Psicothema 2005. Vol. 17, nº 4, pp. 620-626
www.psicothema.com

ISSN 0214 - 9915 CODEN PSOTEG

Spanish firms flexibility

Manuel Fernández-Ríos, Ramón Rico, Rafael San Martín and Luis De la Corte
Universidad Autónoma de Madrid

As a result of the pressure to succeed in global markets and the accelerating pace of change in the business environment, organizational flexibility has become an unavoidable issue. We carried out a descriptive study covering 660 firms based in Spain with the objective of finding out how they deal with and use the different facets of organizational flexibility, in particular qualitative (functional) and quantitative (temporal) flexibility. Our results provide favourable evidence for the possibility of combining temporal and functional flexibility. We discuss these results with reference to the «core-periphery» model, which interrelates both kinds of flexibility. Based on these results, we also make three specific propositions concerning the manner in which both kinds of flexibility may be made compatible, and impacts on temporary workers and the development of the labour market in the next years.

Flexibilidad en las empresas españolas: combinando aspectos cuantitativos y cualitativos. Las presiones por mantener ventajas competitivas en mercados globales y las consecuencias del acelerado ritmo de cambio que caracteriza el entorno de nuestras organizaciones han convertido la flexibilidad organizacional en un aspecto de máxima relevancia. Con el objetivo de aclarar cómo las empresas españolas están combinando la flexibilidad cualitativa (funcional) con la flexibilidad cuantitativa (temporal) llevamos a cabo un estudio descriptivo con 660 empresas que operan en España. Los resultados aportan evidencia favorable respecto a la posibilidad de combinar diferentes facetas de la flexibilidad (temporal y funcional). Discutiremos los resultados obtenidos con relación al modelo «centro-periferia» que interrelaciona ambos tipos de flexibilidad. Con base en los resultados realizamos también tres proposiciones específicas relativas a la forma en que ambos tipos de flexibilidad puede compatibilizarse, sobre el impacto que tendrán sobre los trabajadores temporales y sobre el desarrollo del mercado de trabajo en años venideros.

The increasing complexity of the environment in which firms are obliged to operate has led to a situation of ongoing change in many areas, including the organization of work. These changes represent opportunities to generate sustainable competitive advantages and facilitate not only the creation of new jobs but also the protection of existing ones.

The set of changes affecting the organization of work has been generically termed «New Forms of Work Organization» (NFWO), and the topic has been the subject of increasing interest in academic, management and organizational circles.

To obtain an overview of the changes covered by the term NWFO, we need to look, on the one hand, at the series of studies (in particular case studies) carried out in the European Union (European Commission, 1997, 1998 and 2000) and, on the other, at recent scientific literature in the field (Singh, 1991; Kissler, 1994; Womack, 1996; Smith, 1997; Podolny and Page, 1998; Carayon and Smith, 2000; Godard, 2001).

Taking into account that proposals for new forms of work organization are often made at different levels of analysis (individual, group and organizational), the main areas of organizational change involved may be summarized as follows: a) new organizational structures to reduce levels of hierarchy and decentralize decision making; b) working methods featuring qualitative and quantitative flexibility; c) use of independent, semi-independent or *ad hoc* work teams oriented toward quality, the customer or the improvement of production processes; d) worker or customer-oriented corporate culture; and e) changes in human resources policy with an emphasis on the utility of training, new remuneration systems in response to emerging needs (e.g. work/life balance) and new endeavor and performance appraisal policies.

Concern over new forms of work organization is nothing new. Indeed, the ILO published a two volume report entitled *New Forms of Work Organization* almost 25 years ago. In a revised version of this work, Ross (1981) praised the input received in the form of case studies from 11 different countries but at the same time voiced the criticism that NWFO were far from a mystery to professionals working in the field of job design, work organization and the quality of working life.

Overall, NFWO describe a set of changes that are in essence concerned with organizational flexibility and increased worker involvement. These changes must be made within the framework of a specific organizational strategy and supported by a series of human resource management (HRM) strategies to permit implementation and development. On this basis, organizational flexibility could provide the focus for inquiry and research into the key elements of NFWO without indulging in an overly general discourse with little practical utility.

Fecha recepción: 28/9/04 • Fecha aceptación: 13/4/05
Correspondencia: Manuel Fernández-Ríos
Facultad de Psicología
Universidad Autónoma de Madrid
28049 Madrid (Spain)
E-mail: mf.rios@uam.es

In general terms, a discussion of organizational flexibility means distinguishing between qualitative and quantitative flexibility. Qualitative flexibility refers, among other matters, to the organization's capacity to assign workers to one or other out of a range of possible tasks. Quantitative flexibility, on the other hand, stresses its capacity to adjust the size of the workforce to fit shifts in the market situation. Both may take numerous operational forms, as shown Table 1.

Most studies of organizational flexibility focus either on the functional (qualitative) or on the numerical (quantitative) side. Proposals relating these two kinds of flexibility do nevertheless exist, including Atkinson's (1984) «core-periphery» model, although studies of this interrelationship offer contradictory results (for a thorough review, see Kalleberg, 2001). Thus, some researchers have argued that functional and numerical flexibility are irreconcilable and cannot be applied simultaneously (Osterman, 1999; Davis-Blake and Uzzi, 1993), while others provide evidence of their compatibility (Morishima, 1995; OECD, 1999).

Two main proposals have been advanced based on the «core-periphery model». Both seek to smooth the hard edges of what remains a «Weberian» ideal model (Hakim, 1990) and respond to the criticism that the model is simplistic and understates the importance of the environment and the role of organizations in strategies designed to combine both kinds of flexibility. These proposals provide two complementary approaches to understanding how organizations may integrate functional and numerical flexibility. On the one hand, the *internal organizational labor utilization systems* approach proposes mingling the various «human resource portfolios» as a way of combining different flexibility strategies (Sherer, 1996; Way, 1992). On the other, the *organizational networks* proposal suggests different strategies may be combined by establishing external relations with other organizations (Piore and Sabel, 1984; Pfeffer and Baron, 1988; Powel, 1990).

We agree with Kalleberg (2001) that the notion of the flexible organization is important as a framework for the investigation of interrelationships between functional and numerical flexibility, and that there is a pressing need to refine the proposals referred to above in order to specify their terms more closely and submit to scientific validation the manner in which organizations are able to combine the two flexibility strategies. One avenue for progress in this theoretical and applied approach is to recognize that functional flexibility strategies are not inherently dichotomous and admit of more states than simply «on» or «off». The set of changes implied thus takes the form of a process. A further matter is that research strategy is all too often geared to obtaining information on what might be defined as novel or «trendy» organizational practices, and this triggers social desirability effects on the part of the researchers themselves.

If functional flexibility refers mainly to the degree of freedom with which we may approach the organization of work, one way of making progress in the direction chosen is to propose and develop a tailored strategy that might reveal information about the dimensions of the work design factors underlying functional flexibility, rather than seeking data on the degree of implementation of a given solution.

The objectives of this research may be summarized as follows:

a) To define a set of dimensions allowing us to examine the orientation of firms toward functional flexibility in organizational design terms and classify them based on the observed levels of flexibility.
b) To observe how different groups of firms vary in terms of quantitative flexibility strategies.

Method

Participants

The study was carried out on a sample of companies established in the Madrid region of Spain, which has a thriving local economy with over 350,000 firms.

Taking as a reference the data base marketed by Edicom B2B, a Telecyl Group undertaking, we selected a random sample of 6,000 firms in the Madrid Region (Spain) using a random quota sampling method based on the size of the firm. These firms returned a total of 829 questionnaires (13.82 %). We rejected 169 of these either because they contained errors or because of missing data, as a result of which the sample used in this study comprised a total of 660 firms. The sample includes 121 large concerns

Table 1
Forms of organizational flexibility

Forms of flexibility	Quantitative	Qualitative
External	*Types of employment contract* – Fixed / permanent contract – Engagement / fixed term contract – Temporary agency contract – Seasonal work contract	*Production and service provision* – Subcontracting – Outsourcing – Self-employment
	Contractually instrumented numerical flexibility	**Production and/or geographical flexibility**
Internal	*Working hours* – Shorter working hours – Part-time/overtime working – Night and shift work – Weekend working - Intensive shift (i.e. with no lunch break –common in Spain particularly in the summer months) Irregular / unpredictable working hours	*Work organization* – Work enrichment / rotation – Group work / autonomous work – Multi-task / polivalence – Project groups – Worker responsibility for planning, budgeting, technological innovation
	Temporal / dedication flexibility	**Functional flexibility**

(18.3%), 224 medium sized firms (33.9%), 214 small firms (32.4%) and 101 micro businesses (15.3%).

Taken as a whole, 8.9% of these firms sell their products / services locally, 6.4% operate at the provincial level and 12.3% regionally, while 39.7% conduct their business nationwide and 33.2% in international markets.

Measurement

In order to meet the objectives of this study, we constructed a questionnaire to more about the criteria employed in the design of work organization within each firm and on temporal flexibility strategies. 23.51% of our respondents lead the HR department, 8.02 were leading the administrative department, 35.81% were General Managers, 18.01% were leading accountability departments, 8.06% were middle managers and 6.6% belong to other positions in the organization. Average tenure of the respondents at the organization is 10 years.

We opted for a *grounded theory* approach (Glasser and Strauss, 1967) involving two phases to prepare the questionnaire. In the first phase, we identified a set of relevant questions from the literature in order to create a model for measurement purposes. Subsequently, we held a series of interviews with experts from both the academic and business worlds in order to adjust the scope of measurements to relevant and measurable issues. After this first phase, we drew up the final items and performed a pilot test on 12 firms, after which the pertinent adjustments were made.

In the first place, the questionnaire sought information to identify the company, including details such as the year it was founded, its economic activity code (based on the Spanish Statistical Institute classification), the number of employees and the volume of sales.

Organizational environment: measures were included for the organization's perception of its environment in terms of complexity (α= 0,401), predictability (α= 0,637) and the environmental dynamic (α= 0,642), based on Miller's (1983) studies and including the subsequent modifications proposed by Robbins (1990).

Technology: the measure focused on the categories established in the work of Woodward (1965) and the impact of technology on routine activities, as proposed by Gerwin (1979).

Functional flexibility design criteria: the measure of functional flexibility was oriented towards job design issues as this is the most basic level directly affecting workers' capacity to act. As an example, items include questions as «In which extent could workers decide by their own how to do their tasks?» or «In which extent could workers coordinate with other colleagues in order to do their job?» (A copy of the questionnaire could be reached by request to the contact author). Consequently, it represents the foundation for modeling functional changes designed to achieve worker mobility between tasks and jobs as and when required by demand in order to facilitate the attainment of organizational objectives. In order to construct these items, we reviewed the work of Davis and Valfer (1966), Hackman and Oldham (1974), Riley and Lockwood (1997), Molleman and Slomp (1999), Rico (1999), Rico and Fernández-Ríos (2002) and Fernández-Ríos, Rico and San Martín (2004).

Quantitative flexibility: this measure seeks to obtain information concerning numerical, contractual and temporal flexibility strategies. Questions included to shed light on this dimension refer, for example, to the relative share of temporary and permanent contracts for full or part time working out of the total number of employees, the calculation of hours worked on a weekly, monthly or annual basis, and the capacity to set off hours worked.

Data concerning subcontracting and outsourcing strategies in key areas were also collected. This required obtaining data on the strategies employed to resolve temporary surges in output, as well as the percentage of subcontracting existing in sales and distribution activities, production, technology, finance, administration and bookkeeping, and advisory and ancillary services (cleaning, catering and so on).

Procedure

The data were collected using a self-administered questionnaire. Direct telephone contact was established with each of the firms forming part of the sample. A copy of the final data collection form was sent by ordinary mail. The firms were contacted anew within a maximum period of 15 days from receiving the questionnaire. The collection of forms was closed 30 days after the date of the second telephone call. The whole process was completed between April 1 and June 30, 2002.

Data analysis: Before proceeding to a detailed discussion of results, let us explain briefly the rationale applied in the data analysis process in light of the objectives of our study. In the first place, in order to identify the factors underlying functional flexibility we opted to carry out a factorial analysis of the key items.

We then applied cluster analysis techniques to identify different groups of firms based on the use or presence of such design factors. We used cluster analysis techniques to do this. Finally, we sought first to establish the extent to which these groups were associated with different levels of flexibility in temporal, contractual and production terms, also in line with the objectives of the research project.

Results

We took a straightforwardly pragmatic approach to discovering the functional flexibility strategies used by Spanish firms, identifying the organizational and job design factors underlying the phenomenon in order to obtain the information.

Thus, we performed an exploratory factorial analysis using key components with oblique rotation in order to establish whether any structure existed that might allow us meaningfully to summarize the various design criteria. As shown in Table 2, four factors were obtained with explained variance percentages of 23,24%, 10,34%, 8,03% and 7.33%, respectively, providing a total explained variance of 48,95%.

We have employed the terms demand-adaptation, flexibility-polyvalence, improvement-autonomy and conciliation-participation to describe these four factors. The terms are defined as follows (see Table 2):

Demand-adaptation: this refers to the job design dimension along which we measured the difficulties to which workers are exposed to elicit adaptive behavior.

Flexibility-polyvalence: this factor refers to the fact that the activities, methods, processes and so on involved in each job and required of each worker are not, in general, fully stipulated, or at least are not indefinitely stipulated.

Improvement-autonomy: his factor refers to the job design dimension regarding the potential for improvement of job content, structure and work organization.

Conciliation-participation: this factor refers to the fact that a job can be adjusted to suit an individual and, by means of participation, that individual may become personally involved in developing job content, establishing and maintaining interactive relations with other workers, whether at the interpersonal, group or socio-organizational level.

Assuming this grouping of four factors summarizes the underlying design principles of functional flexibility; we obtained weighted scores for each factor and proceeded to identify groups of firms using each of the four main design principles in a differential manner. In this way, we were able to perform a conglomerate analysis for average *k* values, as a result of which we found four groups of firms based on their scores for each of the four design parameters. Table 3 reflects the final center values of the each of the four conglomerates and the number of valid cases. A total of 37 cases were excluded from the analysis as missing values.

The results reveal a first group of firms with a moderately high degree of application of functional flexibility design principles. This represents the design of jobs with a moderately high adaptive and autonomy potential for workers, with a moderate incidence in the potential of polyvalence and moderate levels of participation. We have termed this first group *Type I* firms. These companies are clearly oriented towards functional flexibility.

There are two groups of firms that are characterized by an unequal and asymmetrical application of the design factors. Thus, we have a second group of companies with moderately low levels of autonomy and participation, moderate polyvalence and moderately high levels of adaptation. We have called these *Type II* firms and we hold them to be in transition toward functional flexibility. The other group presents moderately high levels of autonomy and participation, and low and moderately low levels of adaptation and polyvalence, respectively. Again we consider this group, which we have termed *Type III* firms, to be transitional, oriented toward autonomy and participation.

Finally, we have a fourth group that is characterized by a moderate value for autonomy and moderately low scores for the criteria of adaptation, polyvalence and participationThis set of *Type IV* firms is characterized by the absence of any orientation toward functional flexibility.

We opted for an analysis of differences in the distribution of the various groups in relation to the quantitative flexibility indicators (contractual, productive or temporal) in order to identify relationships between the type of firm and the various flexibility indicators. To do this, we used χ^2 tests, performing the analysis through contingency tables.

For productive flexibility, we have found that there is no relationship between the fact of being a Type I, II, III or IV firm and subcontracting of production (χ^2_9= 7,54; p= 0,58), technological (χ^2_9= 10,11; p= 0,34), financial (χ^2_9= 11,53; p= 0,24) and advisory activities χ^2_9= 11,35; p= 0,252). We did, however, find a

Table 2
Factorial scores for functional flexibility design criteria

	Factors			
	Factor I Demand/Adaptation	**Factor II Flexibility/Polivalence**	**Factor III Improvement/Autonomy**	**Factor IV Conciliation/participation**
Complexity of the problems solved in the job	,814			
Demand for adaptation to change in the job	,801			
Frequency of problem solving in the job	,774			
Initiative required of the worker for the job	,714			
Frequency of knowledge and skills updates in the job	,662			
Pressure of work required by the job	,628			
Change in work due to processes used in the job	,494			
Range of different skills required of workers	,470			
Specialization required of workers	-,450			
Knowledge and skills sharing in the performance of the job		,725		
Skills for substitution between jobs		,687		
Design of multi-occupant jobs		,686		
Flexibility in the demarcations between jobs		,525		
Worker decides when to perform tasks			,806	
Worker decides which tasks to perform			,778	
Worker decides how to perform tasks			,736	
Opportunities to make improvements in the performance of work			,619	
Interdepartmental cooperation in decision making				,697
Group or team decision making in connection with the work				,670
Opportunities for coordination with other workerse				,606
Groups used as productive units within the organization				,502

Extraction method: principal component analysis. Rotation method: Oblimin with Kaiser

relationship between Type I firms and subcontracting of sales and distribution activities (χ^2_9= 21,70; p= 0,01). Thus, 44.1% of Type I firms subcontract sales activities, while only 19.6 % of Type IV firms do so. The differences found in subcontracting of administration and bookkeeping activities (χ^2_9= 25,89; p= 0,002) are also significant. Accordingly, Type II firms are those which, as a group, subcontract the most activities of this kind, with some 9,6% outsourcing between 51 and 100% of their activity. Finally, we found a relationship between the fact of belonging to one or other type of firm and subcontracting of ancillary activities (cleaning, security, reprographics and so on) (χ^2_9= 33,66; p<0,000). It may be observed here that Type I, II and III firms show maximum levels of subcontracting between 30 and 48%, while Type IV firms present levels that are in all cases below 20%.

In the matter of contractual flexibility, we found that while there is no apparent relationship between the group to which the firm belongs and temporary part-time contracting (χ^2_{12}= 12,08; p= ,439), there is indeed such a relationship for full-time temporary contracting (χ^2_{12}= 28,46; p= 0,005). Of the Type I firms, 68.4% use full-time temporary workers compared to an average of 53% for the other groups of firms. Finally, we have found a relationship between the type of firm and contracting on a permanent part-time basis (χ^2_{12}= 21,63; p= 0,042). Thus, we find that it is Type I firms that are most likely to establish contractual relations of this kind (39,6%), while firms belonging to Type IV use such arrangements in only 12,5% of cases.

With regard to temporal flexibility, we focused on the different bases employed in the calculation of working hours, without finding any relationship between the fact of belonging to any particular group of firm and the calculation of hours on a weekly (χ^2_3 = 7,75; p= 0,051), monthly (χ^2_3= 7,64; p= 0,054) or annual basis (χ^2_3= 7,64; p= 0,054). Moreover, no relationship appears to exist between the type of firm and the likelihood of its offsetting overshoots or shortfalls in hours at any specific time against prior or subsequent periods χ^2_6= 11,74 (p= 0 ,68. Nevertheless, we did find differences between the groups of firms in the extent to which temporary increases in output are resolved by redistributing working hours (χ^2_{12}= 27,35 (p= 0,007)). Thus, Type I firms are the most likely to resort to this strategy (46.6% of cases), while those that are least likely to do so are Types II and III (36 and 33%, respectively).

Discussion

On the basis of this study we have been able to observe the orientation of a set of Spanish firms toward functional and numerical flexibility. Our approach has been based on the identification of the various organizational and job design criteria that underlie functional flexibility as the touchstone of such organizational innovations. Thus, we have identified four general design factors –adaptation, polyvalence, autonomy and participation. These factors reveal the multi factorial nature of functional flexibility, which may be a step forward from earlier studies insofar as it represents an inquiry into the mechanisms underlying general flexibility strategies (Kalleberg, 2001). Furthermore, these factors could be used for evaluation and action purposes, and as parameters to facilitate *job crafting* (Wrezniewski and Dutton, 2001).

Table 3
Final clusters centers

Design factors	Cluster			
	1	2	3	4
Adaptation	,60765	,54370	-,82991	-,80560
Polyvalence	,37440	,06492	-,03648	-,84407
Autonomy	,50726	-,70635	,56888	,23134
Participation	,04925	-,47228	,65085	-,14552
Percentage of cases	18,3%	41,1%	30,65%	9,95%

In our case, having established a set of factors that account for functional flexibility we have been able to split the firms taking part in the study into four different groups, each of which reveals a differential pattern of use of the four general design factors identified. Our results show that only 18,3% of the total participating firms design work to achieve greater functional flexibility. This figure does not differ substantially from the findings obtained by Fiedrich and Kabst (1998) in a study carried out over four years in 14 European Union member States. These scholars found that approximately 20% of the participating firms had implemented, or were in the process of implementing, measures (job rotation) to maximize functional flexibility.

With regard to the rest of the firms, 9,95% show no signs indicating a functional flexibility orientation, while the great majority of firms (71,75%) reveal differential use of design principles. This inclines us, perhaps rather generously, to define these firms as being in transition.Nevertheless, the behavior of Type II and III firms is not the same in terms of their association with different kinds of flexibility. This fact may be significant to the extent that the design criteria do not all appear to have the same impact on the orientation of the firm towards functional flexibility. Thus, participation has been identified in the literature as a significant factor in new forms of work organization, but in our case the factors that seem to make the most difference are those related with polyvalence between jobs and the adaptive capacity of the individual.

This finding offers additional empirical support for the work of Molleman and Slomp (1999) and Riley and Lockwood (1997) where they point to multi functionality, redundancy between functions and the potential for worker substitution as key elements in the articulation of functional flexibility.

This study has enabled us to describe how Spanish firms combine functional and numerical flexibility. Thus, Type I firms a) subcontract ancillary, sales and distribution, and administration and bookkeeping activities more readily as a strategy enabling them to focus on core competences; b) are more likely to establish permanent contractual relationships with part-time workers and make use of temporary full-time contracting; and c) are more likely to tackle temporary increases in production by redistributing working hours.

Taken as a whole, these factors reveal the extent to which Spaniard firms try to achieve compatibility between the qualitative (functional) and quantitative (numerical) dimensions forming part of the core-periphery model (Atkinson, 1984), which provides an account of the interrelationship between these two kinds of flexibility. Despite the existence of empirical evidence suggesting that these two kinds of flexibility are incompatible (Osterman, 1999, and 2000), our results would thus add weight to other research findings that are favorable to the combination of numerical and contractual flexibility (e.g. Lautsch, 1996; OECD,

1999). Perhaps our most interesting finding is the presence of part-time workers on permanent contracts, a factor that is not considered in the HRM portfolios proposed by Way (1992) and Tsui, Pearce, Porter and Hite (1995). Recent research (Booth, Dolado and Frank, 2002) associates the high rate of temporary workers in the Spanish labor market (around 33%) with legislation that is highly protective of permanent employment. Our results show how firms seeking to achieve greater organizational flexibility have used the temporality factor to gain flexibility, which they are unable to do using permanent workers. Nevertheless, the fact that these organizations are differentiated from the rest in contracting part-time workers on a permanent basis offers an interesting strategic alternative in response to changing production demands or the increasing popularity of 24/7 services (24 hours per day, 7 days per week) using more stable contractual arrangements.

Our work is, however, subject to a number of limitations, which require some comment. In the first place, the data are restricted exclusively to the level of management or organizational responsibility, and this provides only a partial view. Future research will need to consider different levels within the organization in order to obtain data on the practical implementation of different flexibility strategies. Secondly, it is important to consider the various departments of a firm and examine the extent to which different measures might be taken to maximize the flexibility of the organization.

Finally, from the point of view of practical implications, and taking into account our findings, if a firm had to decide the best manner of starting out on the road to functional flexibility, it would seem most reasonable for the guiding elements in the process to be worker adaptability and polyvalence. To make the use of temporary workers compatible with this process would involve acting on competences, resulting in polyvalence.

Finally, we understand that part of the secret of success in rolling out strategies to develop sustainable competitive advantages based on the joint action of functional and numerical flexibility is related with complementarity and the support provided by HRM strategies (Godard, 2001; Holmstrom and Milgrom, 1994; Kelliher and Riley, 2002). In this regard, future studies have to assess the extent to which different HRM strategies were in line with the changes associated with organizational flexibility. This line of research will help organizations to overcome the daily barriers that hinder effective implementation of such organizational innovations and, as a consequence, effective functioning in practice.

Throughout this approach, it is important to respond to new work arrangements in HRM terms (Connell and Burgess, 2002), also we should not underestimate the importance of appropriate handling of labor disputes (Godard, 2001), and the labor market inequities and segmentation effects (Kalleberg, 2003) that initiatives of this kind tend to throw up, since these will eventually limit their effectiveness and sustainability.

References

Atkinson, J. (1984). Manpower strategies for flexible organisations. *Personnel Management*, Aug, 28-31.

Booth, A. L., Dolado, J. J. and Frank, J. (2002). Symposium on temporary Work: introduction. *The Economic Journal, 112* (june), 181-188.

Carayon, P. and Smith, M. J. (2000). Work organization and ergonomics. *Applied Ergonomics*, *31*(6), 649-662.

Connell, J. and Burgess, J. (2002). In search of flexibility: implications for temporary agency workers and human resource management. *Australian Bulletin of Labour, 28*(4), 272-283.

Davis, L. E. and Valfer, E. S. (1966). Studies in supervisory job design. *Human Relations, 17*, 339-346.

Davis-Blake, A. and Uzzi, B. (1993). Determinants of employment externalization: a study of temporary workers and independent contractors. *Administrative Science Quarterly, 38*(2), 195-224.

European Comission (1997). Cooperación para una nueva organización del trabajo. Libro verde. *Boletín de la Unión Europea*, Suplemento 4/97.

European Commision (1998). *New forms of work organisation and productivity*. Luxembourg: Office for Official Publications of the European Communities. http:www.europa.eu.int/comm/employment_social/soc-dial/workorg/ewon.

European Commision (2000). *The work of the future. New forms of work organisation and the information society*. Luxembourg: Office for Official Publications of the European Communities.

Fernández-Ríos, M., Rico, R. and San Martín, R. (2004). Organization as meaning systems: time for clarity. *Psicothema, 16*(2), 222-228.

Gerwin, D. (1979). The comparative analysis structure and technology: critical appraisal. *Academy of Management Journal*, *4*, 41-51.

Glaser, B. and Strauss, A. (1967). *The discovery of grounded theory: strategies for qualitative research.* NY: Aldine.

Godard, J. (2001). High performance and the transformation of work? The implications of alternative work practises for the experience and outcomes of work. *Industrial and Labour Relations Review, 54*(4), 776-805.

Hackman, J. R. and Oldham, G. R. (1974). *The job diagnostic survey: an instrument for the diagnosis of jobs and the evaluation of job redesign projects.* Yale University, Department of Administrative Sciences.

Hakim, C. (1990). Core and periphery in employers workforce strategies: evidence from the 1987 ELUS survey. *Work, Employment and Society, 4*, 157-188.

Holmstrom, B. and Milgrom, P. (1994). The firm as an incentive system. *American Economic Review, 84*, 972-91.

Kalleberg, A. L. (2001). Organizing flexibility: the flexible firm in a new century. *British Journal of Industrial Relations*, *39*(4), 479-504.

Kelliher, C. and Riley, M. (2002). Making functional flexibility stick: an assessment of the outcomes for the Stakeholders. *International Journal of Contemporary Hospitality Management, 14*(5), 237-242.

Kissler, L. (1994). Industrial modernization by workers' participation. *Economic and Industrial Democracy, 15*(2), 179-210.

Lautsch, B. A. (1996). «Institutionalizing uncertainty». Presented in *From human resources to labor costs: the implications of contingent work for individuals, groups and organizations*. Symposium at the annual meeting of the Academy of Management, Cincinnatti, August 1996.

Miller, D. (1983). The correlates of entrepreneurships in the types of firms. *Management Science, 29*, 770-791.

Molleman, E. and Slomp, J. (1999). Functional flexibility and team performance. *International Journal of Production Research, 37*(8), 1.837-1.858.

Morishima, M. (1995). Embedding HRM in a social context. *British Journal of Industrial Relations*, *33*(4), 617-640.

OECD (1999). *Employment outlook*. París: Organisation for Economic Cooperation and Development.

Osterman, P. (1999). *Securing prosperity*. Princeton: Princeton University Press.

Osterman, P. (2000). Work reorganization in an era of restructuring: trends in diffusion and effects on employee Welfare. *Industrial and Labor Relations Review, 52*, 179-96.

Pfeffer, J. and Baron, J. N. (1988). Taking the workers back out: recent trends in the structuring of employment. *Research in Organizational Behavior, 10*, 257-303.

Piore, M. J. and Sabel, Ch. F. (1984). *The second industrial divide: possibilities for prosperity*. NY: Basic Books.

Podolny, J. M. and Page, K. L. (1998). Network forms of organization. *Annual Review of Sociology, 24*, 57-76.

Powel, W. W. (1990). Neither market nor hierarchy: network forms of organization. *Research in Organizational Behavior, 12*, 131-151.

Rico, R. and Fernández-Ríos, M. (2002). Diseño de organizaciones como proceso simbólico. *Psicothema, 14*(2), 415-425.

Rico, R. (1999). Diseño de organizaciones eficaces. *Tesis Doctoral*, Departamento de Psicología Social y Metodología, Facultad de Psicología, Universidad Autónoma de Madrid.

Riley, M. and Lockwood, A. (1997). Strategies and measurement for workforce flexibility: an application of functional flexibility in a service setting. *International Journal of Operations & Production Management, 17*(4), 413-419.

Robbins, S. P. (1990). *Organization theory: structure, design and applications*. New Jersey: Englewood Cliffs.

Ross, G. (1981). Book review new forms of work organization. *Journal of Occupational Psychology, 54*(2), 149.

Sherer, P. D. (1996). Toward an understanding of the variety in work arrangements: the organization and labor relationships framework. In Cooper, C. L. and Rousseau, D. M. (eds.): *Trends in organizational behavior, vol. 3*, pp. 99-122. New York, NY, US: John Wiley & Sons.

Singh, J. P. (1991). Implementing new forms of work organization: some reflections on methodology. *Vikalpa, 16*(1), 35-42.

Smith, V. (1997). New forms of work organization. *Annual Review of Sociology, 23*, 315-339.

Tsui, A. S., Pearce, J. L., Porter, L. W. and Hite, J. P. (1995). Choice of employee-organization relationship: influence of external and internal organizational factors. In G.R. Ferris (ed.): *Research in Personnel and Human Resource Management*, vol. 13, pp. 117-151, Greenwich, CT: JAI Press.

Way, P. K. (1992). Staffing strategies: organizational differences in the use of temporary employment. *Industrial Relations Research Association 44th Annual Proceedings*, 332-339.

Wrezniewski, A. and Dutton, D. (2001). «Crafting a job: revisioning employees as active crafters of their work». *Academy of Management Review, 26*(2), 179-201.

Womack, J. P. (1996). The psychology of lean production. *Applied Psychology: an International Review, 45*(2), 119-152.

Woodward, J. (1965). *Industrial organization: theory and practice*. London: Oxford University Press.