnaires and structured interviews. To understand clients' work in depth, an industrial engineering (IE) approach, which is a quantitative measurement approach based on a predefined process, has been used also. These conventional methodologies have been frequently used to date and their importance is beyond dispute. However, these methodologies based on statistics or quantitative analysis are not always applying an objective approach. Subjective views of survey designers are already reflected in setting respondent cohorts for questionnaires.

Besides, the target process is selected in IE-based approaches under the precondition of a subjective view and hypothesis.

Giving consideration to these facts, the choice between a qualitative and a quantitative approach or, between a social scientific and a natural scientific approach is not of great significance. Acknowledging the complementary relationship between both approaches and integrating a qualitative approach from the standpoints of cultural anthropology and social science into conventional approaches, which tend to emphasize statistics and quantitative analysis, will help to increase the possibility of innovations. Nevertheless, in the field of research on organizations, which has become widely recognized in some international ethnography associations including EPIC, the conventional

academic approaches focus only on reporting explorations and interpretations of the facts observed in business scenes.

This paper introduces a new approach using ethnographical fieldwork (Business Ethnography and Organizational Monitor) that is unique in that it merges qualitative and quantitative approaches into these conventional methodologies.

## 2. Business Ethnography

### 2.1 Overview

Business Ethnography is a method of using the methodology of ethnography (a methodology to summarize results of fieldwork based on interviews and observations as a form of survey record) and making positive use of its advantages. We call this approach “Engineering of Ethnography.” While ethnographic practice is currently carried out for individuals in the academic community over the long term, perhaps several months to several years, we have introduced some engineering concepts including descriptions of procedures, output standardization and improvement of tools so that we can use this methodology in the business

community. Further, as a secondary effect of this methodology, it has become possible to benchmark the trends in personal matters across various organizations (Figure 1).

This methodology has been applied to more than 50 client companies already to understand their work. In Fujitsu, more than 400 associates participated in this training.

### 2.2 Key points and methodology

The most significant feature of Business Ethnography is the shadowing method, and the sites to be studied in this method are exclusively company offices. Case studies have been reported frequently mainly by Western researchers on ethnography that is used in the context of marketing and product development. However, unlike this ethnography, the scope of Business Ethnography encompasses a wide range of areas including the business process implemented by people in the site and the IT and documents used in the business process, the organization system and the business environment. Such a wide scope of coverage is one of the notable characteristics of Business Ethnography.

In shadowing, a professional called

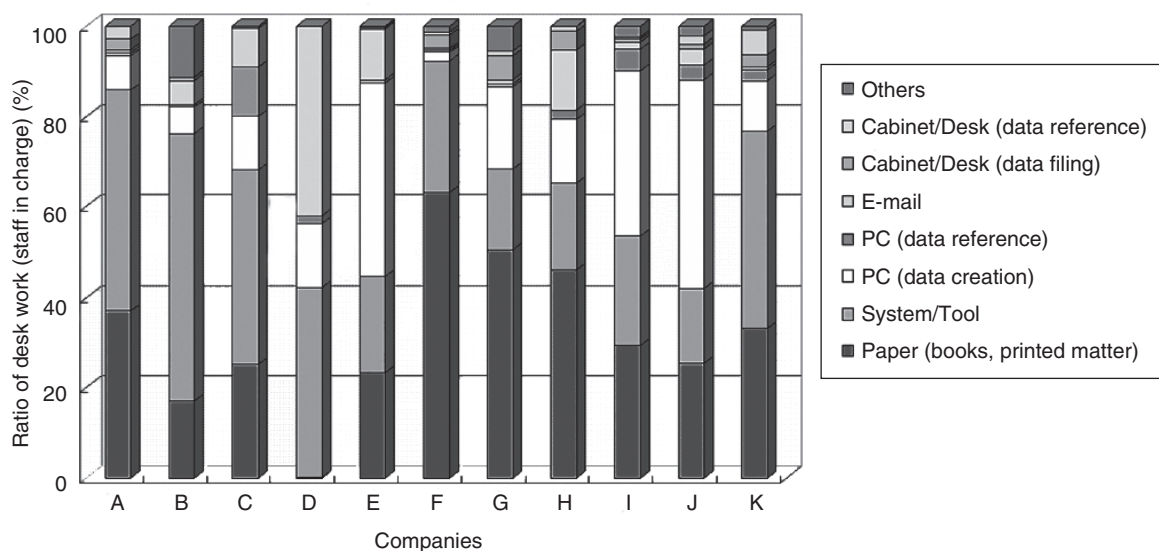


Figure 1  
Benchmarking sample.

a business ethnographer makes detailed observations and records of the target person the whole day by following that person like a shadow (Figure 2).

The raw data collected through combined use of a digital camera and compact IC recorder in addition to conventional observations are marshaled as a form of field diary. By shadowing for just one day (8 hours), the diary sometimes exceeds 100 pages. If raw data are collected and marshaled by two or three business ethnographers, an enormous amount of information is visualized even if the observation period is just several days. The key points in this process are to express the reality of objective facts as they are, while ensuring that readers of the field diary can experience the actions and progress of the target person on that day as if they were there themselves.

Once all facts are collected, a team analysis starts. By sharing many field diaries, new findings (recognitions) are added from various viewpoints. Ultimately, as many as several hundred new findings are often identified for a single project. With case analysis in the past, there was a ceiling (saturated status) to the quality and quantity of new findings. Accordingly, the number of days to be spent on shadowing is determined based on this theory. By marshaling



Figure 2  
Shadowing.

and analyzing the new findings extracted through these processes, points to improve from a qualitative aspect are identified. While facts are collected from a naturalistic standpoint (facts as they are) in the shadowing, a bi-focal standpoint is involved sometimes during the analysis to give consideration to the proposition assigned to the concerned project (e.g., fact-based verification of a specific objective). Further, in the final stage of the qualitative analysis, validation of the comprehensiveness of analysis points is carried out by using a Business Ethnography analysis map, which is a systematic chart of more than 10 000 new findings accumulated in the project (Figure 3).

To verify these qualitative challenges, some

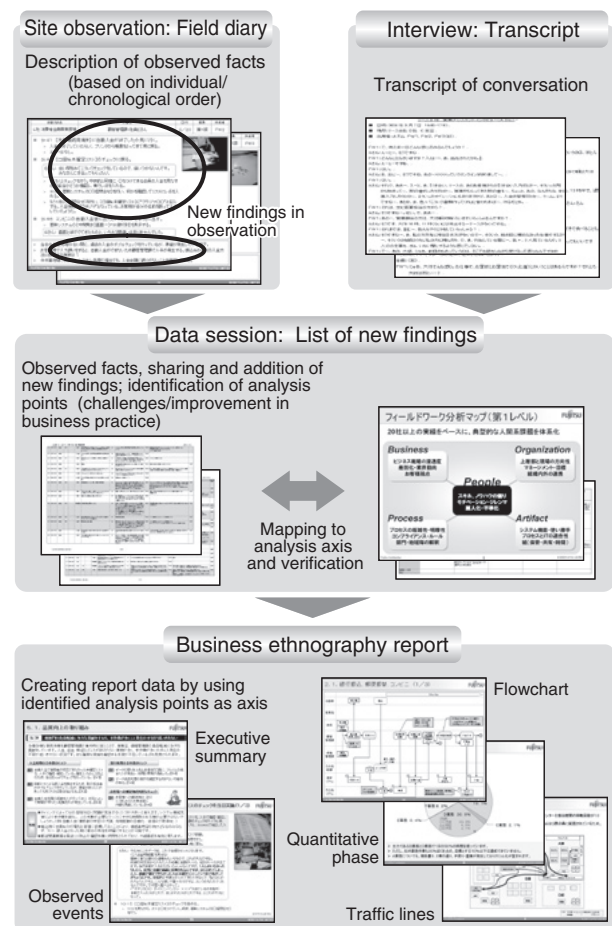


Figure 3  
Flow of Business Ethnography.

tools have been used such as a tool to tabulate field diaries on an automatic basis to generate quantitative data about how much time is spent on which activities and to analyze traffic lines to determine how much traffic occurs in which area. Hybrid analysis comprised of qualitative and quantitative aspects including the creation of a business flowchart can be completed within a single month from starting the observations. Such promptness is the main strength of this methodology in business environments where speed is of the essence.

### 2.3 Effects

There are commonly two types of reactions to the analysis results. Some analysis results are received favorably by clients, who typically express their thoughts by saying things like “Though I was vaguely aware of this fact, I had no clear recognition until it was pointed out by third party. In this sense, this result is significant.” Meanwhile, some clients react by saying “This result is just what you would expect, although I didn’t realize it until it was pointed out.” The persons directly involved with

the work onsite are professionals in their field of work. However, they tend to overlook problems in their work because people tend to be unaware of their own behavior. Besides, onsite work may not always function based on a pre-determined process. That is why it is useful to visualize the actual situation through Business Ethnography (Figure 4).

A business ethnographer is a professional in ethnography, but not a professional in the work being studied. However, the facts noticed by a business ethnographer are important because they attract the attention of those who are not professionals in that area of work. For instance, a business ethnographer once pointed out the simple fact that some staff members in charge still maintained the practice of keeping seal records as a part of their routine, even though it had not been necessary to do so since online trading began.” This was accepted with surprise by the client.

Clients have various reactions including surprise to the facts that Fujitsu has such an (extraordinary) service or that Fujitsu provides not only hardware and software but also this kind

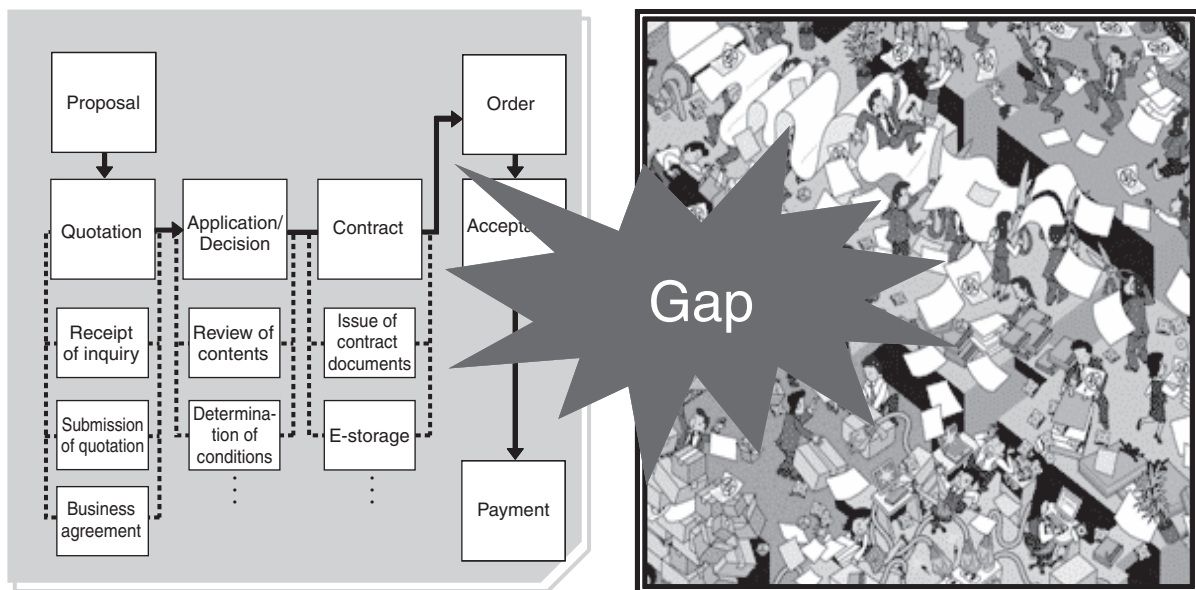


Figure 4  
Gap between official and actual processes.

of service. Some clients shared their impressions with us, saying “These suggestions are very persuading because they are supported by reality” or “This steady, rather unrefined approach is characteristic of Fujitsu.” Business Ethnography is undoubtedly changing the working style of Fujitsu and its clients. In one client company, Fujitsu is participating in business meetings on specific issues as a partner who knows the challenges faced in that client’s work, instead of being just someone selling a service. For another client, Fujitsu is establishing a strategic partnership with its IT department that includes cooperation in Business Ethnography.

## 2.4 Future challenges

Business Ethnography is an established methodology highly acclaimed for its ability to visualize clients’ work and the challenges associated with it. Meanwhile, some clients are not skilled enough to address the identified improvement opportunities, which may result in the stagnation of business process innovation. Further, there are some cases where identified challenges do not contribute to the smooth definition of system requirements. Even in successful projects, their success is often aided by individual efforts on the client’s side, where clients, consultants and SEs are positively involved in ethnography, trying to interpret its real intention and effectively using the outputs in their next step. For wide diffusion and penetration of the innovation derived from Business Ethnography, it is essential to remedy this situation.

To achieve this objective, some trials have been started in several projects to establish a system from the implementation stage of Business Ethnography or to redefine its outputs. In addition, efforts to establish frameworks and build a linkage with architectures such as SOA and modeling are going on to further roll out the initiative to SI upstream in a seamless manner.

During the analysis of materials obtained

through ethnography, a neutral standpoint should be maintained and we should avoid needlessly guiding clients to businesses affiliated with Fujitsu (SI, Consulting etc.). However, our greatest target in future is to offer comprehensive solutions by using Business Ethnography as a starting point, should there be any demands from clients.

## 3. Organizational Monitor

### 3.1 Overview

There are many types of standards and approaches including Project Management Body of Knowledge (PMBOK),<sup>1)</sup> Capability Maturity Model Integration (CMMI)<sup>2)</sup> and Japan Quality Assurance Organization (JQA)<sup>3)</sup> for innovating working styles such as quality improvement, process improvement and management reformation. The problems pointed out by people in the workplace who actually implement those initiatives are unwillingness and stagnation.

Accordingly, we will introduce our novel service called Organizational Monitor, which is a supporting service to reform working style by using ethnography suitable for analyzing people’s behaviors and awareness in the real world, and with active application of Ethno-Monitor, a series of tools using multiple proprietary technologies. The characteristics of Organizational Monitor are summarized below:

- 1) Removing unwillingness by diverting viewpoint from individual to organization;
- 2) Preventing stagnation by appreciating the value of changes; and
- 3) Nurturing power to continue working style innovation by measuring efficacy and setting targets.

Based on these three characteristics, Organizational Monitor aims to promote ongoing and proactive innovations in working style that will have a positive impact on an organization.

### 3.2 Mechanism generating unwillingness and stagnation

People often feel unwillingness because they are frustrated with the fact that they should participate in the working style innovation by themselves. Such frustration does not occur because of a lack of enthusiasm; rather, it is a widely observed phenomenon typically seen in a model called “prisoner’s dilemma.” It is one of the typical models of Game Theory in the field of economics.<sup>4)</sup> Based on this model, there are four combinations of actions to take (implement/not implement) related to the working style innovation as shown in **Figure 5**. If Member A does not implement innovation, neither Member A nor Member B has any frustration as long as Member B does not implement the innovation (A:0 = B:0). However, if Member B implements the innovation in this situation, Member A considers that he has won and Member B considers that she has lost (A:3 < B:-1). If Member A implements the innovation and Member B does not, Member A considers that he has lost and Member B considers that she has won (A:-1 > B:3). From the standpoint of Member A, the probability of feeling frustration associated with non-performance is 0, while it is 50% (1/2) when he opts to implement. Therefore, Member A tends to think that it is more advantageous to choose not to implement. If each member opts to not implement the innovation so as to avoid feeling frustration (i.e. unwillingness), the working style innovation

becomes stagnant, resulting in degradation of the organization as a whole. However, if each member understands the frustration of other members and volunteers to implement innovation together with the other members, there will be a positive outcome across the organization, leading to a comfortable environment for its members. To go on from understanding the frustration of other members to achieving ultimate benefits for the organization, mutual collaboration is essential. Collaboration in this context refers to the choice of behaviors optimal for the whole organization based on mutual consultation.

### 3.3 Method to remove unwillingness for working style innovation

First of all, to remove unwillingness toward the working style innovation, Organizational Monitor has an independent stage that aims to divert viewpoints from the individual to the organization, based on the above-mentioned Game Theory.

The first step of this stage is to survey the current working style using ethnography methodology.<sup>5)</sup> Straightforward opinions and specific behaviors of organization members are analyzed qualitatively for each business area such as intra-organizational coordination, inter-organizational coordination, job style and meeting style, areas in which frustration is frequently expressed. While the analysis is carried out based on multiple methods, Two-

		Member B	
		Not implement (probability of frustration: 0)	Implement (probability of frustration: 1/2)
Member A	Not implement (probability of frustration: 0)	(A:0 = B:0) Neither party feels unwillingness → Cessation of innovation	(A:3 < B:-1) Member B feels unwillingness → Stagnation of innovation
	Implement (probability of frustration: 1/2)	(A:-1 > B:3) Member A feels unwillingness → Stagnation of innovation	(A:2 = B:2) Both parties benefit → Promotion of innovation

The inequality sign shows a comparison of amount of frustration

Figure 5  
Mechanism of unwillingness and stagnation that occur in work style innovation.

Factor Theory<sup>6)</sup> in the field of psychology is one of the methods used as a basis. Two-Factor Theory has the advantage of allowing clear-cut analysis by dividing the actual situation into Hygienic (Negative) Factors involving frustration with personal relationships or the environment, and Motivational (Positive) Factors involving satisfaction with promotion or salary. However, the results of our analysis using ethnography revealed that it was not always possible to divide the actual working style into two factors. On the contrary, we demonstrated that many factors have both positive and negative aspects. Therefore, we expanded our analysis scope by adopting both separation into two factors and the merger of two aspects.

In the next step, the percentage of frustration with awareness and behavior of the members are measured and quantitatively analyzed versus the whole organization. This survey is carried out through interviews conducted by fieldworkers or inputs or outputs from a Web-based system that we constructed. By using this Web-based system, it is possible to perform a survey in organizations that are spread over multiple sites or large-scale organizations with more than several hundred members. In this survey, the degree of dispersion across the

whole organization is shown by indicating the percentages of frustration and satisfaction with organization-specific awareness and behaviors as well as the incidence of problems in each business area, instead of presenting an average value for each item based on standardized classification. The results of this multi-faceted analysis are converted into a very compact list (a single page of A3) as indicated in **Figure 6**.

This approach makes it possible for organization members to understand the whole picture of the organization with less effort while guiding their interest from the level of the individual to the organization. By presenting to the members straightforward opinions and behaviors that exist in the organization they belong to, this approach helps them to recognize the reality and take case-specific countermeasures. By objectively reviewing the whole picture of the work style from an organizational viewpoint, each member can recognize the actions that generate a positive outcome for the organization as a whole.

### 3.4 Method to prevent stagnation of work-style innovation

To prevent stagnation that occurs frequently during the process of work-style innovation,

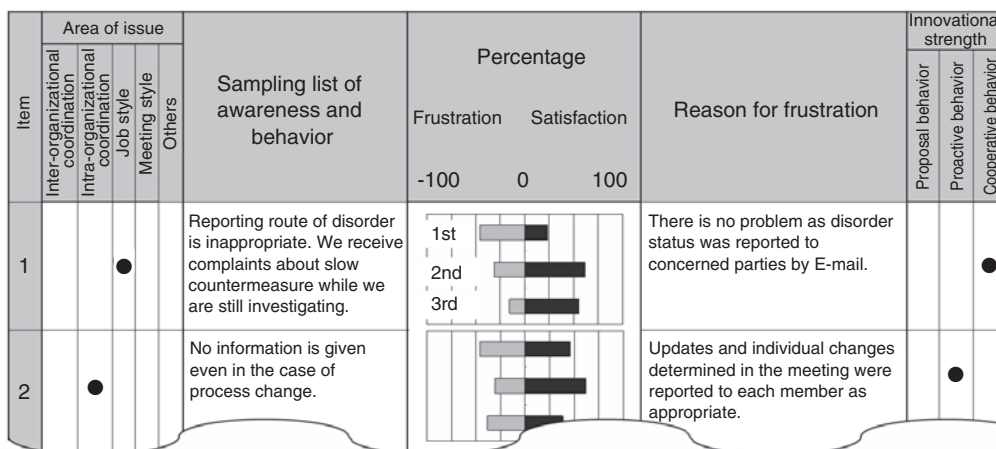


Figure 6 Use of organizational monitor on work-style analysis.

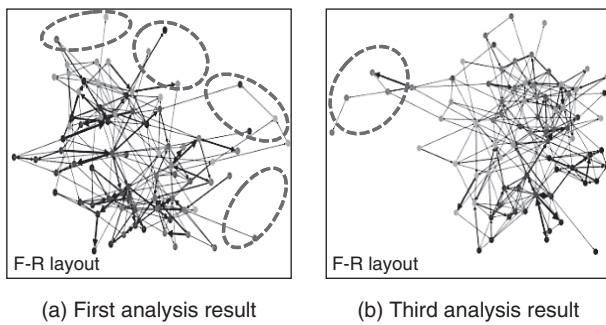


Figure 7  
Use of communication monitor on inter-organizational coordination—Changes in mutual communication among members during the work—. Objectives requiring cooperative work among groups were added to the target of organization (a). Number of isolated members has been reduced (b).

Organizational Monitor has an independent stage where members of the organization can enjoy changes by presenting the changes that have happened in the organization in various ways. The following example is one of these cases.

Figure 7 shows a periodic analysis of the structural changes in the organization as a whole by using Graph Theory<sup>7)</sup> in the field of mathematics. This graph visually impresses all the organization members by showing them the changes that happened in mutual communication of the members engaged in the work and the discussions in multi-disciplinary review meetings during the period of work style innovation. Such stimulation will help to enhance their commitment to or awareness of the need for an urgent innovation of working style. It also encourages the members to verify the appropriateness of countermeasures and change priorities.

### 3.5 Method to nurture power to continue work-style innovation

To nurture power to continue the work-style innovation, Organizational Monitor has an independent stage where innovational strength is measured and the reinforcement of innovational strength is aimed at through appropriate target

setting.

As already explained in the part about Game Theory in the section of “Mechanism generating unwillingness and stagnation,” the cooperation of organization members such as the choice of behaviors optimal for the whole organization is essential to achieve ultimate benefits for the organization as a whole. Therefore, we divided cooperation in the working style into proposal behavior, proactive behavior and cooperative behavior, and defined the amount of these three behaviors as innovational strength. These three behaviors are identified by using ethnography and Ethno-Monitor approaches. Organization members are asked to set their next targets for improvement of innovational strength by using the initial amount of innovational strength as a reference. Figure 8 shows some of these examples. In this organization, measurements were conducted three times every four months. Because the measurement results revealed that frustration disappeared and innovational strength increased, a higher target was set for the next period.

Thus, by using Organizational Monitor as a pacemaker for achieving a target every few months, the power for continued commitment to the work-style innovation can be nurtured without forced efforts.

### 3.6 Effects and challenges

When organizations were committed to work-style innovation on a continuous basis by repeatedly implementing the aforementioned stepped procedures, positive effects were observed including the improvement of relationships with customers, reduction of errors and reduced time needed for designing in addition to a dissolution of frustration. Figure 9 shows the record of improvements measured every four months made on the 47 improvement opportunities identified in an organization.

On the other hand, Organizational Monitor has its own objective of enhancing its diffusion



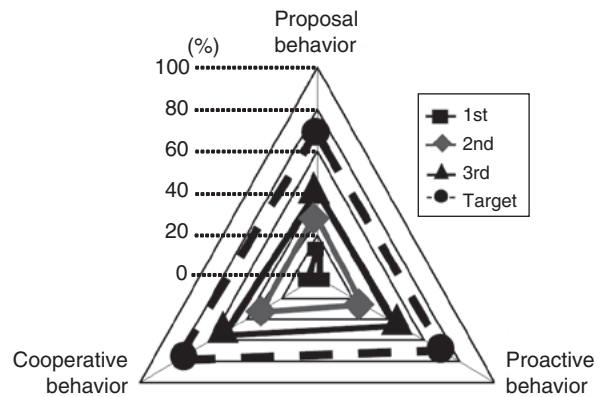
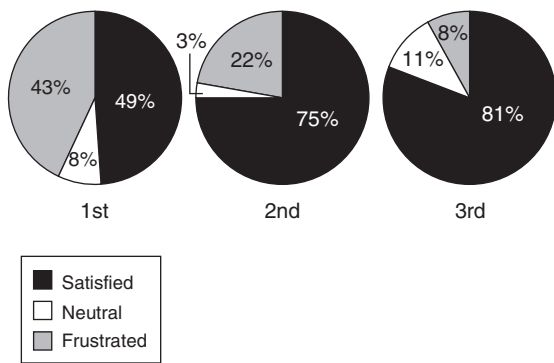
rate. If this system is used by more organizations concurrently, inter-organizational collaborations and optimizations can be expected. We intend to promote systematization of the accumulated case studies and to increase shared knowledge on the countermeasures in combined use of Handing-Down of Craftsmanship,<sup>8)</sup> which is a service to support visualization of tacit knowledge and its penetration into organizations.

#### 4. Conclusion

An approach based on ethnography is a totally novel concept, although the history

of ethnography itself is long. We can make a greater contribution to clients at an earlier stage by making proactive access and sharing the facts and challenges evidenced by the reality of clients' business practices before receiving a Request for Proposal (RFP) or other types of request.

This is a new working style proposed by Fujitsu that helps clients to achieve their innovations, aiming at consolidating people, organizations and processes by understanding human resources and organizations without depending too much on process improvements, as is often the case with conventional approaches.



(a) Percentage of frustration/satisfaction

(b) Percentage of innovational strength

Figure 8 Use of organizational monitor on measuring innovational strength and target setting.

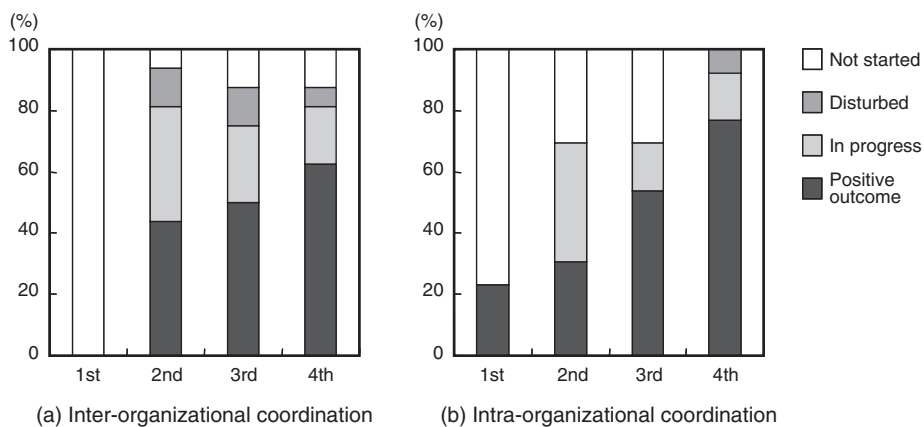


Figure 9 Measured result of improvements in domains where problems occur frequently.

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