

**LOOKING THROUGH KNOWLEDGE GLASSES: A NEW
READING OF OPERATIONS MANAGEMENT**

**- THE DILEMMA OF PROCESS FORMALIZATION. INITIAL
OUTCOMES OF A FIELD STUDY -**

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ABSTRACT

The possibility of expliciting practice has been and still is a controversial issue that has been the central focus of theoretical papers, dissertations and practical models within the knowledge management field. Although most of these discrepancies are of a theoretical nature, they have nonetheless a great impact on the practical domain that goes far beyond just the knowledge management field.

This paper aims to shed light on some aspects related to the possibility of expliciting knowledge. The Operations Management field will provide us the opportunity to address this issue. In this field, process documentation is a well-established practice that aims to capture the business practice in process representations like blueprintings and flowcharts. These explicit documents play a key role in process management, design and improvement. But, to what extent do they reflect practice? This is the dilemma of process formalisation that we will tackle through a theoretical analysis and through a case study of a Spanish service company immersed in making their practice explicit.

1. INTRODUCTION

Although knowledge has been an old issue tackled for centuries, the current business scenario has conceded great attention to it. Organizational learning and more recently the knowledge management field have sparked renewed interests in the business environment, raising many new issues. There is now a pressing need to understand the role of knowledge in the organization and link knowledge issues with managerial practice.

In the current practical scenario, we can discern different ways of implementing knowledge management in a company. However, some theorists and practitioners have tended to tackle knowledge issues as something independent of current business practice. Knowledge officers, knowledge platforms, knowledge mapping and knowledge base are all pieces of a practical approach, which focuses on structuring an independent knowledge system in the organization alongside existing ones. It implies that the organization will continue with its traditional systems whilst running a parallel knowledge management system. However, knowledge cannot be separated from the way a company performs. Knowledge is integrated in organizational practices and should become a natural part of the way people organize themselves and their work and not something apart from it. It is not an adding characteristic but an integrated part of managerial practice. Failing to consider these facts has created many practical problems and produced missed opportunities in both the research and practical fields.

One of the management fields, which offers us the opportunity of exploring knowledge issues is the Operations Management (OM) approach, in which quality initiatives are framed. According to Prusak (2001: 1005) “the three practices that have brought the most content and energy to knowledge management are information management, the quality movement, and the human factors movement”. Till now the major implication of knowledge in Operations Management has been establishing a good information system for gathering relevant information for the company (-including customer requirements and preferences).

Far from undervaluing the contribution of information system to operational issues, we think that there are many more areas of the Operations Management field which bear strongly on Knowledge Management aspects (see figure 1). For instance, benchmarking is based on best-practice definition and knowledge transfer issues play a crucial role in this process. The Total Quality Management approach is based on a continuous improvement philosophy, which in turn rests on organizational learning and knowledge creation. Indeed this is a fruitful domain that provides new opportunities for research on knowledge and operations issues.

2. A KNOWLEDGE MANAGEMENT “READING” OF OPERATIONS MANAGEMENT PRACTICES: THE DILEMMA OF PROCESS DOCUMENTATION

One of the issues knowledge and operations are interrelated is the process management field. Operations management focuses on organizational processes, which are the fundamental activities that organizations use to work (Krajewski et al., 2002). According to Melan (1992:15) a process as “a bounded group of interrelated work activities providing output of

greater value than the inputs by means of one or more transformations”. In more general terms, a process is essentially a method for doing things (Garvin, 1999). Due to the relevant role of processes, one of the most important fields in OM theory is process management, which focuses on designing and managing processes.

Related themes of Operations and Knowledge Management	
Operations	Knowledge
Process Design	
• Process Documentation	• Implicit and Explicit Knowledge
	• Sharing Knowledge
Business Process Management	• Communities of practice
	• Activity Systems
Total Quality Management	
• Continuous Improvement	• Organizational Learning and knowledge creation
• Improvement Teams	• Knowledge creation, communities of practice and Team Learning
• Benchmarking	• Knowledge transfer and best-practice definition
Performance Measurement Systems	• Knowledge Indicators
	• Intellectual Capital
Service Operations	• Knowledge-intensive firms
	• Knowing in practice

Figure 1

In process management theory, documenting processes at the design stage is a well-established practice. Documenting the process implies making explicit how a given practice/action should be carried out. These charts provide a symbolic representation of all the activities and are of key importance to understanding, communicating, analysing and improving the process. They are considered a reference for employees in order to perform their tasks.

However, although the majority of practitioners translate the way the organization operates into explicit documentation, there are indications that make think that these documents do not reflect how the service is really delivered. It is doubtful that they can exactly reflect the practice (Nelson and Winter, 1982; Suchman, 1987,1994; Symon et al. 1996):

“Engineering blueprints, and symbolic design records more generally, do not contain an exhaustive account of the methods involved in the actual exercise of a productive capacity. As a matter of fact, blueprints often are quite gross descriptions of what to do,..., much less provide “how to do it” instructions at the job level. As a matter of logical principle, it seems clear that a symbolic record could not provide an exhaustive account of the methods required for its own interpretation; rather, the use of such records presumes the availability of intelligent interpreters drawing on knowledge not contained in the records themselves.” (Nelson and Winter, 1982: 62)

These few lines can illustrate some of our concerns. On the one hand, we assume that in practice we need something more than this “what-to-do” knowledge. On the other hand, having access to this documentation does not guarantee understanding because an

interpretation is needed. The roots of these problems stem from the theory of the existence of explicit and practical knowledge. Explicit knowledge is abstract and easy to be codified in a document. However, process documentation aims to capture practice and this objective is not exempt of difficulties. To what extent can practical knowledge be made explicit? To what extent does process documentation influence practice? And how do we know in practice?

Many contributions help us to understand the scope of the problem, even if they do not specifically tackle the issue of process documentation. For instance, Ryle (1949) defended the idea that rules or procedures do not guide human actions. He stressed the idea that people do not think in a set of rules or procedures and then act, but in practice thinking and acting happen at the same time. He also argues that many times intelligent performance takes place but criteria, rules, maxims, imperatives or regulative propositions remain unformulated. Therefore, the inexistence of these maxims does not prevent action from happening.

In this vein, Polanyi (1958) claimed that in many situations individuals tend to search for rules, in the naïve belief that these will help them understand what conducts their actions. However, he pours cold water on the idea that any real understanding will be gained through such an exercise:

"... the aim of a skilful performance is achieved by the observance of a set of rules which are not known as such to the person following them.... Rules of art can be useful, but they do not determine the practice of an art; they are maxims, which can serve as a guide to an art only if they can be integrated into the practical knowledge of the art. They cannot replace this knowledge." (1958: 49-50)

In this statement, Polanyi makes two aspects clear. On the one hand, he states the difficulty of identifying these rules given that the actor may not know exactly how he performs an act. On the other hand, Polanyi considers that although we can state some rules in relation to an action, they constitute nothing more than a guide, a point of reference or a framework but are different from the practical knowledge actually involved in acting, performing or practicing an art. This set of rules is not enough for a skilful performance. Hence, stated rules do not imply heedful or artful action. Practical knowledge¹ is much more relevant here.

Nonaka and Takeuchi (1995) state that in order to turn practical knowledge (or, as they put it, tacit knowledge) into explicit a big effort should be made through a phase of externalisation. For these authors, externalization is the cornerstone of knowledge creation because it creates new, explicit concepts from tacit knowledge. This is possible through the sequential use of metaphors, analogies and models. Externalization occurs when concept creation processes take place. The following extract from "The knowledge-creating company", covering the development of an automatic home bread-making machine illustrates this point of view:

"... she was able to transfer her knowledge to the engineers by using the phrase "twisting stretch" to provide a rough image of kneading, and by suggesting the strength and speed of the propeller to be used in kneading. She would simply say, "Make the propeller move stronger", or "Move it faster." Then the engineers would

¹ This practical knowledge is what William James(1955) referred to as "knowledge of acquaintance" and Ryle (1949) as "know-how".

adjust the machine specifications. Such a trial-and-error process continued for several months...The team then materialized this concept, putting it together into a manual, and embodied it in the product." (1995: 104-105)

Nonaka and Takeuchi defend the idea that the practice of bread kneading was articulated and turned into explicit knowledge through externalization. In the beginning, "no one could explain why" making bread as good as the head baker's was so difficult. After the externalization process, the engineers managed to materialize the concept and they made it explicit in a manual.

Tsoukas (2002) criticizes Nonaka and Takeuchi's idea of externalisation arguing that they did not understand Polanyi's concept of tacitness. He claims that Nonaka and Takeuchi failed to notice the idea of ineffability of tacit knowing and they simplified the concept as knowledge-not-yet-articulated. Opposing these ideas Tsoukas argues that this practical knowledge cannot be "captured" or "translated" but only display and manifested in action. Through social interaction new knowledge arises.

These criticisms of Nonaka and Takeuchi's model were not new ones. In 1999, Cook and Brown also discarded the possibility of turning tacit knowledge into explicit, making the point that no amount of explicit knowledge would help one perform the real-life task. Explicit documentation is therefore insufficient. One of the points they address is that four kinds of knowledge come to play when a task is being performed. These are the result of the interplay of two main variables: explicit/tacit knowledge, and individual/collective knowledge. Even if we could gather every scarp of explicit knowledge, tacit knowledge would still remain unformulated and therefore, the collected one would be incomplete and insufficient to act.

In the current knowledge scenario these tensions are still in place. On the one hand, we found defenders of Nonaka's and Takeuchi's ideas concerning the possibility of expliciting and codifying practical knowledge (e.g. Allee, 1997; Gupta and Govindarajam, 2000; Crossan et al., 1999; Boisot, 1995; Davenport and Prusak, 1998). On the other hand, there are authors who consider the idea impossible (e.g. Tshoukas, 1996, 2002; Gourlay, 2002; Cook and Brown, 1999; Wenger, 1998; Brown and Duguid, 2000, 2000b).

Taking these discrepancies into account we aim to shed light on this issue through the study of a case study, which embodies the dilemma of expliciting practice. The problem of process documentation is a valuable example that allows us to analyse this issue in the practical field. To what extent is the actual practice captured in those process representations so commonly used in business practices? Are such representations mere fallacies or do they provide a valuable guide to practice?

Although most of Nonaka's and Takeuchi's detractors do not explicitly refer to process documentation, they would probably agree that important aspects concerning practice are either neglected or not captured by these flowcharts and other kinds of symbolic representations.

In line with these ideas, some authors also directly refer to the process perspective, arguing that processes are fairly far removed from practice. The analysis of their ideas is an essential step in this study.

3. PROCESS VS PRACTICE: COMPLEMENTARY OR CONTRARY? FRIENDS OR ENEMIES?

Brown and Duguid in his book “The Social Life of Information” (2000) and in forthcoming articles (2000b) looked at the differences and tensions between the organizational processes and the practice. Their shadowed inquiry is exploring the ways individuals applied formulated rules and procedures to their specific work.

They suspect that the focus on process may overlook the increasing demand for knowledge in contemporary organizations due to a number of reasons. First, they claim that linear processes or charts do not encompass all that goes on in organizations because there are areas in the organization where making sense, interpreting and understanding are crucial and clear inputs and outputs are difficult to identify. Moreover, the process did not reflect practice because it is indifferent to the internal working of these stages where lateral ties among practitioners take place. These lateral ties are key for making meaning because practitioner’s knowledge comes more from fellow practitioners than from cross-functional connections. And finally, a process-based perspective fosters a top-down approach where practitioners are mere resources and they are given the procedure they have to follow from above.

Secondly, these facts highlight tensions between the demands of the process and the needs of practice. These tensions are usually caused by meaning struggles between organization’s “thinkers” (who make and imposed the rules of the game), and the people who do the work.

Thirdly, in order to bridge the existing gap between process and practice, practitioners employ collaboration and improvisation. Brown and Duguid consider improvisation as a good indicator of the inadequacy of the process. This breaking-rule situation invites punishment and hence practitioners employ tricks to hide what they are actually doing.

Finally, defending the idea of the limitation of the process to gather all the practice. They lead us to focus our attention not only on the process but also on the practice because “in the end it is the practice of the people who work in the organization that brings process to life and indeed, life to process” (2000:96).

Brown and Duguid draw on their previous studies to sustain their ideas. For instance, their first work on communities of practice (1991) identified two different types of practice: canonical and noncanonical. The former groups all the formal descriptions of work (e.g. procedures, manuals, job descriptions). The latter refers to the actual practices of the organization’s members. Their discourse on communities of practice is strongly supported by their analysis of a gap between those formalized procedures and actual practice.

Drawing on Orr’s famous case study of Xerox technicians, Brown and Duguid conclude that “their success is in good part a triumph of practice over the limits of process” (2000:99). However, Orr’s case does not give many information about important matters that would make this conclusion being sound. These omissions includes: how the process was defined, what methodology was employed, whether it was a problem in the implementation of the

We will try to shed light on these shortcomings by analysing a case study in a service public company (this forms part of an ongoing research project). In it, we will focus on how they document and formalize a process and to what extent the final documentation reflects the analysis of the practice.

4. A FIELD STUDY IN A SPANISH SERVICE COMPANY: DATA OVERVIEW

Emfo S.L is a public employment service company founded in 1989 and owned by the local City Council. Its current mission statement states that the company aims: “To foster the social and economic sustainable development of the community, through the information, counselling, training and job placement of its citizens; encouraging and giving support to the companies of the area in their creation and maintenance. Everything developed under a social and service quality commitment”. All their services are free and including programs for people with disabilities, minorities, immigrants, older workers, young people and women, meeting social commitments.

In 2002 the executive team decided that they should implement the new ISO 9000:2000, a quality management model. The project started in summer and one of the first implementation steps was to review their processes, document them and standardize them according to the norm. We accompanied them in this process, trying to answer the following questions: how is a business practice documented? To what extent were the practical aspects gathered and codified in the final formal outputs?

In pursuing these objectives, we adopted an action research approach, participating in process ourselves. Four workshops in order to formalize the process and subprocesses were conducted, recorded, transcribed and analysed. Moreover, we analysed the company’s existing documentation and personal interviews with some of the participants involved were conducted.

4.1 The Context: The “Job Placement” process and the practitioners

One of the key processes for this organization is the “Job Placement” process as it is the one where the job seekers are interviewed and at the same time it is the place where they receive the job offers from the hiring company. The organization’s task is to find the best candidates for the job.

The process starts when a citizen comes in seeking for a job. Then he (or she)³ is interviewed by specialized “technicians”. These “technicians”, as they are called within the company, are psychologists or sociologists whose main tasks comprise discovering the candidate’s professional and personal profile, his motivations and expectations with a view to identifying employment opportunities⁴. They then counsel him in order to adjust their requirements with the reality of the labour market. Once the candidate and the technician agree with the diagnosis, the candidate’s data is introduced in the database and he will be considered for

³ Henceforth the masculine form subsumes the feminine one.

⁴ This phase is usually called the “diagnosis”

forthcoming offers. While waiting for a suitable offer, he may avail himself of another service which provides him with the resources and counselling to look for a job himself. At the same time, companies looking for employees phone the company and make job offers. The specialists try to find them the best candidates for the job with the objective that at the end one of the proposed candidates will be accepted.

Far from being an easy-defined process where inputs and outputs are easily measurable, this process should be flexible enough to meet the requirements of citizens and companies and at the same time the process, and the practice, should meet the general policies of the company including the labour policy of the town council. Apparently it may seem a simple process, but it is full of implicit statements and where socialization and learning-by-doing plays a crucial role.

In this process there are mainly three participating departments, although most of the activities are done by the SACE⁵ department. This department is constituted by a manager, and four different groups of technicians mainly focused on customer interviews, relationships with the companies, self-job search counselling and special programmes for people with difficulties respectively⁶.

4.2 The Documentation Process

Employed Methodology

In order to be able to analyse till which extent documents reflects practice it is especially important to understand the methodology followed by the group in order to document and make explicit the process. Before starting documenting the process, the group was equipped with many organization artefacts: mission and vision statement, corporate objectives, strategic indicators, a communication manual and process documentation depicted by the previous team in charge of this process.

They also set up from a processes map. This document collected the output of a Steering Committee meeting in which they had identified and classified the business processes of the organization. In total, there were thirteen business processes. The “Job Placement” process was one of those. With this information they started.

The first step was to review the old flowchart of the process and analyse to which extent it matched with how actually they perform it now. They identified changes and improvements and they prioritise what to change first. One of the first things they decided was to document some sub-processes that remained undocumented but they considered them crucial to perform

⁵ SACE stands for “Servicio de Atención al Ciudadano y a la Empresa” (Service of Attention to the Citizen and the Company)

⁶ At the moment we started this study, the head of the department and most of the technicians with the exception of two of them, were newcomers.

their practice. These sub-processes were: the interview with the job-seeker, the collection of the job offer, candidates selection and the self- looking for the job sub-process⁷.

Chasing this objective, the following step was to define the subprocess. This implies identifying its mission and objectives, its outputs, its customers, establishing the frontiers of the process and its more relevant inputs.

Afterwards, they identified the activities to perform and represented it using a common used symbology. Figure 3 illustrates the main steps followed.

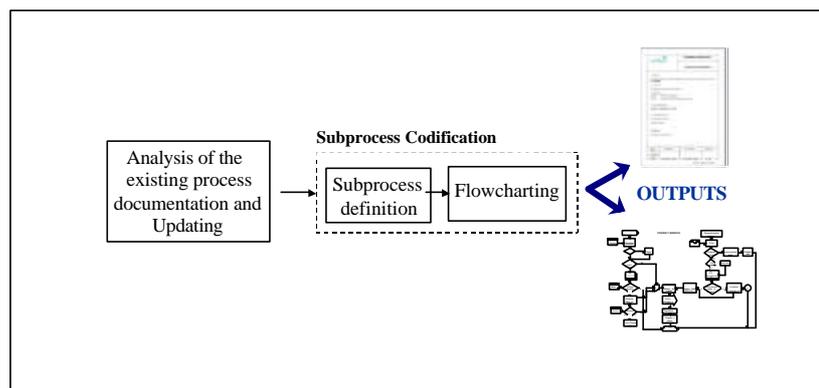


Figure 3- Steps to Document the Process

It is important to highlight that the same people who participate in the process are the ones who depicted the process flowchart. Each unit, which performed any activity in the process, was represented by one or two members of it. All these meetings were conducted by an external consultant⁸ who paid attention to the methodological aspects and played the role of referee. Practitioners’ participation is an important aspect because some authors have criticized how far the processes are from the actual practice due to the fact that these have been imposed from above by process designers (e.g. Davenport, 1995; Brown and Duguid, 2000, 2000b). This is not the case. The same practitioners are the ones who are in charged of designing, improving, documenting and expliciting their own process.

Phase 1: The analysis and updating of the previous process documentation

After a methodological introduction and equipped with the existing process documentation, a group of eleven members from two different departments initiated the comparison of the depicted process with the current actual practice⁹. Six members of the group were newcomers and five old-timers.

⁷ In this company, this subprocess is called “Aula Oberta” –AO- which stands for Open Room and indeed it has its own location and especial space. It consists of a room where there are computers, telephones, fax, magazines, newspapers and other resources to help the job-seeker to find a job by himself.

⁸ The external consultant is part of the current research team. She is not an unknown person for the company members because he has been working with them since 1998 and she had much historical knowledge about the company.

⁹ This phase also implied identifying the process strengths (in order to be maintained), weaknesses (in order to start improvement actions) and critical activities and prioritising the improvement actions according to them.

Following these guidelines and working in two groups, the first thing was to understand the flowchart. For the newcomers the existing flowchart meant nearly nothing. They could read it, they had knowledge but they could not identify it with practice. This is an important fact because as many authors have claimed the representations are not knowledge itself (e.g. Clancey, 1992) and an interpretation and sense making is needed. For this group of newcomers, all those symbols and flowcharts had no meaning and prior to discussion getting understanding of it was crucial. To achieve this understanding the old-timers played a crucial role because they explained to the others the meaning of the symbols and how the activities were interconnected.

However, the level of detail in this flowchart was not very low. The only information they had was the sequence of activities and the name of the activity. For instance, after the welcoming the new job-seeker was interviewed. Indeed in the flowchart there was a “square box” named “Interview”. However, there was no information about how to conduct the interview or what happened within that “box”. So, in order to get a better understanding, they asked questions in order to know about each activity. At the end of the session, although the macro process representation did not focus on internal workings within each activity, the group recognized the need to focus on them and drill them down¹⁰.

The existing flowchart helped the participants to check the order or sequence of activities. To pass judgement on this matter, the participants asked for what was done in an activity. Then they compared what the practitioners did with what they were supposed to do. The supposed meaning of the activity was determined by the general understanding of the majority of the participants of the process. The meaning of the activity resulted from the practitioners who carry it out and also from the preceding activities and next activities of the process. To illustrate this aspect, we present a short part of the dialogue of a session:

(Technician 1): *But a resume session is just typing the resume, isn't it? Or does it imply something more?*

(Tech. 2): *It's something more because many times they come and say: "Well, I have worked on this" and you have to make them speak and detail. "Well, and what exactly did you do?" "Well, I did this and that and..."*

(Tech. 1): *So, perhaps this should not be here (pointing the old flowchart). I mean, if this is so, this is a task of the technician and not a task of the receptionist and administrative personnel, isn't it?*

(Tech. 3): *Yes, that is.*

(Tech. 1): *Ok, I think that the problem is here. Instead of being located here this should be down there, I don't know, somewhere..... because they (referring to administrative personnel) are not enough prepared to extract this information...unless you need this information before the interview.....*

¹⁰ At the moment one macro activity is drilled down and represented in further detail, this one turns to be a “subprocess”.

(Tech. 4): *Yes, because this session is the resume confection*

(Tech. 1): *and to identify all the tasks he has done in a certain job*

(Tech. 2): *and to extract that information so that the resume is appealing to the company...*

The final output of this phase was the redesign of the process at a macro level (see figure 4). According to how the practice was done currently, they changed the order of two activities, they eliminated some activities of the process that were not done any longer and they also redefined the boundaries of this process because some activities done by the department were part of another process. However, they identified the close linkage between both processes and how depending on the results obtained in one, the other process was started or not. They also detailed a bit more the flow because in the previous depicted flowchart they could not see their actual practice. They also tried to maintain the same level of detail in the overall flowchart and they grouped some activities in one major activity with the objective of drilling it down in forthcoming sessions.

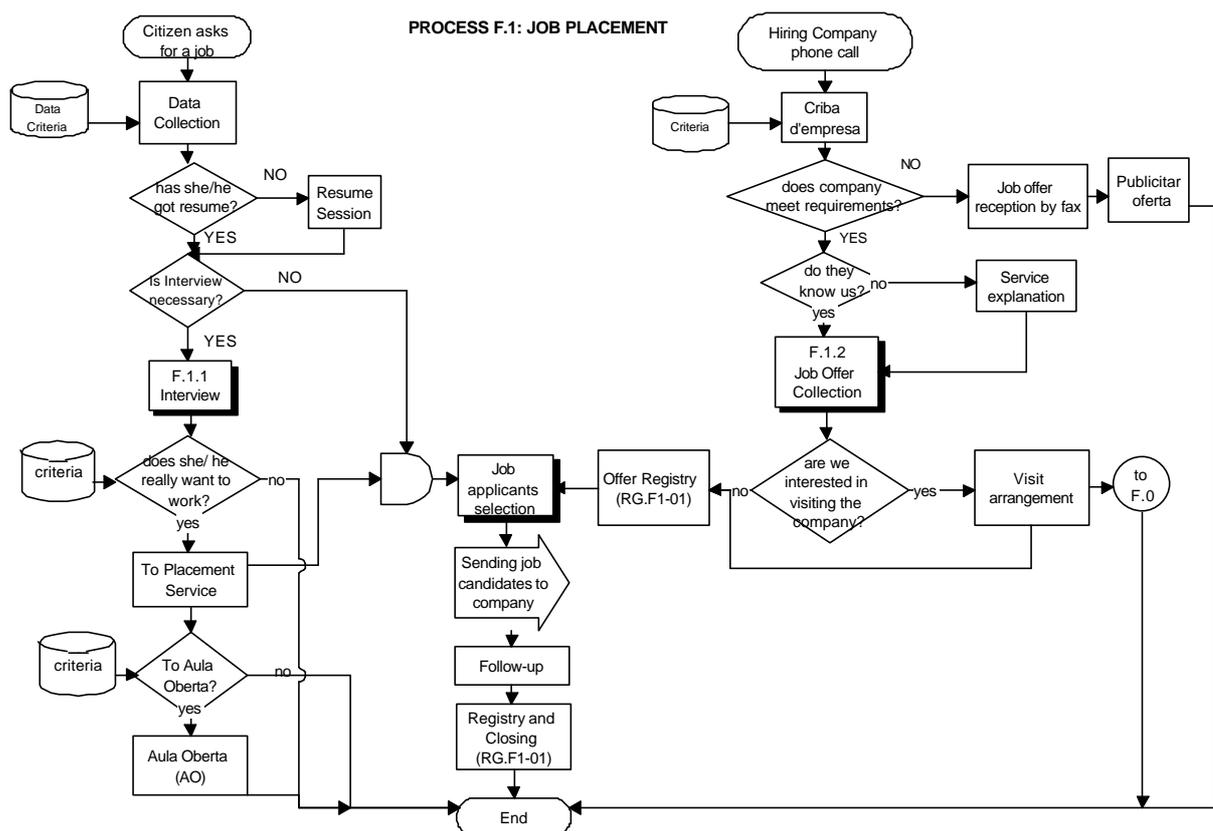


Figure 4: The Process Flowchart: “Job Placement” (macro level)

Phases 2 and 3: Expliciting the Subprocesses: Defining the Profile and the Flowchart

During the process of diagramming their practices, the practitioners were immersed in a productive group dynamic. Through conversation, a dialogue was established between the different colleagues that participate in the “Labour Placement” process and between them and the flowcharts¹¹.

The dialogue met three main requirements for being productive (Bohm, 1990). The participants were considered “colleagues” even though the head of department participated. A referee, role played by the consultant, conducted the dialogue. And, finally, somehow they suspended their beliefs in the sense that they communicated freely their ideas without existing the need of who held the “truth”. These rules of the game were commented and agreed before starting.

Before starting depicting practice, the group started defining concepts. All of them were commonly used in their practices. The fact was that although everybody used the same words, the meaning was not the same for all of them, supporting the fact that common sense meaning of words involves, among other aspects, explicit, implicit knowledge and tacit knowing connotations (Bonet et al., 2002b).

The discussion of concepts followed a similar pattern. The referee asked a definition about how or what they did in practice. One of the participants, based on his/her experience, tried to define it. Then, the referee looked for a contradiction or an objection, making the practitioner to redefine it again taking into account the last considered aspect. In that moment, the referee or another colleague added another counterargument based on previous history of the company (in the case of the referee or an old-timer) or based on his-her own experience (in the case of another colleague). Following this unconscious pattern, the group went on with the definition of the concept till they reached consensus. At that moment, the referee introduced another question and the process started again. In all this process, some aspects of the Socratic method can be identified. In general it constituted a sense-making phase where learning and unlearning played a key role without being the explicit objective of the session.

The final definition might not be the “proper” one in a technical or theoretical way but that was not relevant for them. They looked for final definitions that made sense in their practical context and that everybody shared. For instance, during the course of one workshop one of the concepts discussed was the type of companies they were referring to when they were talking about “family companies”. They identified the possible misunderstanding when one of the participants identified a company as a family one, this means using an example. After hearing the example most members of the group identified that that company was not a family company because of the number of workers. If they followed that criteria most of the hiring companies they work with would be so. The referee made the point that *in theory*, a family company is the one owned mainly by one or more families and usually some of its members work in it. Most of the group denied that definition putting forward context reasons. For them, a family company was the one with four, five workers and where you could identify “the owner”.

¹¹ In reference to the maintenance of conversations with objects, the reading of “Learning as Reflective Conversations with Materials” of Bamberger and Schön is especially interesting.

During the course of the session, metaphors, analogies, war stories from the past and an outstanding number of practical examples were used. Metaphors were mainly used to transmit and communicate situations. Somehow the participants, and mainly the referee, employed metaphors to help the whole group to “visualise” a current or a past scenario or situation, which gathered many aspects and it was difficult to explain. As some members said: “metaphors are photographs of reality”. For instance, one of the subprocesses was identified with a “black hole” where the technicians were “firemen”. With that description, everybody knew what implied.

Analogies were mainly used to clarify questions and war stories were explained mainly to avoid previous errors or to compare it with the current practice. The ones who used this tool were the people that had been working in the company longer: the veteran technicians and the referee. In a way they were the ones who had the “organizational memory” of past events and they took advantage of the occasion to communicate to the newcomers all that knowledge and company history. At the same time, sometimes they were also employed for legitimating purposes.

It is relevant to say that we were witnesses of the difficulties that these practitioners had when they tried to describe their daily actions. Silence breaks and statements of inability to express it with words were ubiquitous in all the sessions¹². The way they partially solved this situation was with the explanation of personal experiences and even with the reproduction of actual dialogues they had with their customers (unemployed citizens and companies) in their daily customer encounters. They contextualised the daily situations like in a simulation exercise so that at the end the group was ready to make an abstract conclusion of how they worked. For instance one of the technicians was trying to explain what she did in order to council a citizen during the job searching process:

(Referee): *To council them about what?*

(Technician): *About the searching process. There are people that for instance they do not know how to look in a newspaper. They start looking and the only thing they do is turning pages. And they say to me: “The thing is that I do not see anything”. So you sit down with them and you start telling them: “Ok, you have to look, you have to focus on what you want to find”. And then, you start reading one by one and you explain to them the structure an ad should follow. You have to explain to him: “Look, this is a company of this area which is looking for a person to clean”, whatever, but perhaps that job have many different names and the person does not know them, ok? And for instance, reading with him it allows you to explain him that both are the same and: “you can also work here and there”. It is a bit like that. Afterwards it is a question of practising and at the end that person can see one or two jobs ads that before he could not recognize. That is an example with the newspapers but for instance there are persons who go to a job interview and they ask me: “Well, yesterday they asked me about how much money I would like to earn”, for*

¹² Intuition was also present at the moment they had difficulties to explain practice with words. For instance they employed statements as: “you see it”; “you cannot guess it”; “you read between lines” or “I don’t know how but you know it”. Moreover, even when they had data, as indicators, the newcomers did not rely on them or at least they did not use them. They relied more on their perceptions coming from the practice.

instance. Well, then I say to them: “Well, you should always say the annual net amount and open to negotiation, ok? Do not say an exact amount because everything should be negotiated.” It is a bit like that, ... I do not exactly know, it is a bit like meeting (I do not know) the job research to the market needs.

However, they came to the conclusion that in some cases they could not specify the exact procedure because each technician used different techniques. For instance, they all agreed that during the interview they gathered information about the customer’s expectations but each practitioner employed different questions. Moreover, it was impossible to detail completely the procedure because each situation was different and during the interview or during the hiring company phone call they could find many different types of people and face different situations. The process should be flexible enough to let them give an answer to their customers’ requirements and they decided not to go further in detailing more the activities. As they said, “it would be no operational and impossible trying to depict all the possible real situations”.

They also agreed that during the interview they did more things than the ones depicted in the process flowchart (see figure 5) but they admitted that they could not formalize it claiming complexity reasons. For instance, when they were conducting an interview apart from gathering information and counselling, they manage to discover if the unemployed citizen is understanding them, to keep him interested in the dialogue, to discover to which extent that citizen is really interested in finding a job and so on. However, it was impossible for them to describe how each one carried it out. Therefore, the practitioners were conscious of the impossibility of explicating their practice putting forward several reasons. Some of them were due to operational reasons, others to complex and uncertain customer encounters and others related to the difficulty and complexity of the action and lack of awareness.

However, they agreed that defining the major steps would help them to know what they were looking for in each customer encounter and mainly the newcomers were happy with the sessions because now they knew what they had to do and listening to the colleagues helped them to know how and what to ask to get the required information. Indeed, some of the newcomers had previously asked the old-timers if there was something written.

For instance, before this session one of the newcomers when she was collecting the information of the job offer, she only followed the offer form, which only contained technical data of the company and of the job opportunity. Cultural and other crucial detailed information was not specifically formulated in the formalized record, so she did not ask about it. Now she knew that the meaning and scope of that activity was broader and she should employ more questions. However, these questions remained unformulated. The group decided that it would be a good idea to meet and share this information or to listen to each other when the offer is being collected.

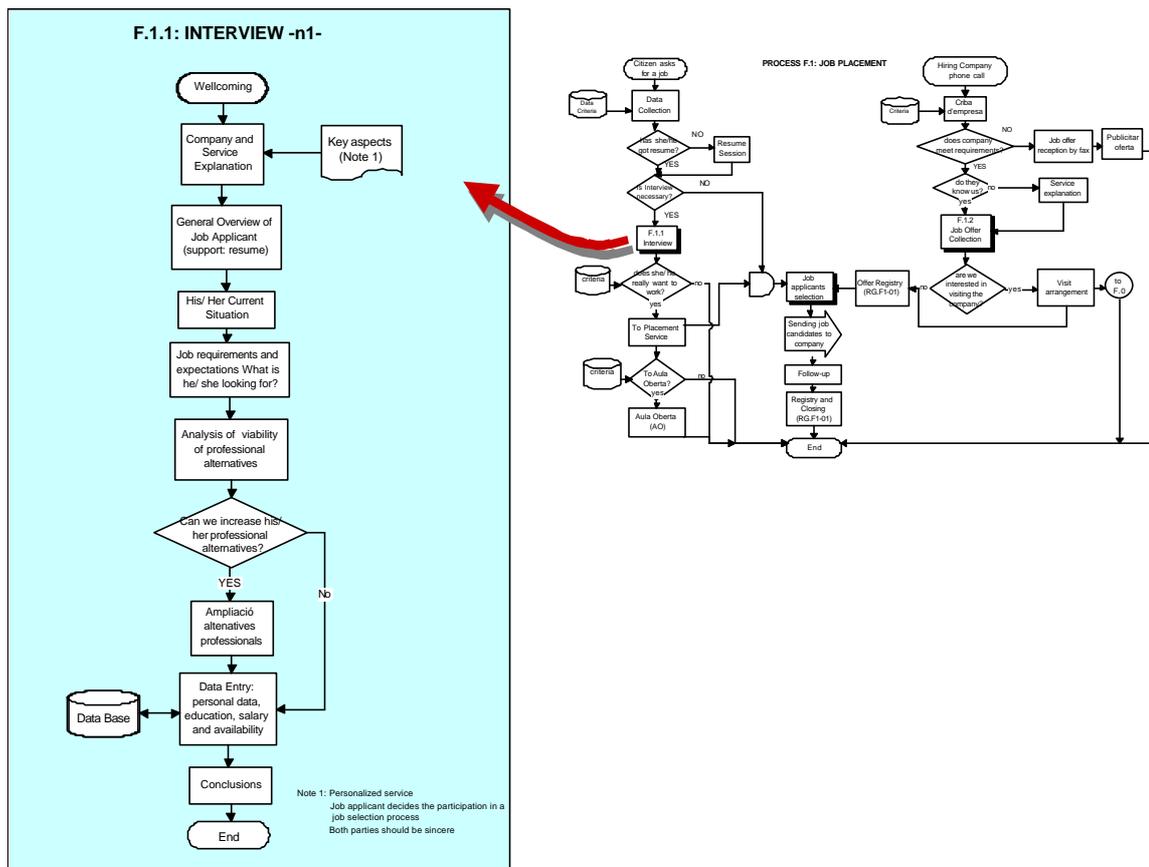


Figure 5- Cascading Subprocesses: “Interview” Flowcharting

5. ANALYSIS AND RESULTS FROM THE CASE STUDY

All this data allows answering our two main questions. Which are the characteristics of this documentation process? And, to which extent does the final process documentation embody practice?

In general, during the documentation process the practitioners got a better understanding of their practice and they were immerse in discussions of meaning. This search for meaning and sense making made the need of reinterpret the previous flowchart of the process because apart from realizing that some activities have changed, it lacked of meaning for the newcomers. This supports the idea that these representations like maps (e.g. Clancey, 1992; Nelson and Winter, 1982) need to be interpreted and to embody some meaning. This meaning comes from the dialogue and communication between the current practitioners who now are in the process.

To give meaning to the representation, lateral ties were considered as each technician explains their own ways to accomplish their common task but at the same time, preceding and

forthcoming activities and customer’s needs gave also sense to their practice. This fact differs from Brown’s and Duguid’s conclusions when they emphasize lateral views because they are the ones who give meaning and “knowledge comes more from fellow practitioners than from cross-functional connections”¹³. Indeed, they identified connections and dependencies with other steps of the same process (within) and with other processes (inter) and these interconnections helped them to understand why some activities were done and its importance in practice.

However, the type and concrete aspects of these dependencies and how to manage them were not collected in the diagrams and they remained unformulated. The same situation happened with the meanings of many concepts. These concepts appeared in the documentation but meaning remained uncodified. Nevertheless, this lack is due to the tool employed, which looks for abstract definition and do not require –compulsory– the explanation of those concepts. For instance, the concept of “professional profile” was discussed and analysed till the group agreed to a shared definition of what a professional profile was exactly. In the formal documentation appeared the concept but its meaning was not written. This situation is due to the tool but according to the practitioners, the meanings of some concepts could have been written as part of the documentation¹⁴.

In the first stage the general flow and the major activities had been identified at a macro level. However, the group considered that this level was too abstract to help them in practice and they drilled down some of the major activities in further detail. Therefore, the process perspective is not indifferent to the internal workings of the different stages in a process as Brown and Duguid defend. The methodology also allows to depict the different activities or subprocesses and the level of detail is mainly decided by people participating in the process (see figure 6). Indeed, in the manufacturing sector, these graphics sometimes may reflect the instruction level. So, neither the process perspective nor the employ methodology prevented the group from detailing their internal workings.

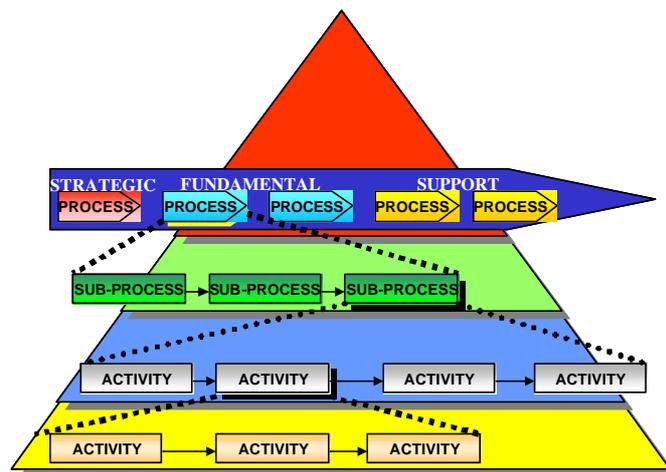


Figure 6- Process Hierarchy

¹³ A discussion about what they understand by “cross-functional” connection offer another field of analysis due to the fact that processes do not only focused on flows between departments but also between groups within the same department.

¹⁴ Indeed, after this analysis they completed the documentation explicating the meanings of some concepts because they considered it useful.

Some authors from the operations management field consider that breaking down the main activities of a process is just a question of the needs of the company and an analysis of cost and benefits (e.g. Malone et al., 1999). They claim not to make efforts to formalize knowledge that is not “useful” for the company. However, these statements do not match with our research findings. Indeed the practitioners considered that that unformulated knowledge was key in order to perform their activities. The fact was that they could not detail and formalise it. Not only operational reasons but also a complex and uncertain object (customer’s encounters), the complexity of the activity, which was done differently depending on the practitioner, and problems of awareness by the same practitioners, prevented them to depict the process in further detail.

Orr’s example presents a situation where machines were assumed to be stable and predictable. Complexity and individual peculiarities were not considered. The situation we are facing in this case is quite similar to Orr’s.

Based on the theory of service classification (Lovelock, 1983, Schmenner, 1986) the direct recipient of the service is the unemployed citizen. Moreover, being focus on the specific and particular situation of the citizen and the company implies that the service characteristics are highly customized and the extent to which customer contact personnel exercise judgment in meeting individual customer needs is also high. Taking into account these characteristics, predetermined courses of action, very standard procedures and detailed instructions are not suitable for this service, if we want to give respond to complex customers and maintain flexibility in an uncertain environment.

Due to these reasons, many relevant aspects were not codified, for instance, all the questions that were used in practice in order to perform their tasks because it was impossible to predict all the possible situations in practice. As a consequence, they made evident the fact that somehow they needed to share their personal experience in order to perform better and learn from each other’s experience.

During the session they also identified problems, outlined possible causes and highlighted the lack of common criteria. Tensions between the process and the customer’s needs; between the actual practice and the process requirements and their role and functions came to light. These tensions were not reflected in the process documentation. The reason was not the impossibility of making them explicit but the objective of the session, which was focus on obtaining a smooth flow of activities instead of identifying tensions and solving them involving process redesign.

Despite these shortcomings, all the interviewed practitioners agreed that participating in the sessions and the final process documentation had helped them to know the different goals they were aiming and to have a better understanding. They were a map or a compass that guided them. For them, those graphics embodied their practice although *they were not* the practice and therefore, they were insufficient to conduct their practices.

They agreed that the sessions were an “excuse” to learn and share experiences and that discussing concepts and meanings had been revealing and worthy. Indeed, one objection to the employed methodology was that not everybody could participate in them. This proves that

collaboration and group work are key in the task of documenting and designing processes and it discards some current ideas of process mapping which document the process based mainly on individual interviews and lacking of this collective aspects (e.g. Jacka et al., 2002; Hunt, 1996).

In summary, flowcharts are a valuable tool for the company. However, they have some limitations when they are employed to reflect complex practices. As we have seen in the analysis of how these diagrams were designed, we have confirmed that they did not collect all the practical knowledge used and needed in practice. Some authors, conducting similar studies on ISO 9000 standards, have defended the idea that ISO documentation extracts tacit knowledge from people in order to produce codified knowledge (e.g. Bénézech, et al., 2001). According with our research, this formalised documentation gathers some implicit knowledge, which is different to tacit knowing. However, this is not the same that saying that internalising them the practitioners will be ready to perform their tasks in their real work.

6. FINAL CONCLUSIONS AND RESEARCH IMPLICATIONS

After the analysis of how process documentation is designed we can conclude that the practitioners came up with many aspects that play a key role in practice, which were not gathered in the documentation. The outcomes of these workshops were more than the ones reflected in the documentation. It is doubtful, therefore, that only following those procedures the practitioners will be ready to develop their tasks. They need more than just this formalised documentation.

Process documentation and flowcharts are useful tools in operations management but a further analysis of practice is needed, especially if we are talking about service companies. Service companies are usually customer oriented and the particular customer plays a key role in their operations and participates in the delivery process in different ways, affecting how and what is delivered. Therefore, there is the need of flexibility and sometimes, standardised procedures may constrain their actions in order to adapt themselves to the needs of their objects, the customers. The operations management theory have tried to solve partially this situation defending that activities should not be formalised with a great level of detail, and they claim for employees empowerment in order to give response to that uncertainty. However, there are still many questions concerning this issue.

In the light of the theoretic discrepancies, we started this paper appointing some questions concerning different types of knowledge, its connections and the possibility of expliciting practical knowledge. After this initial stage of our in-progress research our data proves the difficulty of expliciting practice. We have seen that the knowledge about the processes, which was gathered in the documentation, was useful for the company but other types of unformulated knowledge were needed in practice. Adopting a perspective that stresses “knowing” vs. knowledge will allow us to study how different types of knowledge -explicit (e.g. process documentation and flowcharts) and practical (e.g. ability to motivate the unemployed worker, intuition to discover the best candidate, how to choose the questions in order to discover key information)- are involved in practice.

After the first results of our research we have discovered many other areas that are worth exploring. Brown and Duguid (2000, 2000b) defend that there is a tension between the formalised process and the practice. Indeed in our fieldwork, we could notice different tensions. Inquiring more into these tensions and into the context in which the practice takes place is worthy. Lam (2000) highlights how different types of organizational structures affect knowledge creation and Engeström's model (1987) stresses how the rules – where process requirements are part of them-, how the new objects, the community, the division of labor and the different tools exert continuous pressure on the practitioners affecting the actual practice and their performance. These concerns support the idea of to what extent we should consider studies of a contingent nature in relation with the practice.

In vein with these theories we will go on with our research. In the forthcoming stages we aim to understand practice through observation and accompanying the practitioners in their daily work. We aim to compare what they have said about their practice with what they actually do and the role that this documentation plays in practice. We will go on further with the analysis of these situated activities and trying to understand more the complexity of the context of action the practitioners are immersed in. Finally, we hope that all this research helps the organisation to improve and redesign their processes and work based on a different methodology than the one employed till today. That is the commonly accepted by the Operational Management field.

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