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Promoting Learning Work Organizations: Issues and Challenges for France

NOTE DE SYNTHÈSE

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There are four main models of work organization today. Alongside the two traditional forms known as the Taylorist and simple forms, two modern forms have appeared, known as the learning and lean production forms. In learning forms of work organisation, employees are often multi-skilled, actively participate in the development of objectives with the hierarchy, learn continuously and have a high degree of autonomy. In lean production, this autonomy is more controlled, with standardised processes and high work-pace constraints. In contrast, the Taylorist and simple forms of work organisation are characterized by limited employee autonomy, a high degree of task repetition and little learning on the job - with less formalized work procedures for the simple forms.

Each of these models obviously has implications for both companies and employees. Organisational and managerial practices inspired by the learning model appear to be beneficial to both, in so far as they promote the quality of work, the development of skills and the dissemination of innovations. Several Northern European countries have long-standing programs in place to encourage this model. In France, the issue of work organisation has often been underestimated in public policies, because the methods of implementation are difficult to identify or because they are considered as the "black box" of the company. The study by France Stratégie summarised here[1] intends to open this "black box" in order to gain a better understanding of the links between work organisation, quality of work and the dissemination of innovations, based on the European Working Conditions Survey (EWCS) conducted every five years among employees in the Member States of the European Union.

This study shows that France, compared to the European average, has a higher proportion of private sector employees involved in learning forms of work organisation (43% vs. 40%) or in lean production (32% vs. 27%). Conversely, the proportion of French employees working in Taylorist forms (12% vs. 15%) or in simple forms (13% vs. 18%) is lower than the average. In terms of the proportion of employees in learning forms of work organisation, France is certainly on a par with Germany (45%), but far behind the Nordic countries and the Netherlands (between 54% and 62%). What is more, the dynamic over the decade 2005-2015 seems more favourable in France to lean production (+10 points of employees concerned) than to the learning forms (-3 points over the period).

The France Stratégie study also tends to confirm that the learning forms of work organisation lead to a better quality of work, once the occupational category of employees and the size and sector of activity of the company are controlled for. Placing the promotion of this model on the reform agenda, in France as in Europe, would be a way of responding to the challenges of unprecedented scale that are set to arise by 2030.

This would first of all help to develop employees' learning capacity and level of autonomy at work, critical thinking and complex problem-solving skills – cognitive, organisational and social skills which are increasingly in demand on the labour market. More generally, organisational and managerial innovations inspired by the learning model should be seen as strategic levers for economic, technological and social progress. The study puts forward several recommendations to support French companies seeking to improve their performance in terms of innovation and to develop employee skills and the quality of management.

1. See Benhamou S. and Lorenz E. (2020), "Les organisations du travail apprenantes: enjeux et défis pour la France", Report , No. 2020-03, France Stratégie, April.

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INTRODUCTION

"The pace at which organizations learn may become the only sustainable source of competitive advantage in a changing world.[2]" This is how Peter Senge, professor at MIT and management specialist, put it in 1990. Thirty years later, organisations which are designed to promote employee learning are in vogue. More and more companies, large and small, are claiming the learning organisation label. At one point in their history, they have chosen to transform their working methods and managerial practices in order to remain efficient and innovative. By taking different underlying paths, they have shared the same vision of the company: the organizations that will succeed in the long term will be those that have been able to value the commitment of their members and the ability of employees to learn at all levels of the hierarchy.

How to define a learning organization? It is an organization that organises work in order to continually increase the learning capacities of its members to achieve shared goals and anticipate future transformations. In fact, this form of organisation calls for specific management modes aimed at supporting a strong learning culture, increasing employee participation in decision-making processes and implementing human resources management consistent with this vision. Organisational learning is fostered by the autonomy of employees in their work and by the collective search for solutions to problems that arise on a daily basis. This represents a profound paradigm shift from the classical Taylorist model, designed towards the end of the nineteenth century for standardized mass production, with a sharp division between the design and the execution tasks, all in a stable and predictable environment. Learning organisations also differs from firms adopting lean production methods, a model introduced in the 1970s in the factories of Toyota, where the procedural autonomy granted to employees – methods, pace, quality control – is weaker.

Organizational and managerial practices inspired by the learning organization model were identified as an economic and social opportunity. In Northern Europe, several countries have for years been implementing national programs to modernise the organisation of work in this direction. The European Commission has included organisational innovation among the key objectives of its innovation policy, with a view to improving employee motivation and working conditions. The Commission sees this as a way to increase labour productivity, innovation capacity, market resilience and the overall competitiveness of enterprises[3].

But what about France? How does our country stand in relation to its European neighbors in terms of work organisation?

Box 1 – Example of pioneering companies

One of the pioneers of the learning model is Volvo, which has had this type of work organisation in place at its Uddevalla plant since the 1980s. The Swedish car manufacturer introduced multi-skilled and autonomous work teams, eliminating several hierarchical levels. These empowered teams could collectively decide on their working methods and set new production targets. They were also encouraged to collectively investigate the origin of problems and propose solutions. Within these "extended responsibility" production units, employees were given the greatest possible scope to develop their initiative and judgement, with a view to stimulating innovation and improving production processes. This organisational strategy aimed to increase employees' learning capacities and their cross-cutting skills (organisational, social and cognitive). Complex problem-solving work methods were strongly encouraged. Volvo has thus become an emblematic example, a counter-model to Toyota, whose lean production organisation was based on predetermined production standards, with a routine learning logic limiting the scope for employee discretion.

Another example of a pioneering company in a learning approach is the French mid-size company Favi, a subcontractor for the automotive industry and various industrial groups[4]. As early as the mid-1980s, this ETI chose to focus its strategy on product quality and the use of innovative technologies, with a focus on the health and safety of its employees. It also focused on the autonomy of its employees - especially the workers – by creating "self-organized units", i.e. mini-plants of 5 to 25 employees, each taking charge of a production line in a customer/supplier approach. As at Volvo, employees developed their own methodological tools for monitoring and improving production processes. The operators themselves made contact with customers instead of the sales staff, thus acquiring greater control over their work and a cross-functional view of the production line.

2. Senge P. M. (1990), The Fifth Discipline: *The Art and Practice of the Learning Organization*, Doubleday, New York.
3. See on the European Commission's website the page dedicated to organisational innovation.
4. Coquet (1998), "Favi, a learning enterprise? "*Actualité de la Formation permanente*, No. 154, May-June.

MAJOR MODELS OF WORK ORGANIZATION IN EUROPE IN 2015

In order to compare the forms of work organization in France and in the other Member States of the European Union (EU), we use the European Working Conditions Survey (EWCS) carried out at five-year intervals among European employees. Our work is mainly based on the answers given to questions relating to work organisation. It is based on the methodology originally developed by Lorenz and Valeyre[5], who proposed a typology of the main forms of work organisation in the EU-15 member countries in 2000. This typology measures the proportion of employees belonging to one or the other of the forms of work organisation[6]. This analysis is updated here for the EU-27 countries in 2015, with a special focus on the French situation. A detailed analysis attempts to identify the link between the main forms of work organisation and the quality of work, which is approached from several dimensions: employment status, access to training, employee consultation and participation practices, management quality, work sustainability, employee recognition and meaning at work. Secondly, the links between forms of work organisation and the dissemination of innovations at the national and European levels are analysed by inking the ECWS 2015 survey with Eurostat's CIS 2015 (Community Innovation Survey) European survey[7].

The work organisation typology is based on a multiple correspondence factor analysis and a hierarchical cluster analysis of 15 variables related to work organization. As presented in Table 1, four main types of work organization emerge: the learning organization, lean production, the Taylorist model, and the simple forms. For each of the fif-

Table 1 – Characteristics of forms of work organisation in Europe in 2015:
percentage of employees concerned

	Learning Organization	*Lean production*	Taylorist model	Simple structure	Average
Control over work methods	**87**	62	9	47	62
Control over work pace	**85**	66	28	59	66
Learning new things	**91**	**88**	36	32	71
Resolution of unforeseen problems	**97**	**95**	47	60	82
Complex tasks	**85**	**81**	28	21	63
Individual responsibility for the quality of work	**84**	**92**	55	35	73
Observe precise quality standards	**78**	**96**	**86**	36	77
Teamwork	**64**	**83**	47	27	60
Task Rotation	47	**73**	47	28	51
Monotonous of tasks	25	**75**	**74**	41	49
Task Repetitiveness	8	**46**	**37**	16	24
Horizontal work-pace constraints	37	**78**	**56**	16	47
Hierarchical work-pace constraints	26	**69**	**60**	22	42
Numerical work-paceconstraints on the pace of work	45	**79**	**69**	16	53
Automatic work-pace constraints	7	**51**	**59**	5	26
Total	**40**	**27**	**15**	**18**	**100**

Scope: employed persons in establishments with at least 10 persons working in the predominantly market and non-agricultural or domestic sectors of economic activity (excluding public administration and social security, education, health and social work, agriculture and fisheries and domestic services).

Sample size: 12,558 employees.

Reading: 87% of employees belonging to the learning organization form are able to choose or change their working methods in 2015.

Source: 6th European Working Conditions Survey (ECWS, 2015) of the European Foundation for the Improvement of Living and Working Conditions. Calculations and treatment of authors

5. Voir Lorenz E. et Valeyre A. (2005), « Organisational innovation, human resource management and labour market structure: A comparison of the EU-15 », *Journal of Industrial Relations*, vol. (47)4, p. 424-442.
6. EWCS is an employee survey. We therefore do not have information on the share of enterprises in a country adopting a particular form of work organisation, nor on the intensity of use of this or that form in an individual enterprise. For an analysis of the adoption of the learning organisation form by small and medium-sized enterprises in the EU-27 countries, see Lorenz E. and Potter J. (2019), "Workplace organisation in small and medi-um-sized enterprises", OECD SME and *Entrepreneurship Papers*, No. 17, OECD Publishing, Paris.
7. Aggregated data at national level from CIS surveys are available on the Eurostat website.

teen variables – autonomy in work, monotony of tasks, teamwork, etc. – the structure of work organisation is different, and the column figures indicate for each form of work organisation the percentage of employees concerned by each variable. The right-hand column shows the average frequency of the different work organisation variables for the population as a whole, and the bottom row of the table shows the percentage distribution of the total population of workers between the four models.

These four models differ schematically along two major lines: on the one hand, the autonomy of employees and the cognitive content of work, and on the other hand, the degree of diffusion of organisational practices such as teamwork, task rotation and quality management methods. With regard to learning organizations, the main characteristics identified in the literature are a high level of learning activity and problem-solving combined with a high level of procedural autonomy in the workplace. In 2015, 87% of European employees classified under this organisational model reported exercising autonomy at work, 97% reported performing complex problem-solving tasks and 91% learning new things at work. Monotony and repetitiveness of tasks are relatively absent here and the various workpace constraints – quantitative production norms, hierarchical constraints, , etc. – are relatively absent compared to the lean production and Taylorist forms. Unsurprisingly, compared to the average, managers and technical staff are over-represented in learning forms of work organization[8]. In terms of sectors, finance, real estate, and specialized, scientific and technical activities are overrepresented compared to the average in the learning forms of work organisation. In 2015, the learning model covered almost 40% of the total population of employees in the private sector.

In lean production, the cognitive content of work is as high as in the learning model: 88% of employees reported learning new things and 95% were engaged in problem-solving activities. However, this model is characterized by lower levels of autonomy in work and much higher workpace constraints. The procedural autonomy of employees is also constrained by the need to observe precise quality standards and the level found here is the highest across the four models. Combining high constraints on the pace of work with practices such as multi-skilling, teamwork and "total quality management"[9] , corresponds well to the lean production model popularised in particular by the work of Womack *et al.* (1990)[10]. In 2015, the lean model concerned almost 27% of employees in the EU-27, with an over-representation compared to the population average of skilled technicians and workers and commercial employees. Present in practically all sectors, this form of work organisation is over-represented in the industrial and tertiary sectors.

Unsurprisingly, the Taylorist model is to a large extent opposed to the learning form in terms of autonomy and learning opportunities. For example, 74% of employees perform monotonous and repetitive tasks and only 9% are able to influence their work methods. This model shares some of the characteristics of lean production, with significant constraints related to the pace of work and the quantitative standards to be respected. The Taylorist model concerns 15% of European employees, with a preponderance of industrial and unskilled workers. It is over-represented relative to the average in the industrial and manufacturing sectors.

Finally, the simple structure is characterised by less formalised working procedures, a low level of teamwork (27% of employees) and less complexity of tasks. This model concerned 18% of employees in Europe in 2015, mainly unskilled workers and commercial and administrative employees. The sectors that make most use of this model are commerce, hotels and restaurants, recreation and personal services.

The statistical results show that the frequency of the four forms varies widely across the EU-27 (see Table 2). Learning forms of work organisation are most developed in the Nordic countries and the Netherlands. In the Continental European countries their adoption is slightly above the European average, while lean production is under-represented, except in France, where its frequency is above average. The Taylorist forms are most present in southern Europe and in most eastern European countries. Lean production organizations are most developed in the United Kingdom, Ireland and in several of the new member countries, including Romania, Estonia and Lithuania. The frequency of simple structure varies considerably from country to country, although it tends to be higher in the new Member States.

The next section examines, at the national level, the relationship between the frequency of the four forms of organisation and the performance of firms measured by several indicators (quality of work, quality of management, capacity for innovation).

8. It should be remembered that this classification concerns the total population of employees in the EU-27 Member States and not enterprises. We do not have information on the share of employees in individual enterprises involved in a particular form of work organisation.
9. Total *Quality Management* or TQM refers to all the organizational means put in place by a company to strive for maximum product quality.
10. Womack J. P., Jones D. T. et Roos R. D. (1990), *The Machine that Changed the World*, New York, Rawson Associates. Voir aussi MacDuffi e J. P. et Krafcik J. (1992), « Integrating technology and human resources for high performance manufacturing: Evidence from the international auto industry », in Kochan T. et Useem M. (eds), *Transforming Organizations*, New York, Oxford University Press, p. 209-226.

Table 2 – Frequency of forms of work organisation in Europe in 2015:
percentage of employees concerned

	Learning Organization	*Lean production*	Taylorist model	Simple structure
CONTINENTAL EUROPE				
Germany	45	14	14	27
Austria	48	22	17	13
Belgium	48	24	13	16
France	**43**	**32**	**12**	**13**
Luxembourg	43	41	5	11
The Netherlands	56	18	9	17
THE NORTH				
Denmark	54	29	5	12
Finland	56	22	10	12
Sweden	62	18	7	13
THE SOUTH				
Spain	25	44	19	12
Greece	15	29	29	27
Italy	41	16	22	21
Portugal	29	33	15	23
THE WEST				
Ireland	37	36	13	14
United Kingdom	38	36	13	13
EAST				
Bulgaria	23	31	29	17
Hungary	34	15	32	20
Poland	29	33	15	23
Czech Republic	26	28	19	27
Romania	22	37	24	17
Slovakia	24	21	26	29
Slovenia	44	26	14	16
THE NORTH EAST				
Estonia	45	33	10	12
Latvia	28	17	19	36
Lituania	28	35	19	18
THE SOUTH EAST				
Cyprus	20	29	26	25
Malta	56	33	2	9
UE-27	**40**	**27**	**15**	**18**

Scope: employed persons in establishments with at least 10 persons working in the predominantly market and non-agricultural or domestic sectors of economic activity (excluding public administration and social security, education, health and social work, agriculture and fisheries and domestic services). Sample: 12,588 employees from the 27 European countries and 648 employees for France in the commercial sector.

Reading: 48% of Austrian employees in establishments with 10 or more persons working in the predominantly commercial and non-agricultural or domestic sectors of economic activity belong to the learner model in 2015. The 95% confidence intervals for the estimation of the share of workers in the forms of learning in the EU-27 member states vary from a maximum of ± 5.3% for Portugal to a minimum of ± 2.7% for Spain. For France, with 648 observations, the 95% confidence interval is ± 3.8%.

Source: 6th European Working Conditions Survey (ECWS, 2015) of the European Foundation for the Improvement of Living and Working Conditions. Calculations and treatment of authors

Table 3 – Link between quality of work and work organisation in France in 2015: percentage of employees concerned

	Organization learner	*Lean production*	Model Taylorist	Structure simple
		Consultation/Participation Practices		
I am (always/most of the time) consulted before goals are set regarding my work	54,1 (57,9)	30,3[a] (44,9)	15,7[a] (23,1)	28,7[a] (31,6)
I can (always/most of the time) influence decisions that are important for my work	49,4 (57,7)	34,8[a] (41,4)	9,5[a] (14,6)	15,5[a] (24,9)
I never have a say in who I choose to work with	37,6 (36,5)	53,9[a] (41,2)	75,9[a] (65,7)	66,6[a] (56,3)
		Socio-economic security		
Open-ended contract	90,1 (89,6)	81,3[a] (82,3)	74,3[a] (77,2)	83,2 (80,2)
Fixed-term contract	7,8 (6,7)	12,4[a] (11,8)	17,4[a] (14,3)	9,4 (12,3)
I risk losing my job during of the next 6 months	9,7 (12,1)	14,2[a] (19,9)	23,1 (21,6)	13,3 (16,1)
Access to training (funded by the employer)	52,2 (51,3)	47,7 (43,3)	24,2[a] (24,9)	38,5 (25,7)
		Recognition and meaning at work		
I'm getting the recognition I deserve. for my work (financially or not)	73,1 (70,2)	62,9[a] (59,4)	50,3[a] (45,2)	70,0 (56,7)
I feel like I'm doing useful work	88,5 (90,2)	86,2[a] (83,5)	65,8[a] (71,4)	87,3 (92,1)
I am able to apply my own ideas in my line of work	74,6 (64,0)	47,0[a] (44,2)	26,1[a] (15,3)	44,0[a] (27,9)
		Quality management		
I am treated fairly at work	84,1 (90,2)	69,4[a] (85,6)	63,8[a] (71,6)	82,9 (77,8)
In general, employees trust their management	53,4 (69,8)	40,2[a] (63,9)	45,5 (59,6)	61,2 (70,2)
The organization I work for respects me as a person	91,3 (91,9)	83,4[a] (85,7)	81[a] (80,1)	86,4 (85,8)
The proximity manager helps me to get the job done	67,6 (68,2)	61,1[a] (65,9)	56,5[a] (56,5)	69,5 (54,8)
The proximity manager's giving me useful comments on my work	71,9 (74,4)	65,2[a] (70,4)	56,1[a] (60,7)	69,6 (63,1)
		Working conditions and psychosocial risks		
My work requires (all the time, almost or three-quarters of the time) of the cadences high working	31,8 (30,5)	52,2[a] (54,7)	65,4[a] (52,8)	25,1 (24,9)
My job requires work (all the time, almost or three-quarters of the time) in very strict and short deadlines	37,4 (36,6)	54,3[a] (58,5)	56,1[a] (47,9)	28,3 (23,3)
I feel stress (always or most of the time) in my work.	32,9 (26,7)	43,7[a] (35,7)	35,5 (27,5)	17,1[a] (18,6)
I'll be able to do my current job or similar work until the age of 60	63,0 (76,6)	40,5[a] (57,6)	32,92[a] (58,7)	66,1 (69,8)
My health or safety is at risk because of my work	29,2 (20,8)	46,7[a] (36,1)	52,4[a] (34,5)	21,3[a] (18,9)
In general, I'm very satisfied of my working conditions	89,9 (90,2)	71,5[a] (82,0)	56,1[a] (75,1)	85,4 (85,6)

Sample: 12,588 employees from the 27 European countries and 648 employees for France in the commercial sector. Note 1: the average for the EU-27 is in brackets.

Note 2: The exponent "a" for France means that there is a statistically significant difference at the 5% level in the probability of being characterised by the practice for workers belonging to the organisational type concerned compared to those in the learner model, after controlling for the effects of sector, occupational category and firm size.

Source: 6th European Working Conditions Survey (ECWS, 2015) of the European Foundation for the Improvement of Living and Working Conditions. Calculations and treatment of authors

WORK ORGANIZATION MODELS, QUALITY OF WORK AND THE DISSEMINATION OF INNOVATIONS

Table 3 details several indicators related to the quality of work by type of work organization. It can be seen that a higher share of workers in the learning model benefit from favourable working conditions than those in the lean production model. To control for the possible effect of structural conditions, we carried out a series of logistic regressions that control for the sector of activity, company size and the employee's socio-professional category[11] .

Learning organizations offer better quality of work and management

Employees engaged in learning forms of work organization are more often consulted in setting production goals and more likely to be able to influence decisions about their work. They are also more likely to be consulted in the choice of co-workers, with nearly 63 per cent of them being consulted in the learning forms compared with 46 per cent in lean production and barely 24 per cent and 33 per cent respectively in the Taylorist and simple forms. Similarly, employees in the learning forms are more often on permanent contracts: this is the case for 90% of them, compared with 81% in lean production and 74% in the Taylorist model. They also more often declare themselves to be given recognition in their work. With regard to the quality of management, more of them have a positive opinion of their organization but also of their direct manager (only surpassed on this point by employees in simple structures). With regard to working conditions, our results show statistically significant differences between types of work organisation: employees involved in the learning model are the least exposed to psychosocial risks and a high pace of work. Lean production employees in general experience less favorable conditions: they experience more stress at work and are more likely to report being unable to do their job – or a similar job – until the age of 60.

Learning organizations promote the diffusion of innovations in the economy

The link between the type of work organisation and the diffusion of innovations can be measured at the national and European level by linking the ECWS 2015 survey and Eurostat's European CIS 2015 (Community Innovation Survey) survey[12]. While the latter survey does not distinguish between "radical" and "incremental" innovations, it does capture three distinct categories relevant to the novelty of the innovation: innovations that are new for the enterprise, innovations that are new on the market (local or national) and finally innovations that are new at the global level. New to the firm innovations include much of the incremental innovation activity, based on the adoption

Table 4 – Correlation at national level between the frequency of forms of work organisation and the frequency of types of innovation (EU-27

	Organization learner	*Lean production*	Model Taylorist	Structure simple
Types d'innovation		Correlation coefficient		
CIS-2014: new product innovations for the firm	30	- 18	- 24	- 08
CIS-2014: new product innovations on the mar-ket	46	- 24	- 32	- 22
CIS-2014: at least one product "world premiere"	66	- 49	- 44	- 24

Note: Innovation frequencies are the percentage of enterprises that market each type of product innovation in relation to the total number of enterprises in the industry and services sector, excluding construction, retail trade, motor trade and repair, hotels and restaurants, certain business and personal services (see Eurostat website). The frequencies of 'world-first' innovators are only available in 21 countries and exclude Denmark, Ireland, Spain, Luxembourg, Austria, Finland and the United Kingdom.

Source: CIS (*Community Innovation Survey*, Eurostat, 2014) and 6th European Working Conditions Survey (ECWS, 2015) of the European Foundation for the Improvement of Living and Working Conditions. Calculations and treatment of authors

11. Les régressions logistiques estiment les probabilités que les travailleurs des formes *lean production*, taylorienne ou simple soient caractérisés par les différentes conditions du travail par rapport à la probabilité des travailleurs de la classe apprenante, après contrôle des effets du secteur d'activité, de la catégorie socioprofessionnelle et de la taille de l'entreprise.
12. Les données agrégées au niveau national des enquêtes CIS sont disponibles sur le site d'Eurostat.

and possible modification of products already introduced into the market by other firms. This is often referred to as "creative imitation". In the case of new-to-the market innovations, the firm's market may be national or local, with products or technologies already available on larger international markets. Nonetheless, the ability to become a local or national innovation leader is a good indicator of a high level of capacity to absorb and use new knowledge. The ability to deliver a world-first innovation is an indicator of a high level of in-house creativity, even if the innovation is not "radical" in the sense that it disrupts existing markets and consumption patterns.

Table 4 presents the results of a correlation analysis at the national level between the frequency of the four work organizational forms and the frequency with which firms in each nation commercialize innovations. There is a positive correlation between the frequency of learning forms of work organizations and the frequency of world-first innovations. To a lesser extent there is also a positive correlation with the frequency of innovations that are either new on the market or new for the firm. On the other hand, there are negative correlations between the frequency of lean production or Taylorist forms in a country and the innovation rate of firms. Although a correlation analysis at the national level is not sufficient to demonstrate causality, these results suggest that there is a systemic link between the opportunities for learning and exploring new knowledge offered to employees in their daily work and the ability of firms to develop products and services with a high degree of novelty. The superior innovation performance of learning organisations has also been demonstrated on the basis of micro-data using European surveys of enterprises[13].

DEVELOPMENT OF ORGANIZATIONAL FORMS BETWEEN 2005 AND 2015 IN THE EUROPEAN UNION

A number of observations emerge from the statistical analysis of changes over the ten-year period from 2005 to 2015 at the European level (see Table 5). As a general trend, we note a relative stability in the percentage of employees working in a learning forms of work organisation and a slight increase in those working in lean produc-

Table 5 – Changes in the frequency of formsof work organisation in the EU-27 and France, 2005-2015

	Learning Organization	*Lean production*	Taylorist model	Simple structure
		UE-27		
2005	38	25	18	19
2010	36	27	19	18
2015	40	27	15	18
		France		
2005	46	22	17	15
2010	30	27	20	23
2015	43	32	12	13

Scope: employed persons in establishments with at least 10 persons working in sectors of economic activity that are predominantly market and non-agricultural or domestic (excluding public administration and social security, education, health and social work, agriculture and fisheries and domestic services.

EU-27 sample size: 9,376 observations in 2005; 12,334 observations in 2010; 12,558 observations in 2015. Sample size France: 467 observations in 2005; 1,013 observations in 2010; 648 observations in 2015.

Reading: 38% of employees in establishments with at least 10 people working in predominantly market and non-agricultural or domestic sectors of economic activity belonged to the learning class in 2005.

Source: European Working Conditions Survey (ECWS 2005, 2010 and 2015) of the European Foundation for the Improvement of Living and Working Conditions. Calculations and treatment of authors

13. See Lorenz E. and Potter J. (2019), op. cit. Their results, derived from probit regressions controlling for industry sectors and firm size, show that learning organizations are more likely to introduce new products or services than firms adopting other forms of organization.

tion, to the detriment of the Taylorist model. Dominant for more than a century, the latter now seems to be marking time in Europe to the benefit of more modern organisations. The rate of diffusion of simple structures has remained almost unchanged.

Further, learning forms experienced a significant decline between 2005 and 2010 – a period marked by a financial and economic crisis – before recovering between 2010 and 2015 to somewhat above their 2005 level. Lean production and Taylorist forms did not experience a decline, but rather tended to increase slightly. This secular decline in the importance of learning forms of work organisation in favour of more hierarchical forms may be explained by the behaviour of business leaders in the face of economic cycles. Several empirical studies have thus highlighted a link between the choice of work organisation methods and the phase of the economic cycle[14]. Firms tend to adopt decentralized forms during periods of economic expansion and more centralized forms during periods of declining growth.[15] This pattern suggests they seek to rationalize their production costs as much as possible during recessions in order to maintain their profit margins. At the organizational level, this type of strategy would lead to a strengthening of reporting systems through more systematic monitoring of production yields and the multiplication of short-term quantitative performance indicators.

In France, a decline in learning organizations in favour of lean production

France stands out from other countries by a significant drop in the share of employees engaged in learning forms of work organisation over the 2005-2010 period: the proportion of employees concerned fell from 46% to 30%. The only country to have experienced a comparable decline is Ireland, which fell from 43% to 27% over the same period. During the same time period, France has seen a continuous increase in lean production forms, from 22% to 32%. A factor analysis performed on the characteristics of each organisational model shows that this decline in the learning forms in France between 2005 and 2010 is reflects the decline in em-ployee autonomy and activities relating to problem solving and the cognitive content of work. This decline is balanced by an increased importance of the lean production and Taylorist models. Between 2010 and 2015, the cognitive content of work will rise slightly above its 2005 level. Over the whole period 2005-2015, there is, moreover, an increase in the level of numerical, hierarchical and horizontal constraints on the pace of work. Thus, employees in France in 2015 had on average less autonomy in their daily work than in 2005. This trend has also been observed in other surveys based on French data[16].

In terms of the adoption of learning forms, France in 2015 is certainly above the European average for the 27 member states and ahead of some southern countries (Greece, Spain and Portugal) as well as most eastern countries. However, it lags behind when compared to most European countries at a similar level of economic and technological development. This is particularly the case in the Nordic countries (Finland, Sweden and Denmark) and several continental Europe (Netherlands, Austria and Belgium).

How to explain the French situation?

A logistic regression analysis shows that structural factors – differences in firm size, sector of activity, socio-professional category – are not sufficient to explain the differences between countries in the frequency of adoption of the four forms of work organisation[17]. On the basis of various research studies, several avenues can be put forward to understand the French situation. For example, comparative work[18] has shown that national disparities in work organisation – in particular the degree of hierarchy and learning dynamics – are linked to the characteristics of the national education and training system. The argument is supported by various methods (econometric evaluations, case studies), with different groups of countries as a basis for comparison, but the central assumption is that national systems vary according to the relative importance placed on academic and vocational education tracks. National systems which place greater "value" on the classical academic stream – devoted to the acquisition of theoretical and scientific knowledge – than on the vocational stream – aimed at providing practical skills and technical know-how specific

14. Voir par exemple Holm J. R. et Lorenz E. (2015), « Has "discretionary learning" declined during the Lisbon Agenda? A cross-sectional and longitudinal study of work organization in European nations », *Industrial and Corporate Change*, vol. 24(6), p. 1179-1214.
15. Navarro P., Bromiley P. et Sottile P. (2010), « Business cycles management and firm performance: Tying the empirical knot », *Journal of Strategy and Management*, vol. 3(1), p. 50-71.
16. Beque M., Kingsada A. and Mauroux A (2019), 'Autonomy in work', *Dares Synthèse.Stat*', No. 29, April.
17. We first run four logistic regressions in which the binary dependent variables are coded as 1 if the employee belongs to the particular work organization class and 0 otherwise. The independent variables are dummy variables for countries using France as a reference case. The results show whether the differences in the frequencies shown in Table 2 between France and other EU countries are statistically significant. Controls are then added for sector, size and socio-professional category. With a few exceptions, there is no change in the statistical significance of the differences between countries.
18. Hall P. et Soskice D. (2001), *Varieties of capitalism: The institutional foundations of comparative advantage*, Oxford University Press ; Lam A. (2000), « Tacit knowledge, organizational learning and societal institutions: An integrated framework », *Organization studies*, vol. (21)3, mai, p. 487-513 ; Lorenz E., Lundvall B.-A., Kraemer-Mbula E. et Rasmussen P. (2016), « Work organisation, forms of employee learning and national systems of education and training », *European Journal of Education*, vol. 51(2), mai ; Maurice M., Sellier F. et Silvestre J.-J. (1982), *Politique d'éducation et organisation industrielle en France et en Allemagne*: essai d'analyse sociétale, Presses universitaires de France.

to an occupation or sector – are more likely to adopt hierarchical forms of work organizations.[19] On the other hand, national systems that place a more balanced value on the two streams are more likely to adopt organizations where knowledge and skills management focuses on practical problem solving, teamwork and employee autonomy.

France is one of the European countries that place a higher economic and social value on diplomas in the academic stream than on vocational work experience. In Scandinavian and Northern European countries, the greater importance given to practical experience in the workplace as a source of skills and qualifications encourages investment in continuing vocational training from secondary school onwards including training thru work-study programmes, There tends to be greater equality of access to continuous vocational training in these countries?

Another explanation lies in the of the way vocational training is organised. In France, employees who have access to further training financed by the employer mostly follow training courses or internships that take place outside the company[20]. On-the-job training, which aims to increase technical, organisational and cognitive skills in a more operational way, are less developed than in the Northern European and Scandinavian countries. If France is an emblematic country in terms of traditional training practices, it is notably because its continuing education system is based on the school and academic model, giving greater value to courses and training courses based on theoretical and formal knowledge than to workplace training actions. In addition to these institutional factors, some authors have stressed the weight of cultural traditions in managerial approaches.

CONCLUSION AND RECOMMENDATIONS

Given the apparent benefits of learning forms of work organizations for workers and companies alike, their recent decline in France is not good news. Giving them a new lease on life could result in better quality of work and better dissemination of innovations.

Placing the development of learning organizations on the reform agenda in France, as in Europe, seems all the more necessary since challenges of unprecedented scale are looming on the horizon of 2030: the advent of the era of big data and artificial intelligence, increased global competition, slower growth in productivity gains, etc.[21] Virtually all the advanced countries will be subject to a continuous learning imperative to adapt to an increasingly complex and unstable environment. As argued in a prospective study by France Stratégie[22] , the performance of enterprises will depend on flexible work organisations capable of rapidly optimising the management of knowledge and know-how and of anticipating changes, even radically disruptive ones. These changes will require workers to be highly adaptable, with a high level of autonomy and the ability to solve complex problems and demonstrate critical thinking skills. These cognitive, organisational and social skills will also be increasingly in demand on the labour market. According to a recent OECD report, however, France is one of the European countries where these skills are most in short supply[23]. The development of learning organisations can help to overcome this shortage, which is partly explained by the lack of complementarity between formal vocational training and the interactive learning process and by practice in daily work activities.

Finally, a recent report by France Stratégie[24] highlighted the risks that artificial intelligence can generate in terms of work and employment: deterioration of working conditions (intensification, isolation), rapid obsolescence of skills, and even the disappearance of many jobs linked to the assumption of "routine" tasks (simple or complex) by machines. These risks are particularly high with production processes that comply with predetermined and highly standardised rules, such as lean production. The progress of the latter model in France therefore appears worrying, especially since it is often synonymous with degraded working conditions.

To promote the spread of learning work organizations, the authors of the study make several recommendations.The flagship measure concerns the establishment of a national programme for managerial and organisational innovation. The aim is to support enterprises and make them aware of the benefits that these innovations can

19. Hall P. and Soskice D. (2001), *op. cit.*; Lam A. (2000), *op. cit.*; Lorenz E., Lundvall B.-A., Kraemer-Mbula E. and Rasmussen P. (2016), *op. cit.*; Maurice M., Sellier F. and Silvestre J.-J. (1982), *op. cit.*
20. Mignot J.-F. (2013), " La formation continue des salariés en Europe : les écarts entre pays se réduisent encore ", *Bref du Céreq*, n° 312, July.
21. ESPAS (2015), Global Trends to 2030: Can the EU meet the challenges ahead?, mars.
22. Benhamou S. (2017), "Imaginer l'avenir du travail - Quatre types d'organisation du travail à l'horizon 2030", *Working Paper*, No. 2017-05, France Stratégie, April.
23. OECD (2017), Getting the Right Skills, the Case of France, OECD Publishing, Paris.
24. France Stratégie (2019), Intelligence artificielle et travail, rapport à la ministre du Travail et au secrétaire d'État auprès du Premier ministre, chargé du Numérique, mars.

bring. France could in particular draw inspiration from the initiatives of several Northern European and Scandinavian countries, such as the TYKE and TYKES programmes in Finland or the Value Creation Programme in Norway. At the origin of these European initiatives is often the same awareness on the part of governments, businesses and trade unions: the organisational and managerial dimension is a key determinant of the dissemination of innovations and the quality of work and employment. These programmes aim to better "connect" economic issues (competitiveness, innovation, etc.) with issues related to the quality of work (development of skills, working conditions, well-being and motivation at work, etc.).

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