

ARCHETYPES OF ACTIVITY SYSTEMS IN PROFESSIONAL SERVICE WORK

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Ragnhild Kvålshaugen

Arne Carlsen

Reidar Gjersvik

Tord F. Mortensen

SINTEF

Department of Knowledge and Strategy

PO Box 124 Blindern

0134 Oslo, Norway

Phone: +47 – 93 08 96 35

Fax: +47 – 93 17 59 03

■ e-mail: ragnhild.kvalshaugen@sintef.no

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Abstract

Professional service work tends to get characterized by the qualities that sets it apart from manual labour and traditional production, much less by its internal variations. This paper develops the concept of archetypes of activity systems in professional service work, defined as distinct and recurrent patterned variations in how knowledge resources are mobilized to meet client demands. Based on a grounded approach of within- and between comparisons of four primary cases we suggest seven such archetypes: 1) specialized services, 2) standardized services, 3) product with services, 4) radical innovation services, 5) integrated solutions services, 6) management for hire services and 7) information management services. The seven types are exemplified across industries and compared along the dimensions of methods/tools, division of labour, client interaction and deliverables. We discuss main implications with regards to the potential dependencies and tensions between activity systems as well as the dynamics of patterning itself. In the latter sense, using a typology like the one we offer may be regarded a form of practical authoring where one opens up new discursive space and facilitates the creation of shared meaning from within ambiguous fields of experience.

No useful theory can rest on the assumption that everything is unique. James D. Thompson
(1967: vii), *Organizations in Action*.

Together the participants contribute to a single over-all definition of the situation which involves not so much a real agreement as to what exists but rather a real agreement as to whose claims concerning that issues are to be temporarily honored. Erving Goffman
(1959:xxx), *The Presentation of Self in Everyday Life*.

Introduction

Professional services are typically characterized by qualities of uniqueness relative to manual labor, traditional manufacturing and hamburger-flipping routine services. Such qualities revolve around the dominance of symbolic analytical problem solving (Reich, 1991), the high degree of customization and client interaction (Løwendahl, 1997; Maister, 1993), high reliance on specialized knowledge (Blackler, 1995; Løwendahl, 1997) and exceptional expertise (Starbuck, 1992), ambiguity of resources and service value (Alvesson, 2000; Alvesson & Köping, 1993), inseparability of production and consumption (Haugstad, 2001; Normann, 1984) as well as the uniqueness of work arrangements (Engeström, Engeström, & Vähäaho, 1999). Much less attention has been given to internal variations. Professional service work spans a rather heterogeneous set of activities, and organizations often lack theories for discussing such variations (Carlsen, Klev, & von Krogh, 2004b; Haanæs & Løwendahl, 1997). A vocabulary for understanding, comparing and acting upon distinct forms of professional service work is largely missing. Organizations are typically engaged in several value generating activities and people can belong to many activities simultaneously. These activities may mediate encounters with separate parts of the outside world, be located between organizations, be embedded in distinct historical traditions and represent widely differing challenges for coordination, value creation or strategic development. Hence we ask: Are there patterns to these variations?

This paper sets out to develop a typology of professional service work. We attend to forms of work rather than characteristics of organizations. The growth in professional service work transcends structural change as capital and labor intensive industries experience a shift in the focus of value creation, from mass production to more knowledge intensive work in engineering, product development and advanced services, or as Freeman and Perez (1988) phrases it; 'from products with services to services with products'. Professional service work may thus be found in all sectors of the economy, for example clinical work at a hospital, exploration activities in an oil company or establishing new cast houses for a metal producing company (Carlsen, Klev, & von Krogh, 2004a).

Our focus on work rather than organizations parallels a (re)turn to practice within organization studies (Brown & Duguid, 2001; Johnson, Melin, & Whittington, 2003; Orlikowski, 2002; Schatzky, Knorr-Cetina, & Savigny, 2001). More specifically, we propose 'activity systems' as a promising starting point for inquiring into archetypes of professional service work. Central to this concept is a focus on collective and recurrent activity as historically emergent phenomena in context (Leont'ev, 1978, 1981; Wertsch, 1981). The activity system represents the relationship between individuals, the activity in which they are jointly engaged, the collaborative output and the tools, norms and work processes that mediate these relationships (Engeström, 1987). While *actions* have their beginnings and ends, an *activity* does not end when a goal is reached, e.g. when a project is completed – there will be another project (of a similar kind) waiting. Activity systems as a unit of analysis thus give context, meaning and direction to individual actions that may seem random and unrelated

Engeström uses activity systems to describe entire organizations, while Blackler has proposed that one may conceive organizations as a network of activity systems (Blackler, 1993; Blackler, Crump, & McDonald, 2000). Blackler et al. argue that different types of tensions, arising from for example variations in technologies, social rules, division of labor or types of output, underpin different activity systems. It remains unclear however, what this means empirically or theoretically. Blackler et al. (2000) stops short of investigating concrete examples of activity systems as applied to everyday work or of discussing how one identifies activity systems. It is for example questionable to assume that activity systems have one-to-one relationships with communities or that they are officially recognized as distinct work forms.

We define activity systems as distinct and recurrent patterned variations in how knowledge resources are mobilized to meet client needs. This means locating activity systems between the resource base and the firm's domain (Carlsen et al., 2004a; Løwendahl, Revang, & Fosstenløkken, 2001). One may thus talk of activity systems as spanning a wide set of production logics, from value chains (e.g. software production and standardized services) to different project types as value shops (Stabell & Fjeldstad, 1998). As we shall see, recurring project types are for example susceptible to being analyzed as activity systems despite changing subjects and relationships. To understand how activity systems may originate and

differ, we shall begin with a look at previously suggested typologies of professional service work (PSW).

Antecedents of Professional Service Work Typologies

PSW tends to vary substantially among industries, within a single industry or even within the same firm (Løwendahl, 1992; Løwendahl, 1997; Maister, 1993). The variation in PSW has to some extent been addressed in previous research. However, the unit of analysis has rather been professional service firms (Løwendahl, 1992; Løwendahl, 1997), type of projects (Maister, 1993) and knowledge management strategies (Hansen, Nohria, & Tierney, 1999) than PSW. The research that led to the classifications has only been conducted in knowledge intensive organizations and particularly in professional service organizations. We argue that PSW can be found in labour intensive and capital intensive organizations as well as in knowledge intensive organizations. The table below summaries analytical focus, key dimensions and types of PSW in previous research:

TABLE 1: Unit of analysis, key dimensions and types of professional service work in previous research

UNIT OF ANALYSIS	KEY DIMENSIONS	SUGGESTED TYPES	STUDIES
Resources and strategic focus	Repetitive versus ad hoc service delivery Individual versus team-based delivery Personal versus proposal-based service sales Application of existing versus development of new solutions Maturity Size	Output based (solution) strategies Client relation based strategies Creativity based (problem solving) strategies	Løwendahl (1992, 1997, 2000)
Client needs	Expertise Experience Efficiency Maturity	Brains Grey haired Procedure	Maister (1993)
Value configuration	Value creation logic Primary technology Main interactivity relationship logic Primary activity interdependence Key cost and key value drivers	Value chain Value shop Value network	Stabell & Fjeldstad (1998)
Knowledge management strategies	Economic model Knowledge management strategy Information technology Human resources	Codification Personalization	Hansen, Nohria & Tierney (1999)

Løwendahl (1992, 1997, 2000) argues that professional service firms can choose between three different generic strategies – output based, client relation based, and creativity based strategies. She suggests that regardless of industry these three strategies seems to coexist (Løwendahl, 2000). However, it seems difficult for any firm to deliver superior performance based on multiple strategies simultaneously. The two fundamental dimensions driving differences across firms are the characteristics connected to the *resource base* (the role of the professionals in value creation) and *the strategic focus* in terms of what kind of superior value the firm seeks to deliver to its clients (types of projects). These dimensions are deduced from four critical dimensions that make professional service firms fundamentally different - repetitive versus ad hoc service delivery, individual versus team-based delivery, personal versus proposal-based service sales, and finally, application of existing versus development of new solution (Løwendahl, 1997, 2000). In addition she argues that the maturity and the size of the firm are relevant in order to explain professional service firm heterogeneity.

Maister (1993) argues that the firm's leverage is a pre-eminent factor when it comes to the professional service firm's ambition of delivering outstanding client service, satisfying the professionals and achieves financial success. Firm's leverage is understood as the composition of the resource base and in particular the ratio of junior, middle-level, and senior staff in the firm's organization. The heterogeneity among professional service firms is defined by client needs. The types of client needs lead to three types of practices or projects which distinguish professional service firms – expertise (brains), experience (grey haired) and efficiency (procedure). In *brains* the client's problems are at the forefront of professional and technological knowledge, or at least very complex. The professional service firm are typically hired because they are smart, and the projects are usually conducted by middle-level and senior staff. Each project is often one of a kind. The second type is the *grey haired* where the clients typically hired the firm because they have relevant experience and has practice at solving the particular type of problem. Typically more junior staff is involved in solving grey haired problems compared to brains. The third type of projects is called *procedure projects*. The client may have the ability and resources to perform the work itself, but turns to the professional firm because they can perform the service more efficiently. Of the three project types, the procedure projects usually involve the highest proportion of junior time relative to

senior time. Maturity is also an issue discussed by Maister. He argues that the more mature the professional service firm gets, the more likely it is to increase the proportion of juniors compared to seniors, and take on projects that are similar to what the firm has undertaken earlier. In other words, the professional service firms tend to move towards procedure projects and grey haired projects as they mature.

Stabell and Fjeldstad (1998) argue for three generic types of value configurations – value chain, value shop and value network. They build on Porter (1985) and Thompson's (1967) typology of long-linked, intensive, and mediating technologies. They have several categories to distinguish the three value configurations (Stabell and Fjeldstad 1998:415). Variations in several organizational characteristics explain the three different value configurations. For our purpose the value creation logic, the primary technology, the main interactivity relationship logic, the primary activity interdependence, and the key cost and value drivers (competitive advantage) are the most relevant. When it comes to PSW the value shop is the most predominant configuration. The value creation logic is based on (re)solving customers' problems and the production process relies basically on intensive technology. The main interactivity relationship logics are cyclical and spiralling. This means that the flow of activities are iterative between activities and cyclical across the activity set (Stabell & Fjeldstad, 1998). The wheels-within-wheels metaphor (Simon, 1977) is used to explain the relationship between the activities in the value shop. The activity interdependence in a value shop configuration can be of all three types suggested by Thompson - pooled/standardization, sequential interdependence/planning and reciprocal interdependence/mutual adjustment (Thompson, 1967). Pooled interdependence is coordinated by standardization, and is least costly in terms of communication and decision effect. Sequential interdependence is coordinated by planning and is intermediate in effort required. Reciprocal interdependence is coordinated by mutual adjustment and is most demanding of communication and decision effort. Stabell and Fjeldstad argue that competitive advantage is primarily gained by focusing on increasing the organization's reputation. We also argue that some types of PSW are similar to the value chain configuration (Porter, 1985; Stabell & Fjeldstad, 1998), e.g. software development and laboratory experiments are more characterized by the application of a long-linked technology rather than an intensive, but still it can be defined as PSW based on the characteristics of the people involved in the production process, the interaction with the client,

and the intangibility of the service. The value creation logic of the chain is based on transformation of inputs into products. The relevant metaphor is the production line. The main interactivity relationship logic is sequential and the primary activity interdependence is pooled and sequential. The competitive advantage is primarily gained by focusing on the cost side (scale and capacity utilization).

Hansen, Nohria and Tierney (1999) have a particular focus on knowledge management. However, their paper is of particular relevance since their study object is management consulting which is a type of PSW. They argue that management consulting companies can gain competitive advantage in two fundamental ways; by applying a codification knowledge management strategy or a personalization knowledge management strategy. Hansen et al. argue that the two types of knowledge management strategies cannot be combined. They will undermine each other. Therefore, underlying the categorization of what creates competitive edge for the management consulting companies is a belief that these firms have different production logics and variations in the activity set. Hansen et al. suggest that economic model, knowledge management strategies, use of information technology and human resources policies explain variations in the production logic of management consulting companies. The reuse and the expert economic model are visible in management consulting. These two models have clear overlaps to Løwendahl's output based and creativity based strategies, and Maister's efficiency and expertise projects.

This research together with our empirical observations in more than 30 organizations, form the basis for our inquiry into archetypes of PSW. Stabell and Fjeldstad inspire us to distinguish between types of value creation logic and main interactivity relationships in the PSW. Our study is an extension of their value shop as we argue that there are several types of value shops and that some types of value shops are quite similar to the value chain. Løwendahl's research provides useful input to the characteristics of PSW in her description of the type of services delivered - repetitive versus ad hoc service delivery and application of existing versus development of new solutions. The last dimension is similar to Hansen et al's 'codification' and 'personalization'. Finally, Maister's focus on the type of client needs suggest that the types of client demands cause variations in PSW.

Conceptual Approach and Method

The typology presented in this paper is the result of systematically trying to find *patterned variations* in work. It is based on a grounded approach (Strauss & Corbin, 1990) where we do within- and between case comparisons (Eisenhardt, 1989; Eisenhardt, 1991) of value generating activity sets. We use four primary cases and draw from a secondary base of research on PSW in around 30 organizations (Carlsen et al., 2004b), from which we do complimentary comparisons. The four primary cases are briefly presented in table 2 below. They were sampled based on three sets of criteria; 1) that they represent a variety of professional service industries; 2) that there is a broad internal variation of work forms within each case, and 3) that each of them represents a site where we have been able to engage in repeated discussions with reflective practitioners that are genuinely interested in understanding variations of work forms, thus a site with high 'experience level' (Pettigrew, 1990) on the phenomenon under investigation.

One or more of the authors have had in-depth engagements over long time periods in each case, see table 2. The documentation of this research (e.g. Carlsen, 2005; Gjersvik, 2000; Håkonsen & Carlsen, 2003; Kongsvold, Klev, & Kvålshaugen, 2005) has largely been done for other purposes than this paper. In these prior efforts a set of specific activity systems (variously named 'activity sets', 'practices' or 'activity systems') was identified for each primary case, through participatory observations, interviews (typically ranging between 20 and 50) and various forms of facilitated sensemaking. All these conceptualizations have been the subject of repeated discussions and member checks with managers and other employees in the primary case organizations. They form an important part of the input for the comparisons we make.

The analysis of data for this paper has proceeded through three steps. In the first step the authors engaged in a series of open ended discussions of distinct forms of PSW in organizations that we know well. These discussions were geared to surface alternative defining characteristics and categories of activity systems. In the second step we developed nine categories of activity systems as well as six prime candidates for defining characteristics. These comparisons were informed by the typologies in the theoretical section, as well as

Engeström's (1987, 1993) six dimensions of activity systems¹. Here the discussions were less free flowing and more focussed on testing the emerging categories across a limited number of organizations (seven to eight) and defining characteristics (six to eight).

In the third round, the categories were reduced to seven and further honed in relation to four defining characteristics that were articulated. Key here was an exercise of placing the categories along two overall axes of variation (see next section). We subsequently tested the typology on other researchers, some familiar and some unfamiliar with our empirical base. In this process, we also made the final decision of the organizations used as primary cases in the presentation.

¹ As conceptualized by Engeström, Y. 1987. *Learning by expanding: An activity theoretical approach to developmental research*. Helsinki: Orienta Konsultit, Engeström, Y. 1993. *Development studies of work as a testbench of activity theory: The case of primary care medical practice*. In S. Chaiklin & J. Lave (Eds.), *Understanding practice*: 64-104. Cambridge: Cambridge University Press., an activity system is recognized by i) a subject, i.e. an active individual or subgroup who directs their activity towards an object; ii) an object/motive, i.e. the deliverables or problem space at which the activity is directed; iii) tools, i.e. physical and symbolic, external and internal mediating instruments and signs in use; iv) the community performing the activity; v) division of labour, i.e. horizontal division of tasks as well as vertical division of power and status; and vi) rules, i.e. explicit and implicit regulations, norms and conventions that constrain actions and interactions within the activity-system.

TABLE 2: The four main cases of the study

CASE ORGANIZATION	KEY CHARACTERISTICS	TYPE OF ENGAGEMENT IN DATA GATHERING
Communicator	Communication agency, appr. 120 employees in three countries, wide range of specialized services with increasing focus on the strategy end of communication	In-depth qualitative; longitudinal (1999-2005), and retrospective (1989-1997); two action research projects between 1999 and 2002
ITConsult	High tech consulting firm, appr. 150 employees; knowledge management, technology-supported work process modeling and high end modeling tool.	In-depth qualitative study; longitudinal (1997-2005) and retrospective (1985-1997); three action research projects between 1997 and 2003
Engineer	Engineering consulting firm, appr. 800 employees, 24 offices, a broad span of projects from traditional construction disciplines to environmental engineering and safety.	Two action research projects between 1997 and 2001; two year work engagement by one of the researcher
Researcher	Research institute, appr. 170 employees, mostly contract research for maritime industries, includes lab services and basic research	Two action research projects between 1994 and 2003; many years of work engagements by all authors in sister institute

The interpretive work in the three steps just described bear resemblance to what Strauss and Corbin (1990) have termed ‘open’ (step 1), ‘axial’ (step 2) and ‘selective’ (step 3) coding. It is however misleading to portray this process as carrying out strict coding procedures. The process of deciding which categories work for which organizations and against which general characteristics, can never be fully articulated. Much of what goes on in the categorization activity is necessarily based on tacit knowledge from prior work experiences and theoretical fore conceptions one is partly unaware of. Rather then, the three steps of analysis represent forms of ‘disciplined imagination’ (Weick, 1999); bringing about empirical *variation* in types of activity systems, theoretically informed *selections* amongst this variation, and a final round of *retention* during testing and fine-tuning the chosen categories. The overall interpretive activity is iterative (Klein & Myers, 1999) and circular, as illustrated by our final choice of primary cases during step three.

Seven archetypes of professional service work

We have identified seven archetypes of PSW that will be defined and exemplified on the following pages. We start with what we perceive as the most common and obvious activity system – ‘specialized services’, and organize our exposition of the other six archetypes as

variations from this type. The variation takes place along two axes; degree of integration with client value creation (a function of client interaction and type of deliverable) and degree of standardization (in terms of deliverables, methods/tools used and division of labor). Figure 1 below presents an illustration of this variation, while table 3 provides a systematic comparison of the seven types. We make no claim of this being a final list of activity systems types in PSW, nor are the two axes of variation the only ones conceivable.

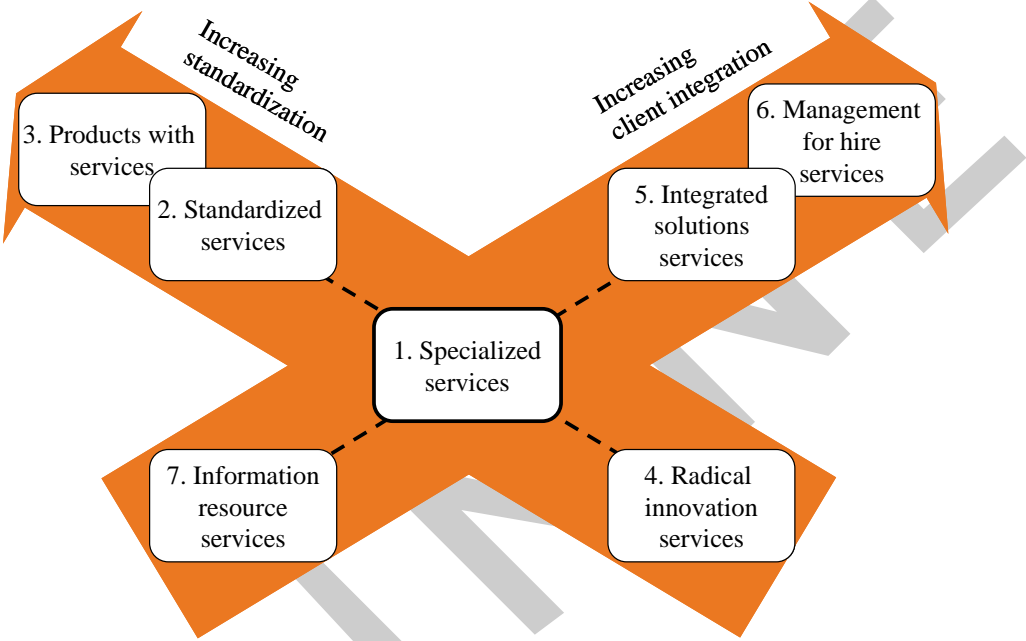


Figure 1: Archetypes in two axes of variation

TABLE 3: The seven activity systems archetypes in comparison

Activity systems	Deliverables	Client interaction	Methods and work processes	Division of labor	Source of competitive advantage	Examples
1. Specialized services	Uniquely tailored problem solving and development processes	High during both specification and consumption	Typically unique content and sequence of activities. Some explication of higher order methods	Coordination by informal mutual adjustment within small autonomous teams; senior personnel in leading roles	Quality and depth of expert knowledge; typically controlled by individuals and teams	Communication consulting; Engineering consulting; Contract research
2. Standardized services	Adaptations of ready solutions to client specifications	Modest during specification, high during consumption	Well defined sequences of activities repeated with modifications; high degree of explication	Coordination by standardization and plan within and between teams; explication allows leading roles for juniors	Ability to standardize high quality services to low cost; organizational control of resources	Lab services; Projecting/design engineering; Media training & events organizing
3. Products with services	Design, production (also for stock) and adaptation of ready solutions	Modest during both specification and consumption	Proprietary designs; well defined sequences of activities repeated with minor modifications; high degree of explication	Coordination by standardization and plan within and between teams and functions.; explication allows leading roles for juniors	Design, production and marketing of products with services; organizational control of resources	Software; Course packages; Subscription services; Multi-client studies
4. Radical innovation services	Radically new methods, theories, services and products	Varying interaction with end users and third party funding bodies	Typically unique content and sequence of activities. Some explication of higher order methods	Coordination by mutual adjustment within and between teams; typically interdisciplinary, allows juniors from new fields	Creativity and ability to explore and shift domain frontiers; control of resources shifts with time	Basic research; Exploratory service and product development; New ventures
5. Integrated solutions services	Integrated set of services and products tailored to meet complex client need	Very high during specification, testing and implementation; presupposes solution based buying pattern	Unique content and sequence of integration activities, draws from standardized services and products; very high explication of client needs	Coordination by plan, standardization and mutual adjustment within teams and across activity systems; managed by highly specialized seniors	Ability to integrate the best available services and products on behalf of clients; multilevel resource control	Total enterprises; ICT systems; Integrated campaigns; Outsourced research units
6. Management for hire services	Leasing of individuals for temporary management of projects and functions	High inter-firm interaction during specification, very high subsequent interaction in client organization	As for integrated solutions services, though less need for explication of client needs	As for integrated solutions services, but mutual adjustment moved to teams within client organization	As for integrated solutions services; need to balance individualized client relationship and collective learning	Communication management; Management of complex IT and construction projects
7. Information management services	Management of information resources across activity systems	Mostly interaction across internal boundaries and with suppliers	Maintenance/minor additions are typically well defined activities; exploration of new uses is unique to context	Coordination mechanisms relatively standardized.; may take shape from nature of activity system where it is put to use	Quality of underlying resources and ability to combine maintenance with creative new uses; organizational control	Management of (large) survey data, client- or patient records; library services

Specialized services

Much of what has been written about knowledge-intensive work and PSW has relevance for the activity system that we have called ‘specialized services’. Work here typically involves a high degree of customization to unique client needs and has a strong component of personal interaction with clients, both in specification of deliverables and in the subsequent work performance. The content and sequence of work activities are normally unique to the contract, though they may rely on higher order methods, recurrent concepts and idiosyncratic language terms. Some explication of conceptual tools is normal, but the basis for advanced levels of practice performances normally remains tacit. Specialized services typically entail informal and close-knit coordination with large amount of autonomy and little predetermination of work processes. Junior staff are often assigned roles for administration and limited tasks, but seldom given main roles. The main source of competitive advantage in this activity system is quality and depth of expert knowledge. Organizational control of resources can be problematic since individuals and teams are highly specialized and explication is limited. Specialized services corresponds to what Løwendahl (1997) has labeled ‘creative problem solving’ and Maister (1993) ‘brains’ and ‘grey hair’ projects. Examples amongst our case organizations include:

- the major bulk of contract research projects in *Researcher*,
- consulting and applications development in the role of sub contractor in *IT Consult*,
- engineering consulting in *Engineer*, e.g. in safety, process technologies or advanced construction domains, and
- most regular single client projects in *Communicator*.

Standardized services

‘Standardized services’ are adaptations of ready solutions to client specifications. This activity system presupposes that groups of client requests are sufficiently predictable and recurrent to justify standardization, *and* that the work activities necessary to meet such

demands are of a reasonably explicable, repeatable and stable nature. Standardization means matching of activity patterns with demand patterns over time. Much of the content and sequence of work activities is predetermined. The degree of explication of methods and processes is high, and junior staff is often assigned responsibility for subsets of activities. Coordination may nevertheless be substantial due to dependencies between sets of standardized activities, for example between various forms of projecting in construction. The source of competitive advantage here is ability to reap margins from mass customization of high quality services to low cost. Unlike specialized services, the control of resources is predominantly organizational. Standardized services correspond to Maister's (1993) 'procedure projects' and Løwendahl's (1997) 'adaptation of ready solutions'. One may also see this activity system as a highly routinized value shop (Stabell and Fjeldstad, 1998) with well known problems and programmatic approaches. Examples from our case organizations include:

- lab services (various forms of testing, calibration, simulations) in *Researcher*,
- media training, production of annual reports and the staging of events by *Communicator*,
- web design services at *ITConsult*, and
- projecting and construction design services, e.g. in heath-ventilation-air and -climate (HVAC) at *Engineer*.

Products with services

The activity system we call 'products with services' is the twin of standardized services and have many of the same characteristics. The difference lies in the degree to which the design of what is offered is predetermined internally or by clients, and if some (large) part of the service may be produced for stock. The two activity systems are partially overlapping areas along a spectrum rather than mutually excluding categories. Indeed Løwendahl's (1997) 'adaptation of ready solutions' applies to both categories. However, unlike 'standardized services',

'products with services' typically imply emphasis on proprietary product designs. Also, production and consumption may be separated. Relative to the conceptualizations made by Stabell and Fjeldstad (1998), 'standardized services' are value shops whereas 'products with services' are value chains. The difference between the two activity systems is most easily illustrated by the difference between 'proprietary software' and 'software made to order' (however foreseeable and repeatable the latter may be). Other examples show more subtle differences. *Communicator* has a subscription service for crisis management where some parts of the service are produced pre-crisis; the actual training and preparation for clients. Other parts may be mass-produced for stock, e.g. training material, while the actual assistance during crises is a performance of the moment. Likewise, standardized course packages for post-school training at universities are of proprietary designs, but a key component of the service – the teaching (when performed live), is produced while consumed. Whatever the mix, products with services typically require tight coordination between activities in design, production, marketing, and associated service adaptations.

Radical innovation services

At the other end of the standardization axis, 'radical innovation services' differs from standardized services in that they are geared to bring about radically new methods, concepts, theories, services and products. The demand for novelty and departure from established ways of working and thinking results in a set of work activities where the source of competitive advantage is creativity and ability to explore the outskirts of one or more domains. Work is only partially based on end user specifications and participation. Third party involvement from funding institutions, e.g. research associations or internal venture funds, is normal in all phases of work. Paradoxically, while radical innovation services often imply lower degrees of explication than for specialized services, they frequently also allow junior staff in key roles. Lack of previous experiences may be outweighed by knowledge of upcoming fields and fresh approaches. For the same reasons, work is often interdisciplinary.

In our case organizations only *ITConsult* and *Researcher* have fully developed activity systems of this type. *ITConsult* regularly engages in exploratory research projects that may or may not result in services and products sold to end users. Likewise, around one sixth of the income of *Researcher* accrues from basic research projects funded primarily by domestic and international research institutions. Coordination in both these activity systems is typically by plan, though executing teams are allowed large degrees of autonomy. *Communicator* has over the years pioneered several new businesses and services in the communication industry, but this has been more a on-off temporary activity than a recurrent and regular form of work.

Integrated solutions services

'Integrated solutions services' as an activity system presupposes a buying pattern where a sufficient amount of clients are willing to outsource the integration of an entire set of services and products tailored to meet a complex need. This activity system thus means partly or fully taking over a set of client activities. The basis for competitive advantage here is the holistic understanding of a set of complex needs and the ability to combine the best available services and products to meet that need. Project management needs to be mastered at very high performance level. Client needs are normally unique, though recurrent patterns of solutions allow predetermination of modules of standardized services and products. Integrity on behalf of client needs may mean choosing competitors as subcontractors in areas where they have parallel and superior services to ones own organization. Client interaction is typically very high during specification, testing and implementation, and less intense during production. Examples of integrated solutions services in our case organizations are:

- total enterprises and BOOT (build, own, operate, transfer) projects at *Engineer*,
- large information and communication technology systems projects at *ITConsult*, typically including user specification, development, elaborate testing, training and widespread implementations,

- large integrated communication campaigns at *Communicator* involving many subfields of services, e.g. film commercials, events, web design and media training, and
- the management of entire R&D units for clients at *Researcher*, often centered around expensive laboratory testing equipment.

Management for hire services

‘Management for hire services’ entails leasing of individuals to clients for temporary management of projects or functions. This activity system is the twin of integrated solutions services. The main difference is less interaction with – and greater freedom from, one’s mother organization, and even higher degrees of interaction with clients. The persons that are hired by the client organizations typically have backgrounds as managers of integrated solutions services, though their function in the client organizations is not limited to such activities. The source of competitive advantage rests on the ability to combine good individual client relationships with the accumulation of attractive management competence on the relevant management domains. Hence, there is a mixture of individually and organizationally controlled resources. Examples from our case organizations include communication manager for hire from *Communicator* and project managers for hire at *Researcher*, *ITConsult*, and *Engineer*. The latter two organizations meet competitors that specialize in management for hire services.

Information management services

The activity system we have called ‘information management services’ originates from the quality and knowledge of a set of defined information resources, not distinct user needs or methods. These information resources are maintained and often made available for a variety of specific uses. Information management services typically underpin other activity systems, and direct end user contact may be modest. A survey service of the business intelligence unit

of an international consulting firm may serve as an example. Over the years this firm has developed an advanced consumer segmentation tool and collected extensive data sets on psychological profiles of consumers in various countries. This information resource is used actively in single client consulting (specialized services), as the basis for handling recurrent requests on consumer behavior (standardized services) and a subscription service (products with services). *Communicator* has a similar activity system related to systematic measurement of media attention and trust in the domestic public opinion - for organizations, individuals or specific issues. A sister organization of *Researcher* collects and verifies patient data from all public somatic hospitals and psychiatric institutions on behalf of the Health Ministry. Here, the information resources are explicitly arranged and targeted for basic research (radical innovation services).

Information management services may be regarded as special case of a more generic activity system of resource management, including the handling of natural resources, capital, and property. Again, such an activity system will normally operate across business areas and may represent an institutionalized search function for new business originating from specific resources (Carlsen & Välikangas, 1999).

The dynamics of activity systems

It follows from our exposition so far that organizations may indeed harbor several activity systems and that there are issues of potential synergies and tensions between them; a dynamic between patterned variations in work. There is a closely related dynamic of patterning itself. Bringing patterns of work to organizational attention by labeling them activity systems, or otherwise, is a constitutive act that may shape not only the performance of work, but also affect several dimensions of organizational development. We shall touch upon four aspects of activity systems dynamics. The four aspects address potential practical implications, clarify some of the contributions of the typology, and points towards areas for further research.

1. *Activity systems have a variety of statuses:* Activity systems may represent 1) distinct business areas, 2) distinct and internally recognized production logics that may or may not develop into distinct business areas and 3) immanent production logics not necessarily explicated and agreed upon. Figure 2 below illustrates the activity systems of *Communicator* and *ITConsult* during 2000-2002. ‘Integrated communications campaigns’ at *Communicator* and ‘IT project management for hire’ at *ITConsult* may be regarded latent activity systems in the sense that projects of this kind are infrequent and not given much collective attention. The other activity systems in figure 2 are recognized internally as distinct forms of work. At *Communicator* all activity systems are handled as more or less one business area, though with special attention to crises management subscription. At *ITConsult* the high end modeling software activity system was first the result of an acquisition and merged with project work, then gradually developed and separated into a distinct business area. The example underlines one of Maister’s (1993) main points; that what we have called ‘products with services’ typically needs to be handled separately due to particular needs for tight coordination, marketing of proprietary design and a financial risk that sets it distinctly apart from project work.

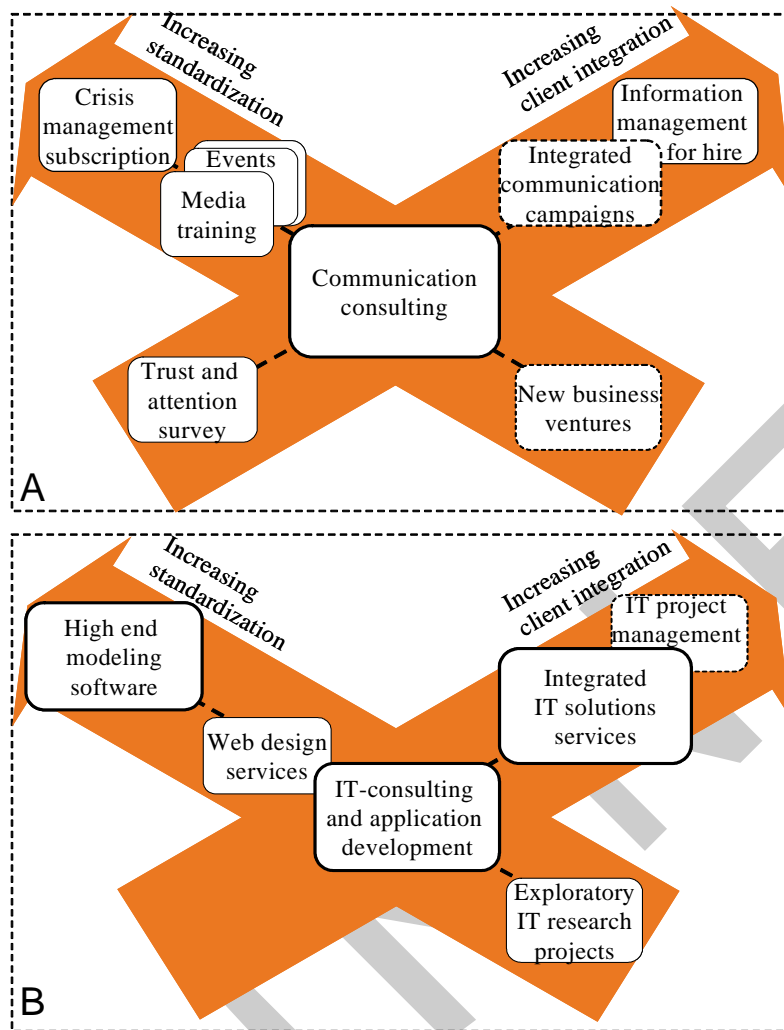


Figure 2: Illustration of activity systems in Communicator (A) and ITConsult (B). Size of boxes indicates volume, while stapled lines indicate *latent* activity systems.

2. *There are important dependencies and tensions between activity systems:* Following Thompson (1967), three forms of dependencies may be noted between the activity systems we have identified. First, there are potentially *pooled dependencies* from ‘information management services’ (as possible input to the six other activity systems) and to ‘integrated service solutions’ and less so to ‘management for hire services’ (both as possible integrator of deliverables from the other activity systems). Second, there may be *sequential dependencies*

between consecutive standardized services or between standardized services and specialized services. Third, there are likely to be forms of *reciprocal dependencies* between activity systems when ‘specialized services’ are involved in combined deliverables, and always in ‘integrated solutions services’, due to its highly customized nature.

These dependencies form part of the forces that cause potential tensions between activity systems. One of these tensions unfolds on the axes of increasing client integration, and is implicit in the discussion of ‘integrated solutions services’ and ‘management for hire services’. Situations may arise where the ability to integrate a wide range of services for the best of the client may oppose aspirations to include deliverables from other activity systems from within the firm before those of superior competitors. Long term client integrity may stand against short term sales. Another set of tensions takes place along the axis of standardization. As noted by Starbuck (1992), attempts to standardize services run the risk of commodification; that once high-prices specialized expertise is trivialized and slips to a low price market segment. Lowered costs and the ability to include more juniors in work may stand against the chance to compete in a high price segment. Such a tension of standardization may carry strong identity dimensions. *ITConsult* is an example of an organization that stood out in a landscape of domestic IT-systems vendors that were known, and sometimes ridiculed, for their standardized and imported methods (Carlsen, 2005). Whose understanding of work and aspirations for identity formation is assigned social weight? Tensions on the axis of standardization may thus also influence attractiveness and continuity of key personnel.

3. *Activity systems may be manifest across communities of practice (CoP)*: The concept of multiple activity systems in organizations challenges an implicit premise in the communities of practice literature; the tight relationship between distinct practices and communities. What seems clear from our cases is that people may belong to several activity systems simultaneously, and vice versa; each activity system may form an arena for participation from

several work communities. This is well exemplified at *Engineer*, where workers shift frequently between project *and* project types (Håkonsen & Carlsen, 2003). Shifting between the highly standardized work of 'projecting' to 'specialized counseling' may take place on a daily basis and is marked by changing hourly rates (the rates for 'specialized counseling' can be twice those of 'projecting'). Likewise, while 'projecting' is a typically local activity system, using locally based teams, a particular form of specialized counseling may take place within a national network with participant from many of the 24 regional offices of the firm.

Our typology indicates a need to investigate how the relationships between communities and their practices may vary according to type of activity system. The empirical base for the foundational work on CoPs consists largely of studies of close-knit homogeneous group of personnel doing fairly routinized types of work with modest exchange with external networks, e.g. claims processors in an insurance company (Wenger, 1998) and copy machine repairmen in Xerox (Brown & Duguid, 1991; Orr, 1990). These seem to be examples of what we have called 'standardized services' activity systems. What are the relationships between practice, identity and communities in the other activity systems?

4. Activity systems are ongoing enactments and tools for practical authoring: It is intrinsic to our discussion that the patterns we have called activity systems are social constructions, along with any other rendering of work as belonging to a specific type. Activity systems are not objectively there ready to be discovered, but latent patterns that may or may not be brought to organizational attention and assigned social weight. This entails more than simply observing that a set of activities that are no longer performed ceases to be the basis for discussions and meaning making. The pattern recognition involved in noticing and labelling distinct work forms is a form of ongoing enactment of organizational realities (Daft & Weick, 1984; Smircich & Stubbart, 1985; Weick, 1979) where language is used to make sense of and give shape to lived experience. The actual performance of work may shape and take shape from

this labelling; a mutually-reinforcing relationship between shared meaning and facilitated action. Introducing typologies of professional service work in organizations is thus likely to affect which understandings of work that come to be externalized from an ambiguous field of experience and internalized as shared models. Further research will be needed to understand under which conditions that dynamic is productive to organizational development.

Given this, the activity systems typology may be understood both practically and theoretically, from a generative more than a descriptive stance. This means using it not to discover realities, but to create them. Using the typology could then be regarded a form of 'practical authoring' (Shotter & Cunliffe, 2003) where the typology could be used to open up new discursive space, see new connections within one's lived experience and bring into forefront a dynamic landscape of possibilities. More specifically, one could use the typology to uncover static and fossilized views of work and challenge the assumptions on which people act. One could use it to imagine new strategic directions, either by growing new activity systems that are latent today or combining the existing ones in new service configurations; e.g. new pockets of standardization bundled with specialized services or integrated solutions services. Many such development trajectories may have identity claims as they are imaginations of practice addressing deeply held desires for future development and life enrichment (Carlsen, 2005). The activity systems typology may be introduced as ways of speaking that can express and specify how services may be refined, elaborated or otherwise made more fitting to market demands. It may be used to compare work forms and market offers across organizational borders by linking examples of work to abstracted terms. It may be used to discuss and facilitate coordination mechanisms specific to forms of work. It may be used as a conceptual device to tailor the design of office space and/or technological solutions to work (Gjersvik & Blakstad, 2004). All these examples imply using the activity system framework as a thinking device that opens up the black box of 'professional service work'.

This dynamics of use is not about analyzing work as objective observers of static forms of reality. It is about creating meaning from within practice.

Conclusions

Behind the label ‘professional service work’ lies a potentially large and heterogeneous group of activities. This paper has identified seven distinct patterns in this variation; seven archetypes of activity systems in professional service work that we claim to be generally valid across organizations and industries. Six of these archetypes represent distinct variations of the value shop, thus contributing to and extending the insights from Stabell and Fjeldstad (1998). We arrived at our typology by starting with the commonality ‘specialized services’ as our base type and varying it along axes of standardization and integration with client value creation. It is intrinsic to such an approach that other starting points and other axes of variations may produce additional archetypes. That said, the main challenges for further research along this path lies not only in producing additional types or competing typologies, but understanding their dynamics of use. Here we have argued for a generative stance where the archetypes may stimulate practicing professionals to make their own comparisons of work activities and imagine new development courses from them. Ultimately, the work metaphors that we live by determine what we see, how we create new meaning and where we might go.

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