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## New firms and new forms of work

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## **New Firms and New Forms of Work**

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# New firms and new forms of work<sup>1</sup>

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Tübingen, October 17, 2013

## **Abstract**

The present contribution examines whether and how young firms and incumbents differ with regard to selected aspects of work forms and work organization in order to assess their roles for the qualitative changes of work in industrialized countries. Conceptually, we emanate from the approach of negotiated order and we empirically ground our research upon guided interviews conducted with employers and employees in about 50 firms in four distinct industries in Germany.

According to our results, new forms of work are particularly widespread in new firms. Most of the young companies in our sample practice autonomous work forms like working on one's own responsibility and team working more frequently than incumbents, they are more prone to revert to functional flexibility (e.g. changing tasks and duties) and their working time arrangements tend to be more flexible. Altogether, firm age turns out to be an important parameter of new work forms and organization, though it is not the only one. Our results show that also the general and industry-specific framework conditions, a firm's internal characteristics (e.g. innovation intensity, hierarchies and routines), the relevant actors (management, workforce) and particularly the coaction of these elements are important drivers shaping the overall feature of a firm.

**Keywords:** Young firms, Negotiated Order, Quality of Work, Working Time, Autonomy, Work Organization, Germany, Guided Interviews

**JEL Classification:** J21, L23, L26

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# 1 Introduction and Motivation

In recent years, the economies of industrialized countries are exposed to profound changes, such as the increasing globalization and tertiarization of the economy and the rapid progress in information and communication technologies. These changes affect both labor markets and industrial dynamics. Regarding labor markets, the structure of the work force (e.g. gender, qualifications, age), the characteristics of work itself (workloads, disposability, autonomy etc.) as well as the organization of work (e.g. hierarchies, teamwork, outsourcing) are affected. For instance, data and literature indicate that employees are working more flexibly and more autonomously, that psychological strain (e.g. pressure to work, permanent availability) is on the rise and that the security of jobs is declining both in subjective and objective perspectives (for recent overviews cf. EUROFOUND 2011, Kalleberg 2009, OECD 2008 and 2012).<sup>3</sup> Regarding industrial dynamics, an important characteristic of innovation-driven economies is the importance of new firm start-ups. The scientific literature (as well as the bulk of political interest) thereby focuses on the role of start-ups for the introduction of (technological) innovations and on their overall employment effects. New firms are believed to be the carriers of new ideas and innovation, and they are frequently seen as pivotal elements of technological and structural economic change (Fritsch 2007, Shane 2009, van Stel/Storey 2004).

As new firms differ from incumbents in many respects, they are likely to pursue distinct strategies to achieve their goals of survival and growth. In contrast to incumbents, start-ups are characterized, *inter alia*, by lower degrees of formalization and institutionalization as well as by a higher volatility of both external relations and internal structures and processes (Garnsey 1998). Additionally, it has to be considered that start-ups are more prone to arise in new technology- and/or knowledge-intensive sectors which are also characterized by high levels of uncertainty, volatility and risk.

The strategies of start-ups in order to cope with these often adverse external framework conditions and to achieve a solid internal stability and growth do also comprise the forms and the organization of work. A well-educated, flexible and creative workforce, for instance, is more likely to be capable of coping with complex, dynamic and alternating external conditions and to develop ideas and projects capitalizing on the chances emerging from technological and organizational developments. Despite these arguments presume the relevance of the issue, it is only parsimoniously analyzed so far and many questions are open, e.g.: Do young firms revert to more flexible workforces than incumbents and, if so, in what respect? Is work in young firms organized differently and, if so, how and why? And how are working time arrangements related to these issues? The paper at hand is thus a principally exploratory exercise to address these issues. Specifically, we examine whether young and incumbent firms differ with respect to (1) working time arrangements, (2), functional flexibility of employees and, (3), autonomous forms of work.

Our contribution is based on a conceptual framework referring to the approach of negotiated order by Anselm Strauss (cf. Strauss et al., 1963; Strauss, 1978). This approach is based on the fundamental assumption that structures and processes within institutions evolve in a mutual mode, shaped and “negotiated” by and between players acting under certain external framework conditions (section 2). This framework is promising in the present context, as young firms are frequently characterized by being instable (because of half-baked internal structures) and acting in environments marked by high volatilities (e.g. in advanced and innovative technological fields).

Building upon this framework, we present results from guided interviews of new and incumbent firms in four different sectors of economic activity (section 3). This qualitative approach allows us to capture the interdependencies between the elements conceived in the framework and to generate detailed insights with regard to our parameters of interest. Thereby, section 4 addresses the external framework conditions and the relevant actors, whereas section 5 illustrates the role of these elements in processes of interaction and

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<sup>3</sup> In a scientific debate mainly confined to Germany, these latter developments are subsumed under the terms of the “Subjektivierung von Arbeit” (see, e.g. Moldaschl and Voß, 2002; Pongratz and Voß, 2003; Schönberger and Springer, 2003).

negotiation. By describing and analyzing three elements of work and work organization on the basis of our empirical material, we illustrate how internal structures are created and evolve in the context of the previously described parameters. Section 6 summarizes the results with particular regard to the differences between new firms and incumbents and draws some conclusions for entrepreneurship policy.

## 2 The Approach of Negotiated Order as Conceptual Framework

The negotiated order approach (NOA) is dating back to the sociological work of Strauss et al. (1963) and Strauss (1978). The basic assumption of the approach is that purposive or coordinated actions within a human group are always accompanied by (perceived or unperceived) situative negotiations between the involved actors. In the course of these negotiations, the coordinative arrangements of collective actions are formed, sometimes including explicit and active bargaining between participating actors, sometimes just comprising the reenactment of routinized, non-reflected patterns of actions which has been incorporated in the shared coordinative history of the actors. The NOA can be applied to study phenomena of social structures and dynamics. It stresses that social change as well as social stability are the results of ongoing negotiations between actors in a given social setting, e.g. an institution or an organization in which the shape of interactive patterns (like the shape of working procedures) is constantly reproduced or modified by the involved individuals. As already suggested, these negotiations do not take place in a vacuum allowing for voluntaristic actions. Furthermore, they are influenced by the given situative context. This context includes the different framework conditions that might influence a given situation and it is itself constantly being either confirmed or modified by the ongoing negotiations between actors (cf. Strübing 2007, p. 55).

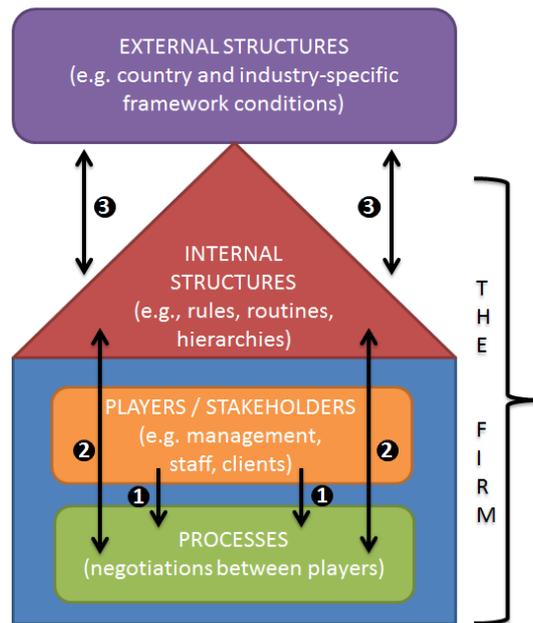
The negotiated-order approach has recently been applied in several empirical contributions, e.g. for explaining the process of employee acquisition by human resource managers (König 2005), within research on the perceptions of managerial responsibility (Baïada-Hirèche et al. 2011) or in the analysis of technological change in organizations and organizational fields (Dokko et al. 2012). For further applications of this approach in related fields see, f.i., Delbridge (2000), Heimer (1985), Li and Edwards (2008) or Wirth (2000).

In a general perspective, the approach emphasizes the potentials and the limits of change inside organizations. Thereby, both the framework conditions of the respective actions as well as the actors and the necessities of the action itself are taken into account. Social order is therefore always understood as a “negotiated” order, which evolves within a progressional process of collective (and mutual) action embedded in a particular context of activity and interaction.

Negotiations, thus, do not take place in a vacuum, but within an existing framework of a „structural context“, i.e. particular normative, social or economic framework conditions (macro level) as well as organizational precepts and regimes (meso level). Those external factors, however, do not determine the actions in a mechanical way, but rather by moderation of the “context of negotiation”. External framework conditions have to be perceived in a conscious way by the actors in order to make them relevant for their actions. The actors on their part dispose of specific characteristics and abilities and pursue their specific interests.<sup>4</sup>

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<sup>4</sup> For instance, particular framework conditions can also be positioned (or even explicitly excluded) tactically as argumentative resources in processes of negotiation.



Source: Own Drawing

**Figure 1: Conceptual Model**

The levels of structures (framework) and processes (action) are perceived to stand in loose coupling to each other – with none of each level determining the other completely. Nevertheless, particular elements of the structural context restrict the negotiations on the process/action level by imposing a “corridor of possibilities”. In a similar vein, a continuing and accumulated deviation from existing elements of the structural context (rules, regulations) may induce a gradual transformation of this same context.<sup>5</sup>

The main strength of the approach of negotiated order is its joint vision of (external and internal) framework conditions, constellations of relevant stakeholders and the resulting (but also causative) processes of work and negotiation, which can be viewed and analyzed from a pragmatic perspective. Figure 1 illustrates these elements and relates them in a first approximation to the subject of the present contribution. In summary, we therefore agree with Trinczek’s (2010) general statement, that the NOA is a valuable heuristic and analytical framework for studying the intra-organizational regulation of work

According to this conceptual model, we perceive firms as consisting of three major elements plus a sphere of external framework conditions (*external structures*). Within or in close relation with the firm, relevant players / stakeholders shape the processes of the organization’s development by negotiations with each other, e.g. between the management and the workforce of the company (arrows # 1). By these *processes*, internal structures evolve and further develop while the firms are aging; these structures form a framework for the processes taking place between the players (arrows # 2). The external structures (or, what Strauss conceived as a sort of *farther context*) are given by general or specific framework conditions, e.g. a country’s legal regulations, a social discourse about the quality of work or an industry specific context. These external structures form the framework for the actions within the firm (and, to a lesser degree, they can also be formed by the processes taking place on the firm level, see arrows # 3). Each organization characterized by processes of negotiation is part of such a structural context. This context, however, does not operate directly on the embodiment of the organization, but only via the negotiating stakeholders. Elements of the structural context can be effectuated as argumentative resources in ongoing processes of negotiation by the stakeholders.

<sup>5</sup> Thereby, different elements of the structural context may be influenced in varying degrees. An informal regulation at the level of the firm, for instance, will be more easily modified by a continuous deviation at the level of the organization than an external legal prescription (see Strauss’ (1993) concept of the *conditional matrix*).

With regard to the empirical analysis of this conceptual model, an inspection of the structural context in a general as well as in a specific form (e.g. by industry) constitutes thus an important step. Thereby, these framework conditions can be different for types of firms, e.g. for young firms and incumbents. Furthermore, it has to be considered which elements of the structural context are de facto effectuated within the ongoing processes of negotiation.

In addition to the external framework conditions, the actors within a specific situation of negotiation play a crucial role, for instance with regard to their individual interests and skills. Differences within these factors could lead to differences concerning the enforceable solutions, the argumentations viewed as legitimate as well as concerning the practicable courses of action. With particular regard to the present contribution, it has to be taken into account which type of employers (managers, firm founders) and employees can be found in the surveyed firms, and which actors are involved in the processes of negotiation. By this, differences between young firms and incumbents can be carved out in detail. It is expected, for instance, that young firms are characterized by less consolidated internal structures (which would translate into a flatter roof in Figure 1).

From the perspective of the approach of negotiated order, the constitution of work forms, working time arrangements and other related topics can be understood as a result from processes and negotiations which are performed by specific actors against the background of a structural context and intrinsic objectives of the stakeholders. Additionally, it is an essential question which processes and negotiations can be achieved in the respective organization: are the tasks repetitive, routinized and standardized or are they complex, unpredictable and individual? A general assumption held in the present paper is that the specific objectives or products of an organization are fundamentally linked with the processes of action leading to a reasonable fulfillment of the processes themselves. Therefore, it has to be taken into account which processes of work have to be performed depending on the objectives and products of a firm. The analysis of the work forms, working time arrangements and other related topics must therefore also explore the role of individual employees within these processes.

With regard to the particular forms and processes of work in young firms, the chosen approach is promising as it supports explaining scopes of action within firms as well as heterogeneities between firms resulting from, e.g., diverging motivations of stakeholders or specific cultures at the firm or even the industry level. Thereby, it is also capable of drawing our attention to the particular characteristics of young firms regarding the Specific constellations of actors and power. We see the strength of the approach of negotiated order in facilitating an integrative and non-deterministic observation of “structures as preconditions for action and action as the condition for structural change” (Strübing 2007, p. 55, authors’ translation).

### **3 Sample and Empirical Strategy**

The informational base of the empirical part of the present paper consists of an analysis of selected features of work organization and working conditions in newly founded and incumbent firms. As the external structural context is a crucial element of our conceptual model (see section 2), we sample firms from four heterogeneous economic sectors: mechanical engineering, biotechnology, advertising and outpatient care. The heterogeneity of this sample allows us to consider the role of external framework conditions within the processes of negotiation and the formation and evolution of firm internal structures (see Figure 1). The selected industries represent a wide variety of external conditions with regard to, e.g., the institutional framework, industry and firm structure and dynamics as well as the quality and quantity of new forms of work. As a first appraisal of the industry specific framework conditions, some basic numbers from existing data are given in Table 1. These numbers are able to figure out some of the industry characteristics mainly with regard to the structures of the workforces, also differentiating between young firms and incumbents. It can be seen, for instance, that start-up-rates<sup>6</sup> in mechanical engineering are extremely low, whereas they are rather high throughout the other

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<sup>6</sup> Defined as the percentage of newly established firms in year  $t$  in relation to the total number of firms in year  $t-1$ .

sectors – which reflects both the competitive situation within the sectors as well as the internal dynamics and turnovers of firms within the sectors.

**Table 1: Indicators on new firms and new forms of work (Germany, 2008)**

	Mechanical Engineering		Biotechnology		Advertising		Outpatient Care		
	young firms	incumbents	young firms	incumbents	young firms	incumbents	young firms	incumbents	
Start-up rate	5.1%		11.1%		11.3%		9.9%		
Shares of...	employees <35 years	35.8%	30.5%	43.6%	36.7%	53.7%	43.2%	32.8%	29.7%
	employees 50+ years	24.3%	26.5%	14.8%	21.4%	14.5%	21.9%	23.1%	24.7%
	female employees	22.0%	16.8%	49.2%	42.0%	54.9%	58.3%	82.6%	85.1%
	full-time employees (FTEs)	80.3%	91.0%	74.2%	77.3%	60.6%	52.9%	42.6%	39.2%
	regular part-time employees	5.3%	4.8%	12.3%	16.7%	11.6%	8.5%	26.3%	32.3%
	marginal employees	14.4%	4.2%	13.5%	6.0%	27.7%	38.6%	31.0%	28.5%
Average daily wages of FTEs	78.20 €	92.10 €	91.80 €	99.00 €	54.10 €	68.80 €	51.80 €	55.70 €	

*Young firms are defined as firms aged less than five years.*

*Source: Establishment History Panel, own calculations.<sup>7</sup>*

Both the outline of the relevant framework conditions of the industries (see section 4) as well as the subsequent empirical analyses go far beyond the content of these available data. In the empirical part of the paper, we will highlight rather qualitative factors of the type and the organization of work, which mainly cannot be addressed by available quantitative data.

For the firm-level qualitative empirical analyses used in the remainder of the paper, a sample of young and incumbent firms in the outlined industries has been drawn on the basis of different databases (e.g. registers from the chambers of industry and commerce or from the relevant industrial associations and labor unions), internet-based inquiries, personal contacts as well as recommendations given by first interviewees. Further criteria for the selection of firms have been developed on the basis of ideas and ad-hoc hypotheses generated in a process of *abductive inquiry* (Douven 2011, Hobbs et al. 1993) emerging in the course of the empirical work.<sup>8</sup>

**Table 2: List of interviews**

	mechanical engineering	biotechnology	advertising	outpatient care	total
# incumbent firms	6	6	11	6	29
# young firms	5	4	8	3	20
# employers*	9	6	6	6	27
# employees**	2	4	13	3	22
# experts	1	1	2	1	5
total	12	11	21	10	54

\* Firm founders, owners, managers, CEOs etc.; \*\* Representatives of HR departments are classified as employees

<sup>7</sup> The Establishment History Panel, a representative sample of establishments of all economic sectors in Germany (for details see Hethey-Maier and Seth 2011). Data access was provided via on-site use at the Research Data Centre (FDZ) of the German Federal Employment Agency (BA) at the Institute for Employment Research (IAB) and remote data access.

<sup>8</sup> For example, the differences between advertising firms with rather standardized products compared to companies with highly innovative products emerged as relevant categories in the course of the research process. We therefore tried to find cases with these characteristics intentionally during the sampling process.

Altogether, 54 interviews have been conducted in 47 firms. Whereas 27 interviewees are firm founders/managers, 22 are employees in the respective firms and five are experts from industry associations, trade unions and other institutions (see Table 2). Interviews were conducted between May 2012 and March 2013. By interviewing both employers and employees, we expect to capture a maximum number of facets regarding different aspects of work organization, forms of work and employment structure and dynamics, inter alia. Moreover, covering both employers and employees allows us to be more objective and to cross-check results.

In order to gain an encompassing view of the processes of negotiation within the firms and how they interact with the relevant external and internal structures as well as with the concrete actors (see Figure 1), an interview-guided approach has been implemented. The field work has been supported by a structured field manual, which has been adjusted occasionally during the research process, if new insights have been found in the course of the ongoing interviews. This also allows for capturing phenomena in their situational, personal and social context, and it also permits to detect the subjective perceptions of individuals regarding their job, their firm and their working conditions. Moreover, this form of conducting interviews provides a reasonable compromise between an open, explorative data collection and the goal to collect comparable data (see Przyborski/Wohlrab-Sahr 2009).

The transcripts of the interviews were coded according to the suggestions given by Strauss (1967, 1990). Starting with an “open coding” directed towards an explorative analysis of the data, important ideas and concepts that came to our awareness during this first phase were analyzed considering their specific relation in the step of “axial coding”. In a second phase, the data was recoded considering the relation of those phenomena with the “core concepts” of the analysis. Particular attention was paid to different aspects related to the structures, the evolution and the rationales given by interviewees with regard to forms and flexibility of work as well as to work organization as well as to the factors obviously associated with these issues. At the same time, our approach included openness towards the discovery of new and unexpected aspects in our data.

## 4 External Structures and Actors

For the following presentation and description of the relevant external structures and the actors, we split our sample into a “classical” segment, where work is organized more tayloristically, and a knowledge-intensive, innovative segment with a prevalence of project-based work and autonomous work forms. While the classical segment consists of the outpatient care sector and parts of the mechanical engineering industry (as far as firms are not engaged in R&D), the R&D intensive parts of mechanical engineering, the biotechnology sector and most parts of the advertising sector form the knowledge-intensive segment.

All industries (or segments) have in common that the temporal variability of their work load is very high, albeit for different reasons: While firms in mechanical engineering and to some extent also those in the advertising industry are subject to both foreseeable and unforeseeable peaks or drops in orders (e.g. due to dependence on the business cycle or unstable customer relationships), mostly unforeseeable changes in work load can occur in outpatient care and in the biotechnology sector: While, most apparently, patients of the outpatient care industry die sooner or later<sup>9</sup>, biotechnology firms are confronted with the manifold uncertainties that come along with large-scale R&D projects and that can create incidences in their work flows. While this latter reasoning applies basically to all firms in the knowledge-intensive segment the argument is particularly strong for biotechnology firms. This high temporal volatility of work load is accompanied by a shortage of skilled workers that is mentioned by interviewees from all four industries, but appears as outstanding in the outpatient care industry, where it is associated to a number of co-occurring phenomena, among which the

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<sup>9</sup> Also, patients may otherwise withdraw from contracts at any time without previous notice.

demographic situation; advances in medicine and health care; working conditions that are widely known to be poor and include shift work, physical exposure or mental strain; and, not least, deficient monetary and non-monetary compensation. Legal provisions for the qualification of nurses are a further limiting factor in this respect.

Overall, legally fixed framework conditions are less relevant in mechanical engineering as well as in advertising, but they are highly relevant in the outpatient care sector and even in biotechnology. For the outpatient care sector, they include not only statutory rules regarding the qualification of employees as mentioned above, but also a detailed catalogue of prescriptions, e.g. for sanitary and care-related standards. Particularly in red biotechnology (to which most of the biotechnology firms in our sample belong), external requirements to processes and products as well as ethical issues constitute an oftentimes narrow framework for the type and scope of firms' activities; this concerns, for instance, the prescriptions for the treatment of hazardous substances, the phases of drug development or documentation requirements.

Last but not least, our industries differ widely concerning (formal and informal) employee participation. In general, the manufacturing sector in Germany is known for its solid industrial relations, collective bargaining agreements, works councils and the like. In the other industries of our sample, formal institutions of employee participation are less common – not least because SMEs are the dominant class of firms. Concerning informal opportunities of employee participation, the industries in the more knowledge-intensive segment dispose of much larger opportunities to participate, which are owed to the more autonomous work forms and the corresponding philosophy of work. An important case arises for the outpatient care sector, where work is rather tayloristically organized but employees have neither the benefits from informal opportunities of participation nor those from solid industrial relations, like is the case in manufacturing.

Employees tend to be highly qualified in the knowledge-intensive segment (mostly graduates from polytechnics, universities or even PhDs), which is in sharp contrast to the lower levels of qualification prevailing in the outpatient care sector and in the more traditional segment of the mechanical engineering industry. Furthermore, employees in the knowledge-intensive segment tend to be younger than in the traditional segment and they show strong, post-tayloristic patterns of motivation and a high degree of self-identification with their work and firm. Importantly, each of those aspects becomes even more relevant in young establishments in both segments. Or, as one of the interviewees put it: *“Earlier, we rather had younger ‘true believers’. By now, we are somewhat more mixed, but ages above 50 are not very frequent. Surely, this will have to do with our industry, too. What we do did not exist before. We are starting from scratch. There are no employees with 30 years of professional experience in this area”*<sup>10</sup> (ME-K, 39).

As to the employers, we can distinguish between founders (as far as they still work actively in their firms) and external managers who work for the incumbent businesses. Apart from the fact that the relationship to the firm is entirely different across these two types of management (and therefore also their strength and patterns of motivation), the founders are usually younger than the managers. Although both are usually high-qualified, the founders (who are usually younger) tend to have less work experience both in general terms as well as with regard to the industry-specific experience. Additionally, while most founders in our sample had a concrete business idea when they founded their firm, they frequently lacked knowledge from the area of business administration, which may help to explain why some issues are taken less seriously than is the case in the incumbent firms (e.g. hierarchies or time recording, although many other factors are relevant in this respect, see section 5).

As most of the founders in our sample are former employees of another firm in the same industry, by starting up their own business they frequently try to avoid unsatisfying working conditions or other problems in their former enterprise and try to improve these issues in their own firm. On the other hand, things that worked well

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<sup>10</sup> Interviews have been conducted in German language (with one English exception). Quotations included in the present paper are paraphrased from the literal transcripts. Original passages (in German) can be obtained from the authors upon request.

for them in their former job are likely to be kept in their own firm and thus, young firms partly reproduce the existing industry characteristics. While the managers of the incumbent firms in our sample appear to have a substantial influence on their firm as well (this becomes most obvious from the fact that their personal/ethical attitudes play a decisive role when there is a choice between standard and non-standard employment), it is an important aspect in this respect that the founders' influence on their (young) firm is still far higher, since, for instance, the business area of their firm is less stable and everything is still evolving. Thus, a person that is so important to a firm like its founder(s) can easily establish an early firm culture that may persist well beyond the first start-up phase.

## 5 Forms and Organization of work

On the basis of our empirical material, we describe and analyze two aspects of work forms and work organization, which are of particular relevance to young firms: Flexibility and autonomy.

Flexibility is an issue for all firms in nowadays' volatile and globalized economy. Being flexible is perceived as a pivotal component of keeping up-to-date with new technologies, of being able to persistently adapt to external changes and of gaining advantage against competitors. Flexibility is often of particular relevance for young firms, as they are frequently acting in new technological fields, as their relationships to partners and customers are less established and as they subsequently have to react quickly to changing external and internal requirements. We will focus on working hours and working time arrangements as one facet of *numerical flexibility* (chapter 5.1) and on alternate tasks between and within employees as an example of flexible work organization (*functional flexibility*, see chapter 5.2).<sup>11</sup>

An increasing autonomy of the single worker with regard to her or his (organization of) work in the sense that he is responsible on his own for the methods needed in order to achieve some pre-specified goal is a factor becoming increasingly relevant, particularly in knowledge-intensive sectors. It is one central characteristic of the ongoing changes in work forms and it is linked to phenomena and trends in firm organization and work research (e.g. flat hierarchies and work in projects).

### 5.1 Working Time Arrangements

Working time arrangements and, in particular overtime hours, can be considered to be of utmost importance regarding firms' need for numerical flexibility (see Atkinson 1984), i.e their ability to quickly adjust their work input, e.g. as a reaction to changes in the environment such as peaks in work load due to unstable incoming orders. While in principle, firms may choose to hire external workers (usually agency-based workers) in order to achieve numerical flexibility, overtime hours is the most common (internal) means to that aim (Hohendanner & Bellmann 2007), which may be due, among others, to its quick availability and because one's "own" workers are already trained on their specific job and also familiar with the specificities of the company. Flexible working hours and trust-based working time arrangements, in a similar vein, often are an expression of the increasing individualization of work and life styles.

Considering the working time arrangements we included questions on the occurrence of overtime hours, their compensation and the time recording system used. Regarding the extent of extra hours, our results show, at first, that nearly all firms in our sample indicate to frequently make overtime, independently of their area of business, and meaningful differences between the more "standard" and the more knowledge-intensive segments do not seem to exist. The possible reasons for the overall high amount of overtime hours, however,

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<sup>11</sup> In the literature, three main forms of a firm's workforce' flexibility are distinguished (cf. Atkinson 1984, Valverde et al. 2006): Numerical flexibility aims at balancing volatility in workload by adjusting the number of employees (which could include different types of employment forms) or the number of hours worked by these employees. Functional flexibility means to dispose of a workforce where employees are able to change tasks flexibly (both related to the single employee as well as within groups of employees) in order to fulfill various job positions. Financial flexibility means setting employees' wages at the optimal level, corresponding to the individual productivity.

vary substantially across them. While in the knowledge-intensive segment the uncertainties that are involved in project work, particularly in the large-scale R&D projects in the biotechnology sector, are an important factor determining the extent of overtime hours, it is unstable incoming orders, both foreseeable and unforeseeable, which are more important in more traditional segments of the economy. F.i., seasonal patterns of demand or a general dependence on the business cycle play a decisive role in mechanical engineering. In the outpatient care sector, the decease of patients or the cancellation of contracts may occur at any time without previous announcement. On the other hand, unforeseeable problems in ongoing projects may cause incidences in the workflows in the knowledge intensive segment. These can in turn create a need for more work input even in the very short run and even in affiliated divisions or production, like is the case in many of the sampled firms in the biotechnology industry.

Apart from these core issues that differ between the more traditional and more knowledge-intensive segments, firms in our sample often share the same underlying external structures that require overtime hours. The shortage of skilled workers provides an important example thereof, whose influence is still augmented in case of legal provisions (e.g. mandatory qualification levels of nurses in the outpatient care sector) and the more complex the tasks and the more specialized the employees are. A special case is given by the advertising industry where an industry quasi-norm is used to justify the high work load in order to prevent pressure to arise on the managers, combined with open competitive biddings that result in high temporal peaks of the work load and the fact that employees in the advertising industry have a strong inclination towards identifying themselves with “their” industry and thereby distinguishing themselves from other employees and industries and becoming part of the “myth”.

Furthermore, while external workers are generally more suitable to replace overtime hours in the classical economic segment, other external structures that are present in the respective industries may limit the range of alternatives. F.i., in the mechanical engineering sector there is a large history of formal employee participation and collective bargaining agreements, with a strong role of labor unions and a traditionally high preference for standard employment. While this clearly does not prevent them from using agency-based work, other forms of non-standard employment are quite uncommon in the industry and one might speculate on what the situation would look like if there were less institutions of employee participation. While in the other industries in our sample formalized institutions of employee participation like works councils and labor unions are much less influent, even informal employee participation seems not to take place with regard to working times (though participation opportunities and levels are in general much higher in the knowledge-intensive segment). While the employees that are (still) working in the biotechnology and the advertising industry do not appear to be very unsatisfied with their long working hours, the (mostly female) employees in the outpatient care industry are, but either they are not able or not willing to change their situation: solidarity (among employees) goes over participation, as the slogan goes. In part, flexibility is attained by exchanging personnel between different companies in order to be able to react quickly to unforeseen changes in (e.g. regional) demand: *“I have several contracts of cooperation with other firms from our sector and we support each other by exchanging personnel whenever both firms benefit, for example in case of the decease of a client (OC-C, 153)”*. However, this appears to be only the case with large and specialized firms. Also, a further, special restriction on using alternatives to overtime hours in the outpatient care industry arises, as firms must seek to leave the personal combination between patients and nurses as stable as possible in order to guarantee the clients’ satisfaction with their services. On part of the knowledge-intensive segment, an additional restriction to using alternatives to overtime hours (e.g. contracting new internal or external workers) is given by the fact that they involve long periods of vocational adjustment due to the highly complex tasks. Furthermore, apart from the fact that e.g. agency-based contracts may not be very attractive to highly qualified and specialized people, particularly the firms in the biotechnology industry seek to avoid unwanted spillovers.

Despite the overall huge amount of overtime hours in all industry segments, young firms in our sample appear to make still more overtime. This is, among others, due to specific internal structures such as less developed routines, fewer hierarchies and more ad-hoc decision-making which can, at times, be less efficient. The

important role of routines in the working process becomes particularly clear in the biotechnology sector, whose large-scale R&D projects would not be manageable without a certain amount of routines. The identification of employees with the firm, which is much more distinct in young establishments, along with their lower age is another relevant point in that respect. At the same time, this could help to explain why the employees of the young firms in our sample accept that their overtime hours are mostly compensated merely financially or even not at all: while compensatory time-off appears to be much more usual in the incumbent firms, start-ups just seem to fall back to their regular working hours, when the temporary peak in work load is gone. Even when there is little day-to-day work they report not to work less, but rather to shift their focus to important tasks they had neglected so far: *“Well, then we work on things that have been on the desk for quite a long time, or we refine the company profile. [...] Then, we concentrate mainly on sales and distribution. We develop new brochures, refine our web site, work on texts, i.e. mainly acquisition tasks.”* (Ad-H, 419).

As flexible working time arrangements are crucial to the firms in the knowledge-intensive segment, due to the general uncertainties involved in project-based work, incidences in the workflows etc., they are more common there than in the classical segment. Apart from that, we find the young firms in both segments to have less formal working time arrangements, which are even purely trust-based in most cases. An example may be given from the following quote: *“Well, we don’t have a clear-cut rule for that. Everyone has his 8 hours per day [...] and can configure them somewhat freely. I.e., we do have a core working time [...]. This is all based on trust, too. Everyone has his little excel sheet and documents his working hours on his own.”* (ME-G, 115).

Again, the role of routines and hierarchies has to be stressed, altogether with the strong, often post-tayloristic motivation of the employees of young firms, which apparently prevents them from shirking. Likewise, management attitudes appear to play a major role: *“For the major part, it’s trust-based. I.e., what is important are not the flying hours but the honey, somebody who does his job well and quickly does not have to stay in for another hour if it’s not worthwhile to begin something new.”* (Bio-B, 139).

An exception of the above-mentioned aspects is given by the outpatient care industry, where routines and the hierarchical structure of young and incumbent firms hardly differ due to the tight regulatory framework implied by legal provisions (mandatory qualifications for employees), altogether with the shortage of skilled workers. If there are any substantial differences between young and incumbent firms, they are embodied in the person of the founder-manager, f.i. in the area of business administration and computer knowledge, and therefore we cannot derive a systematical relationship with differences between young and incumbent businesses for the outpatient care industry. The only thing they have in common with the other industries seems to be that their overtime hours are frequently not compensated at all.

## **5.2 Floating and Changing Tasks and Duties**

Flexibility is not confined to volumes and hours of work, but it extends also into the tasks and duties of employees or groups of workers, i.e. into the organization of work within a firm. Changing tasks and duties of single employees or between groups of employees are taken as a management strategy in large and traditional firms in order to alleviate employees from repetitive tasks, but they are also of relevance in rapidly changing and unstable environmental situations which are typical for young or innovative firms.

Firms with high functional flexibility can profit from several advantages. In particular, they can rapidly react to changing environmental conditions (cf. Valverde et al. 2006, Atkinson 1984), since their employees have the ability to perform several different tasks. They are not only capable to resume tasks from their colleagues, but also they are also adaptive in view of, e.g., new technologies or organizational challenges. Since young firms frequently operate at the technological forefront and open up entirely new markets, they are often confronted with uncertainty and should therefore have an increased interest in having a functionally flexible workforce.

In our empirical sample, changing tasks and duties between workers and groups of workers are most pronounced in small firms with a diversified or “tentative” portfolio und without mature organizational

structures. With regard to innovative activities in the firms, it seems to depend on the type of innovation whether flexible allocation of workers is customary or not: In fields with rather standardized and technically based processes of innovation, as they can be found in the pharmaceutical or in the engineering sector, the allocation of workers to tasks is less flexible than in sectors where innovation is rather linked to creativity, e.g. in advertising: *“In the classical fields of mechanical engineering a strict assignment of tasks to persons is common, in new fields, job definition is much more footloose. We [as a firm acting in such a new field] also expect more responsibility from our employees for their own workflows and results (ME-J, 133-135).* However, particularly in very early stages of product development (and, therefore, predominantly in young firms), creativity is also a crucial element of innovation processes even in the more standardized industries. Young firms also claim to have employees with more general levels of qualification and thus being able to work in several fields: *“I think people are generally qualified in a broad sense [...]. People are to a great degree interchangeable” (Bio-A, 145-147).*

Motivations and justifications for floating and changing tasks and duties are mainly given by external and internal structures. In outpatient care, for instance, prescriptions with regard to educational attainments for certain tasks or legal regulations with regard to hygienic or even ethical standards are found to limit workers' functional flexibility substantially. While a formal internal organizational division is given in most established firms (at least the department's management and administration and – for advertising agencies: consulting and creation – can be discriminated and are formally fixed in most of them), young firms in our sample often dispose only of a vague and informally attributed functional division. Their division of labor is, as mentioned before, less articulated, and their employees, mostly generalists, frequently perform various tasks in the working process.

Besides those justifications and motivations, also the internal actors within a firm, i.e. the management and the workforce, have an influence on the internal organization and the division of work within the company. In the early stages of a firm's development, there is frequently a very close cooperation between the management and the workforce, e.g. in terms of the definition of the firm's objectives and the organization of work. Particularly in young firms, the single worker has to assume heterogeneous, changing and/or rotating tasks. In these firms, a significant number of tasks and practices are only provisionally defined.

These alignments are prone to have a sustainable influence on the ongoing processes of work within the firm as well as on its later organizational structures (accumulated rules and routines confining the degrees of flexibility).

In summary, functional flexibility in the form of floating and changing tasks and duties between employees and groups of employees is common in many firms and contexts. However, both the concrete arrangements as well as the rationales for this type of flexibility vary between firms. In some cases, functional flexibility is perceived and realized as a necessity, e.g. in answer to external requirements like legal prescriptions or rapid and unforeseen changes in demand conditions. This form of “reactive flexibility” is particularly relevant in the outpatient care sector, in parts of mechanical engineering as well as in biotechnology. In other firms, functional flexibility is adopted as supporting instrument for the exploitation of opportunities. This is particularly relevant in processes involving growth, innovation and creativity (e.g. with regard to generating synergies from cooperation). It applies to firms developing new products and processes, in all surveyed sectors except outpatient care. In many cases, both necessities and opportunities motivate functional flexibility. For young firms, necessities and opportunities are frequently more accentuated and thus functional flexibility is even more important for these companies, particularly when they are innovative or act in highly volatile environments.

### **5.3 Autonomy in Work and Work Organization**

Autonomy of the single worker in his work processes and organization are important factors defining a part of the nature of a firm. From the perspective of work science, autonomy and self-determination of work of the

single worker represent control and responsibility over one's own work and can increase identification with the contents and forms of work and thus productivity, health and work satisfaction (cf. Butterworth et al., 2011, Siegrist, 1996, Weigl et al., 2012). In modern economies and firms, workers increasingly aspire for autonomy with regard to many work-related aspects. For firms, autonomous employees are a double-edged sword, depending on the type and objectives of the firm. Autonomous workers might bring things forward by developing independently own ideas and contributing to workplaces that fit their needs, but for the management there is often a fine line between freedom and necessary control of work processes.

The degrees of autonomy of the workers and the workforces in our empirical sample are generally rather high throughout the observed firms; nevertheless there are some important gradations between different segments of the sample. A first important driver of autonomy are the external framework conditions: In the "standard" firms and divisions of mechanical engineering, for instance, the organization of work frequently follows a tayloristic logic and leaves little space for autonomy. Particularly in production, procedures and flows of work are mainly standardized and dissected into small partial tasks, which could be executed in a repetitive manner. Higher degrees of autonomy can be found in the more creative spheres even in traditional sectors, e.g. in the divisions of research and development, where a constructing engineer told us: *"I am responsible by myself for the organization of my own work. [...] – [Question] And if you have propositions for improvements – will this be considered or do you even make such propositions to your superiors? – [Answer] With regard to the contents of projects, it will be considered. Concerning organizational questions, there will probably be no consideration, as my division of the firm is rather conservative"* (ME-E, 278-286).

In outpatient care, degrees of autonomy are also very low. In that sector, however, it is rather the hieratical external settings that restrict autonomy in work to small areas concerning e.g. the direct contacts between workers and clients:<sup>12</sup> *"We have national standards concerning, e.g., air dressing, which we strictly follow. In this respect, there is no individual clearance for our employees. In basic care, however, there is a focus on the satisfaction of the client. Every worker follows his own way and is oriented on the results"* (OC-A1, 83-84). In this segment, presumably due to the high external stipulation of the internal workflows with regard to technical, hygienic and organizational standards, differences between young firms and incumbents are rather negligible.

In firms characterized by high levels of knowledge intensity, which are active in research and development and where the bulk of tasks is not pre-specified (or even pre-specifiable) and the success of work cannot be anticipated, predicted and measured easily, workers operate under higher degrees of freedom. At the same time they are also challenged, e.g. with regard to their creative competencies concerning unexpected problems. This may also be strenuous as, for instance, success and failure of work processes and results may be taken more personally and internalized by the employees.<sup>13</sup>

In the advertising sector, where creativity is seen as a basic condition of the existence of the whole industry, autonomy is perceived as a crucial and conditional element of work and work organization: *"We have a large creative leeway [...]. I believe in this leeway and that we can use it. Yes, there are economic constraints, but they are not necessarily compulsory"* (Ad-W, 140). A similar observation is also made by a personal manager in a young biotechnology firm, who also emphasizes the interface between autonomy and a necessary commitment to common rules: *"Certainly, this sensation of freedom has a subjective component. The firm as well as the workforce has a need for flexibility. At the same time, however, clear deadlines for projects are incontrovertible [...]. We try to communicate to the staff that we have and concede freedom and flexibility, but that the result counts. The way to the result has to be structured by projects and schedules, but every single employee in our*

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<sup>12</sup> This type of work differs from classical industrial tayloristic work and it may rather be described as "emotional labor" in the sense of Hochschild (2003 [1983]), as it is characterized by subjective strain. Nevertheless, it can be classified as work with low degree of autonomy in the sense of the present paper.

<sup>13</sup> These processes concur with a particular type of employees – frequently high qualified people with rather post-tayloristic attitudes of work. I.e., these workers attach increased value to self-fulfillment and freedom of scope and they are oriented towards non-material objectives.

*firm has a level of autonomy within which he or she can design these structures. It is then the responsibility of every single worker to shape and to live this freedom of scope and to deliver an optimal result.” (Bio-F, 85).*

In other firms, autonomy is simply seen as a matter of available resources: *“As owner-manager, I do not have enough time to direct the processes of work, and a high degree of self-organization is much more productive for the operation of the firm.” (BIO-D, 29-30).*

In young firms in the knowledge-intensive segments of the economy – which we found in large parts of the biotechnology industry, in some parts of the mechanical engineering sector and in the advertising sector – these characteristics are even more pronounced than in the incumbents. This appears to be due to the various factors. As young firms are often small, there is only little control by the middle management (or there even is no medium management level); therefore, subtasks are rather executed by single workers than in small teams with a leading person. Thus, there are less directions by superiors, but there is also less cooperation with teammates. Additionally, autonomy of single workers is augmented by the fact that the business area and the customer relationships of a young firm are not consolidated. Therefore, even the staff of the company have (the chance) to decide on the development, the external relationships and the objectives of the firm. This fact is even intensified by the mostly high significance of acquisition tasks in young firms. Thereby, the workforce of the sampled firms often plays a crucial role. Last but not least, the internal structure of young firms is much more flexible and less consolidated. There is frequently a lack of clearly defined tasks fields and profiles. The duties of the single worker therefore can be subject to rapid and substantial change depending on the actual requirements.

The example of the degree of autonomy in the work process reveals how the interaction of different aspects like a specific work process (e.g. focused on R&D, non-routinized), the organizational structure of a firm (no differentiated organizational structure, no established customer relationships, no fixed business areas), the characteristics of the relevant players (high qualifications and claims to work autonomously) together with structural framework conditions (competitive setting, rules and regulations, discourse) impacts on the organization and on the arrangement of the work relationships.

## **6 Summary and Conclusions**

This paper examines whether young and incumbent firms differ with regard to their forms and organization of work in order to assess their roles for the qualitative changes of work that are taking place in industrialized countries, in particular the increasing importance of autonomous work forms like project-based work or team working, as well as working time arrangements that are becoming increasingly flexible.

Building upon the *negotiated order approach* (cf. Strauss et al. 1963, Strauss 1978), we present results from qualitative empirical research conducted among about 50 young and incumbent firms from four German industries – mechanical engineering, biotechnology, advertising and outpatient care – which are characterized by substantially different framework conditions (external structures) such as legal regulations or formal instruments of employee participation. Together with the internal structures evolving (and embodied) in the firms – such as routines, a specific client structure etc., these external structures build a background against which the management and the employees negotiate implicitly or explicitly the above-defined work processes. In the course of these processes of negotiations, the firm internal structures further evolve. The adopted conceptual background and our interview-based approach with both employers and employees in young and incumbent firms can be considered as particularly advantageous, as they provide a flexible model setup and allow for an in-depth analysis of the most different interacting phenomena at various levels of investigation.

The main differences between young firms and incumbents can be attributed to less developed internal routines, less pronounced hierarchical structures, less institutionalized decision-making as well as to more fragile and fewer and less developed customer relationships and business areas in young firms. This is

accompanied by younger employees with higher qualification levels and a tendency towards post-tayloristic motivational structures, with the corresponding claims to their work. Uncertainties that may arise from both foreseeable and unforeseeable sources of volatility (e.g. seasonal patterns of demand or error-prone, large-scale R&D projects) and that hit young firms in particular complement this inconclusive enumeration.

Our results indicate, at first, that external framework conditions such as mandatory qualification levels for employees or other legal regulations as well as industry norms have a considerable impact on the work forms of the firms in our sample. These factors are able to restrict substantially the freedom of scope of both management and employees. While, in general, young firms and incumbents are equally subject to these external structures, there are also examples of young firms being constricted more severely by them. Likewise, the area of business is an important predictor in that respect: Autonomous work forms and flexible working time arrangements are more usual in knowledge-intensive segments of the industries in our sample, where work processes and tasks are less clear-cut and a priori specifiable than in the “standard” segments, and where streamlining and standardization of tasks are of crucial importance for the firms’ economic prospects. Thus, our study is in line with earlier results pointing to a specific form of changes in work structures in these knowledge-intensive and complex industries (target-oriented, self-responsible, and versatile work without clear input requirements – see Moldaschl and Voß 2002 and Kratzer and Sauer 2005). Furthermore, the heterogeneity between the young firms in the knowledge-intensive segment of our sample is larger than in the “standard” segment, pointing to a greater degree of individualization and differentiation.

With regard to differences across firm age, we find that young firms practice autonomous work forms like working on one’s own responsibility and team working more frequently than incumbents, particularly in the more knowledge-intensive segments of industries in our sample. This is accompanied by a greater role of functional flexibility in young firms: employees in young firms need (and are able) to resume tasks from their colleagues more readily than is the case with employees in incumbents. Likewise, they appear to be more adaptable to changes in their own tasks, which appear as particularly frequent in young firms, again. Correspondingly, we find evidence that working time arrangements tend to be more flexible in young firms, and purely trust-based solutions are more common. Thus, we find young firms to contribute to the structural change of employment.

We identify two motivations driving the intensities of flexibility and autonomy within the firms in our sample: Necessity and opportunity. Necessity mostly emanates from (adverse) external framework conditions like, for instance, an alternating demand or unforeseeable changes in legal regulations. These external changes force firms to be flexible, for instance by numerically adapting the workforce to a growing or falling demand or by switching workers between projects. Such necessities concern young firms and incumbents to comparable extents, although the latter might have already developed instruments and routines in order to cope with these challenges. Opportunity with regard to work forms and work organization, on the other hand, is associated to using chances, e.g. in the development of new technologies or in the firm’s growth. In this sense, flexibility and autonomy of workers are used voluntarily in order to create new internal structures supporting the exploitation (and even the creation) of market opportunities. Young firms are more likely to revert to flexible work forms in this opportunity-based view.

Given these results, young firms can be perceived as important contributors to the ongoing qualitative changes of employment, and one could wonder whether this is desirable or not. The answer to this question will always be normative and should be achieved through societal discussion. If the answer were no, policy-makers might find it useful to implement certain compliance rules with regard to new forms of work for start-ups, at least when they are publicly funded. However, this could be not only difficult to implement, but also counterproductive, since new forms of work are precisely what young firms need to cope with the particular challenges they have to face and grants/subsidies could not suffice to overcompensate this shortcoming. Therefore, and as compliance rules could introduce severe scaring effects for potential entrepreneurs, we strongly argue against such procedures. Rather, we find it useful to inform employers and employees about the prerequisites and consequences of certain work forms.

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