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[study]



OCCUPATIONAL SAFETY AND HEALTH IN FRANCE: PRACTITIONERS AND POLICY

A STUDY OF 803 FRENCH OCCUPATIONAL SAFETY AND HEALTH (OSH) PRACTITIONERS
A QUANTITATIVE APPROACH – **NOVEMBER 2010**



PREVENTEO


MINES
ParisTech

afnor
GROUPE



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A QUANTITATIVE APPROACH

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Translated from the French by Elaine SEERY.

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SUMMARY

➤ **The term** Occupational Safety and Health (OSH) practitioner covers a wide variety of roles and responsibilities. The title itself is wide-ranging, encompassing everything from the safety officer, through the health and safety manager, to the health, safety and environment (HSE) director. In a few decades the profession has seen profound evolution; in the definition of roles and responsibilities, in regulatory requirements, and in links between prevention stakeholders (personnel representatives, occupational health services, inspection agencies, advisory and control bodies, etc.). At the same time, employers and their representatives have become increasingly aware of their responsibilities with respect to risk.

This national survey was carried out in France by the AFNOR group, in conjunction with Mines ParisTech and PREVENTEO. The aim is to have a better understanding of what it means to be an OSH practitioner in France. This in-depth knowledge is achieved through the fulfilment of three objectives. The first is to use a typological approach to characterise the population of OSH practitioners, using profiling. Three profiles are identified and described in detail: the OSH “manager”, the OSH “fieldworker”, and the OSH “officer”. The second objective is to establish current practice with respect to professional requirements, particularly in relation to the ways in which safety policies are designed and implemented. The final objective is to define new and emerging needs with respect to the contribution that databases and software can make to decision-making.

This study is the result of the analysis of the responses of 803 French OSH practitioners. They were selected randomly from a list of 12,000 practitioners published by *Officiel Prévention*¹ and interviewed by telephone. The sample was matched with the ASTREE² database which provided further information used in the analysis (company turnover, average headcount, export ratio, etc.). Econometric modelling methods (logistical regression techniques) were used to produce the explanatory analysis. The results are organised into five sections: context and objectives, typological approaches, prevention policy, developments and resources, and lessons learned.

1

Officiel Prévention is a French website dedicated to safety professionals. It provides access to information about individual OSH practitioners.

2

ASTREE provides access to marketing information on 1,265,000 businesses (comprising 800,000 headquarters and 465,000 subsidiary offices).

INTRODUCTION: CONTEXT, OBJECTIVES, METHOD AND THE SAMPLE



CONTEXT

3

Safety Officer, Safety Adviser, Health and Safety Officer, Safety Manager, Director of Health and Safety at Work, Quality, Safety and Environment (QSE) Manager, etc.

4

Peysse Cottenaz G., and Garrigou A., 2004, *Contribution à la découverte du métier de préventeurs et à la caractérisation de leurs besoins en formation continue*. INRS, *Notes scientifiques et techniques*.

The term Occupational Safety and Health (OSH) practitioner covers a wide variety of roles and responsibilities. Even the title is wide-ranging³.

This diversity was highlighted by a 2004 study into professional training needs conducted by the *Institut Universitaire de Technologie (IUT)* at Bordeaux University and the *Institut National de Recherche et de Sécurité (INRS)* (Peysse-Cottenaz and Garrigou, 2004)⁴. However the results were inconclusive. The OSH profession continues to change, not least because current working conditions have evolved, both in terms of the demands of society and regulatory pressures.

The most important evolutionary factor has been the construction of a strong and stable system for OSH management. This has come about through the implementation of a regulatory system which, for the past twenty years, has shaped and organised daily life in the profession. The system responds to a wide diversity of requirements, including an established and well-founded interest in certification (such as OHSAS 18001, and ILO-OSH 2001, amongst others).

The second factor, closely linked to the first, is that a wider range of roles must meet increasingly pressing demands. Risk analysis, standards compliance, and certification are just some examples. Other demands include communication and cooperation with OSH stakeholders, who are just as likely to be external to the organisation as within it (the Health and Safety Committee, environmental health services, inspection agencies, advisory and control bodies, certification bodies, etc.).

The third factor is different and more recent. OSH practitioners not only have a supervisory role with respect to rules and procedures, but also they have to bring on board numerous stakeholders (both within, and external to the business) who do not always share common goals. Part of their job is to work with these other parties, taking into account the diversity of interests, and to find a way to accommodate all points of view.

Relations with control and advisory bodies are also evolving. These bodies have historically been, and are still today, an essential and significant partner in meeting everyday obligations. However, they can expect to see their role very much reduced as OSH practitioners are increasingly keen to become more independent, and eventually, to fully establish themselves as leaders in their field of expertise and knowledge.

The final change is the perception that employers and their representatives have of their responsibilities, and who now feel the risk, in terms of criminal responsibility, is significant.



OBJECTIVES

The objectives of the study are threefold.

The first, continuing the work of the *Institut Universitaire de Technologie* at Bordeaux and the *Institut National de Recherche et de Sécurité*, attempts to characterise the profession through the construction of a typology. This consists of grouping the practitioners surveyed on specific criteria; groups are distinguished from other groups on one or more characteristics. The typology serves to gain a better understanding of the population of OSH practitioners. The typology identified three key types: the OSH “manager”, the OSH “fieldworker” and OSH “officer”. These results extend those of the 2004 study. Fewer types are identified (three, rather than six), but the findings are consistent with the earlier work. Additionally, a second typology was carried out, which focussed on the definition of company types. This is compared with that of the OSH practitioners to determine the nature of the relationship between OSH practitioners and businesses.

The second objective is to provide an overview of current practice from the point of view of professional requirements; specifically to focus on the definition and implementation of prevention policy. The components of prevention policy are studied in detail, and an attempt is made to describe the position of OSH practitioners depending on whether these components are seen as desirable (or not), when deployed. The components in question include: objectives, time constraints, the degree of change involved, whether there are adequate human and financial resources, relationships with stakeholders, etc. The goal here is to clarify the nature of the roles and responsibilities of OSH practitioners. It is also to identify particularities or invariants, which, when used in conjunction with the typology of OSH practitioners, will help to segment the profession. This will help to demonstrate more clearly the expectations, requirements, ways forward, and brakes on progress for OSH practitioners.

The third objective is to explore new and emerging needs within the profession. The aim is to provide, within a reasonable time-frame, methods and tools to strengthen the response capability of OSH practitioners. Particular attention is given to the resources OSH practitioners currently use to best carry out their work. These resources range from the traditional (training, use of third-party experts or books) to the most original and innovative, such as the Internet, databases, risk compliance monitoring software, etc. The aim is to characterise and categorise the methods, tools, and various forms of engineering and expertise that OSH practitioners use in their daily lives. Attention is given to the role these resources play in relation to the work and responsibilities to be carried out. Finally, the third objective reveals opportunities resulting from unmet or poorly met needs, and for which little known or poorly mobilised resources could be more widely promoted among OSH practitioners.

1.3 > **METHOD**

The results presented in this report are derived from the analysis of responses from 803 French OSH practitioners. They were interviewed by telephone in the period 20th October-10th December 2008 and selected randomly from a list of 12,000 OSH practitioners obtained from *Officiel Prévention*. The questionnaire, which took an average of 30 minutes to complete, is the result of a study conducted jointly by the AFNOR Group, Mines ParisTech and PREVENTEO.

The sample was matched with the ASTREE database which provided further information used in the analysis (company turnover, average headcount, export ratio, etc.).

The method used to create the sample generates a bias which it is important to highlight. Random selection from a list in a file reproduces, not a representative sample of the population, but a sample of the contents of the file. In other words, the composition of the final sample should not be considered as representative of the actual population. However, it does reflect the diversity of the population. Moreover, given the large number of parameters to be controlled and the limited baseline data available, it is almost impossible to obtain a realistic representation.

The central part of this report uses methods related to multidimensional analysis (Multiple Correspondence Analysis: MCA) and explanatory approaches (linear and nonlinear regression techniques). The latter, in particular, calls for the use of econometric nonlinear equations that take into account the use of binary variables (logistic regressions such as Probit). These methods allow analysis of the data in terms of pure effect. All other things being equal, each variable has an individual influence. This overcomes the limitations of contingency tables, which hide the influence of variables not present in the crosstab.

LOGISTICAL REGRESSION

LOGISTICAL REGRESSION IS A WIDELY USED METHOD BECAUSE IT ALLOWS BINARY VARIABLES TO BE MODELLED. THE PRINCIPLE OF LOGISTICAL REGRESSION IS TO LINK THE OCCURRENCE OR NON-OCCURRENCE OF AN EVENT AT THE LEVEL OF EXPLANATORY VARIABLES.

AS THE VARIABLE TO BE EXPLAINED IS BINARY, THAT IS TO SAY, IT CAN ONLY TAKE TWO VALUES, 0 (NO) OR 1 (YES) IT CAN BE SAID THAT THE RESULT OF THE CALCULATION IS A PROBABILITY. IF THE ESTIMATED VALUE EQUALS 1, THIS REPRESENTS CERTAINTY. IF THE VALUE EQUALS P, WHERE P IS LESS THAN 1, P IS A PROBABILITY.

THE FUNCTIONS MOST COMMONLY USED TO RELATE THE PROBABILITY P TO THE EXPLANATORY VARIABLES ARE THE LOGISTICAL FUNCTION (THE LOGIT MODEL) AND THE STANDARD DEVIATION FUNCTION (THE PROBIT FUNCTION).



CHARACTERISTICS OF THE SAMPLE

Tables 1 and 2 show the main characteristics of business surveyed. All sizes and sectors of economic activity (industry, services, construction, trade) are represented.

TABLE 1 / WORKFORCE AND SECTORS OF BUSINESSES SURVEYED

(Base 100: 803 OSH practitioners)

Number of Staff	Number	%
N < 50 employees	38	5%
N 50 - 99 employees	38	5%
N 100 - 249 employees	147	18%
N 250 - 499 employees	280	35%
N > = 500 employees	300	37%
Total	803	100%

Sector	Number	%
Food industry	93	12%
Communication and IT equipment	81	10%
Commerce	73	9%
Chemical industry	70	9%
Metallurgy	69	9%
Construction	68	9%
Rubber and plastic industry	56	7%
Paper, printing	42	5%
Manufacture of non-metallic mineral products	35	4%
Services	33	4%
Automobile industry	26	3%
Wood, furniture	24	3%
Textile, clothing and leather	23	3%
Business services	23	3%
Finance, insurance and real estate	19	2%
Waste management	16	2%
Transport manufacturing	15	2%
Extraction	12	2%
Energy	11	1%
Agriculture	7	1%
Transport	7	1%
Total	803	100%

It is worth noting that no sector or size of workforce is over-represented. In general, large firms (over 250 employees) stand out (72%); this reflects the long and influential history of OSH practitioners in this type of organisation.

TABLE 2 / OTHER CHARACTERISTICS OF BUSINESSES SURVEYED

(Base 100: 803 OSH practitioners)

Market	Number	%
Worldwide	499	62%
European	102	13%
National (French)	202	25%
Total	803	100%
Regulation	Number	%
Strongly regulated	541	67%
Moderately regulated	236	30%
Weakly regulated	26	3%
Total	803	100%
Percentage of production sub-contracted	Number	%
None (0%)	328	41%
1 - 25%	218	27%
26 - 50%	31	4%
> 50%	28	3%
Unknown	198	25%
Total	803	100%
Percentage of production carried out as a sub-contractor	Number	%
None (0%)	351	44%
1 - 25%	97	12%
26 - 50%	26	3%
> 50%	116	14%
Unknown	213	27%
Total	803	100%
Certification	Number	%
ISO 9001	527	66%
ISO 14001	323	40%
OHSAS 18001	113	14%
IFS / BRC	36	4%
ILO-OSH 2001	30	4%
ISO TS 16949	30	4%
MASE	20	2%
None	60	7%
Total / respondent	803	
Length of time the function of OSH practitioner has existed	Number	%
< 1 year	16	2%
1 - 2 years	63	8%
3 - 5 years	146	18%
6 - 8 years	120	15%
9 - 10 years	78	10%
> 10 years	380	47%
Total	803	100%

Table 2 highlights companies that are: mature in terms of health and safety management (the position has been established for over 10 years in 47% of cases), subject to, and engaged in, regulatory compliance (97%) and committed to ISO 9001 and 14001-type certification. However, for the most part these businesses are not particularly concerned with standards based on the management of health and safety policy such as OHSAS 18001 or ILO-OSH 2001.

TYOLOGICAL APPROACHES



➤ **The typological approach** is used to construct two distinct typologies: that of OSH practitioners (section 2.1) and that of businesses (section 2.2). The aim is to compare and contrast them. OSH practitioners were asked about their current situation and professional career. Specifically they were asked about their status, length of service in the job and in the company, their level of initial training, and any specific training in health and safety.

Tables 3 and 4 show the overall results. They provide an initial sketch of the profile of the average OSH practitioner. The main characteristics are:

- A group of managers: nearly two-thirds are responsible for, and supervise, a team of on average five people;
- A group who have worked for the company for a relatively long time, but who are also relatively new to the function: 39% have worked for their company for over ten years, while 60% have exercised their function for no more than five years;
- A group with a good level of initial training: nearly half (48%) have at least a Master's degree; in half of cases, this level of education is consistent with the job performed;
- Two-thirds have received specialised training in health and safety in the workplace;
- Only one in three OSH practitioners manages a budget.

TABLE 3 / CHARACTERISTICS OF OSH PRACTITIONERS SURVEYED

(Base 100: 803 OSH practitioners)

Job Title	Number	%
Safety Manager	171	21%
HSE Manager	110	14%
QSE Manager	97	12%
Safety Officer	72	9%
Safety and Environment Manager	69	9%
QSE / HSE Officer	61	8%
HSE / QSE Coordinator	47	6%
Safety Coordinator	38	5%
HSE Committee Member	37	5%
Safety Engineer	34	4%
QHSE Manager	30	4%
OSH Manager	17	2%
Other Managers	20	3%
Total	803	100%

Line Manager	Number	%
CEO / Director General	230	29%
General Manager	185	23%
Director / Manager of Health / Safety / Environment / HSE Committee	152	19%
Human Resources Director	81	10%
Director of Production / Industry	44	6%
Technical Director	42	5%
General Services Director	22	3%
Regional Director	19	2%
Other Operational Director	28	3%
Total	803	100%

TABLE 4 / OTHER CHARACTERISTICS OF OSH PRACTITIONERS SURVEYED

(Base 100: 803 OSH practitioners)

Training role	Number	%
Yes	553	69%
No	250	31%
Total	803	100%

Length of service of the OSH practitioner in the business	Number	%
< 1 year	44	6%
1 - 2 years	120	15%
3 - 5 years	167	21%
6 - 8 years	113	14%
9 - 10 years	48	6%
> 10 years	311	39%
Total	803	100%

Length of service of the OSH practitioner in their current position	Number	%
< 1 year	79	10%
1 - 2 years	164	20%
3 - 5 years	231	29%
6 - 8 years	130	16%
9 - 10 years	62	8%
> 10 years	137	17%
Total	803	100%

Level of education of the OSH practitioner	Number	%
Post-Master's Degree	85	11%
Master's Degree	295	37%
Bachelor's Degree	290	36%
'A' Level	48	6%
Professional qualification	85	10%
Total	803	100%

Initial training corresponds to current role	Number	%
Yes	405	50%
No	398	50%
Total	803	100%

2.1 >

TYPOLGY OF OSH PRACTITIONERS

5

Carried out using a k-means classification, using the details of individuals on the first four factorial axes of the Multiple Correspondence Analysis (MCA).

6

Terms are reproduced from the Peyssel-Cottenaz and Garrigou study (2004).

Once the main features of OSH practitioners have been identified, the question arises as to whether it is possible to identify type profiles. A typology⁵ allows the identification of three groups of OSH practitioners that can be clearly differentiated.

Their characteristics are presented in **Figures 1-3**.

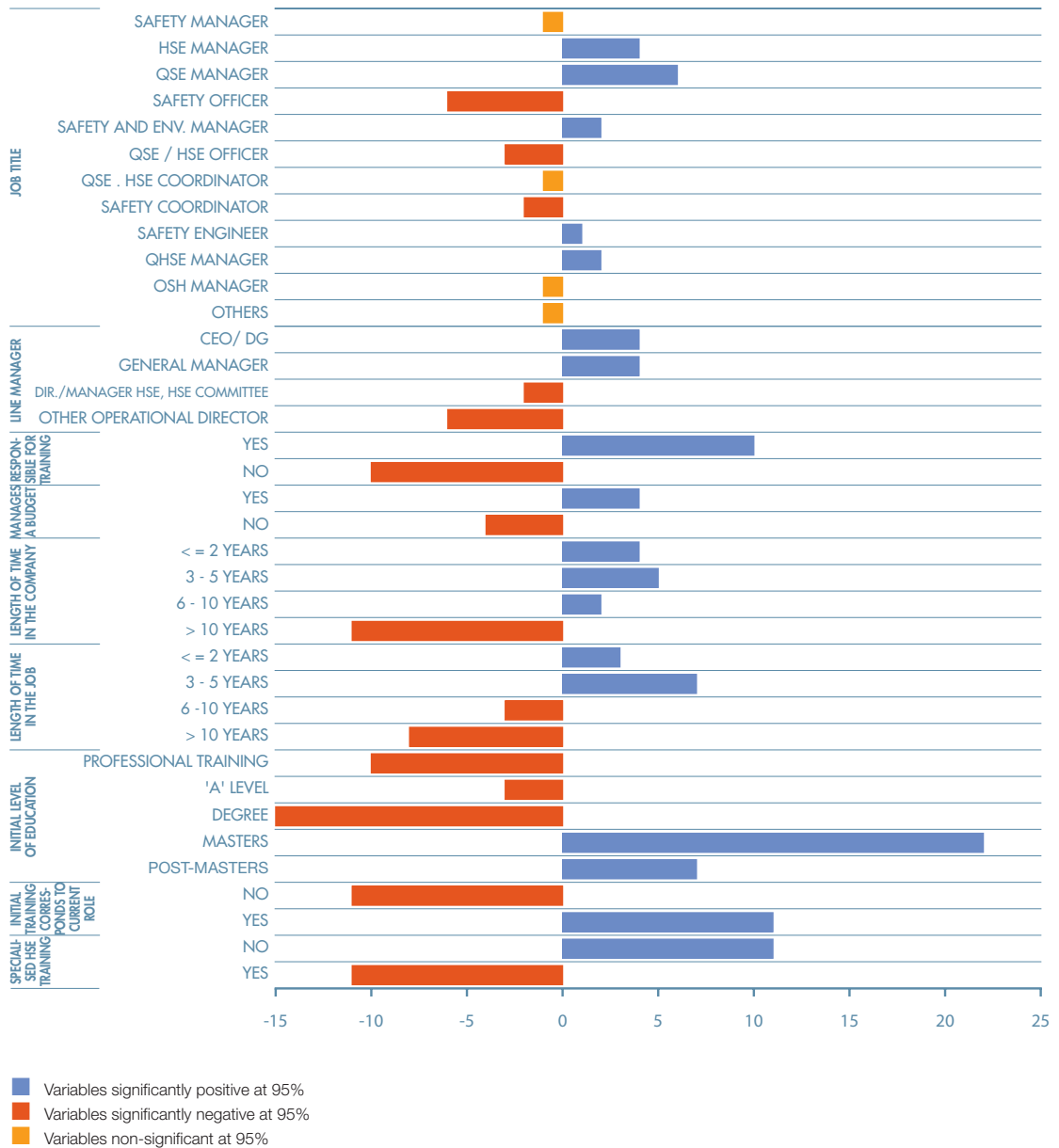
2.1.1. THE OSH MANAGER

Type 1, (Figure 1) designated the “**OSH Manager**”⁶, represents 60% of the sample. It is characterised by OSH practitioners:

- HSE, QSE, SE, QHSE managers;
- Reporting to the Chief Executive Officer/Director General or General Manager;
- New to the company and to the role;
- Budget holders, in a training role;
- With a high level of training that corresponds to their function;
- With no specific training in health and safety, and working outside their field of initial training.

These are the “bosses” of health and safety in companies. Their expertise is widely recognised. They participate very actively in the formulation of prevention policy, and carry a lot of weight in discussions and decisions on safety trade-offs, in terms of investment. They form a highly strategic interface between different stakeholders. They “think” safety, taking into account both the human, and material resources available. They work very clearly towards integrated management processes that are directly related to quality. They are very active in professional networks and are happy to share their experience. They contribute to training courses such as Master’s degrees or in engineering schools.

FIGURE 1 / PROFILE OF TYPE 1: "THE OSH MANAGER"
(Deviation from the sample mean, in %)



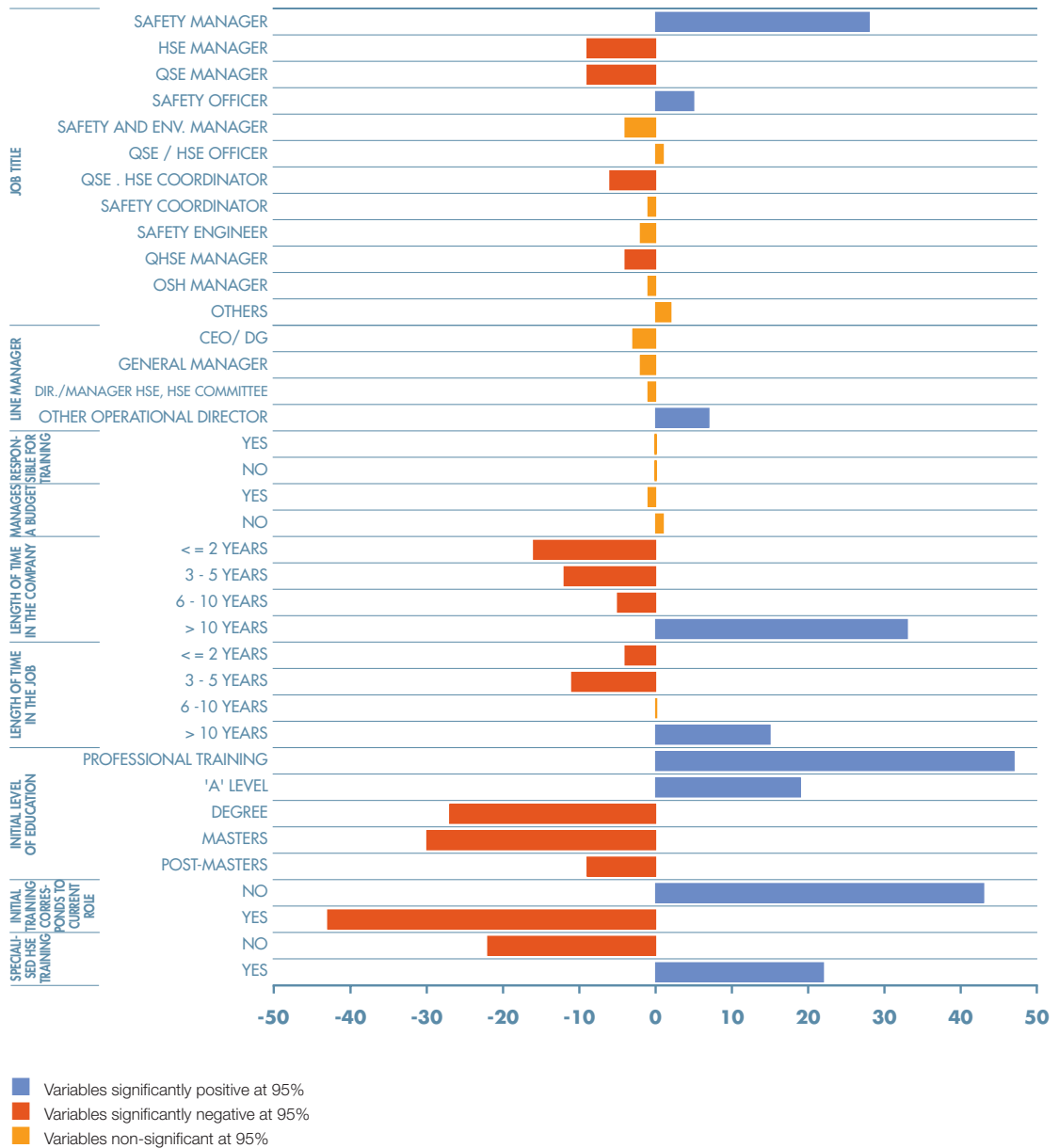
2.1.2. THE OSH FIELDWORKER

Type 2 (Figure 2) is designated the “**OSH fieldworker**”. It represents 18% of the sample and consists of the following OSH practitioners:

- Safety managers;
- Working in operations;
- Well-established in the company and in their function;
- Having only a basic level of training, which is not always appropriate to their role;
- Having received specialised training in health and safety.

Found at the heart of industrial establishments and central to safety issues, the OSH fieldworker manages health and safety on a day-to-day basis. Familiar with the workings of the company, and the authority on the technology and skills used in production, they have real operational expertise. They have no initial training in health and safety, but they have extensive knowledge, broad experience, and have taught themselves by following regulatory requirements or standard practice. They are the heart of discussions with stakeholders both within, and external to the company. They are in direct contact with the general manager and actively participate in the smooth running of organisations representing employees. They manage a small budget, allocated by their superiors (usually the OSH manager).

FIGURE 2 / PROFILE OF TYPE 2: "OSH FIELDWORKER"
(Deviation from the sample mean, in %)



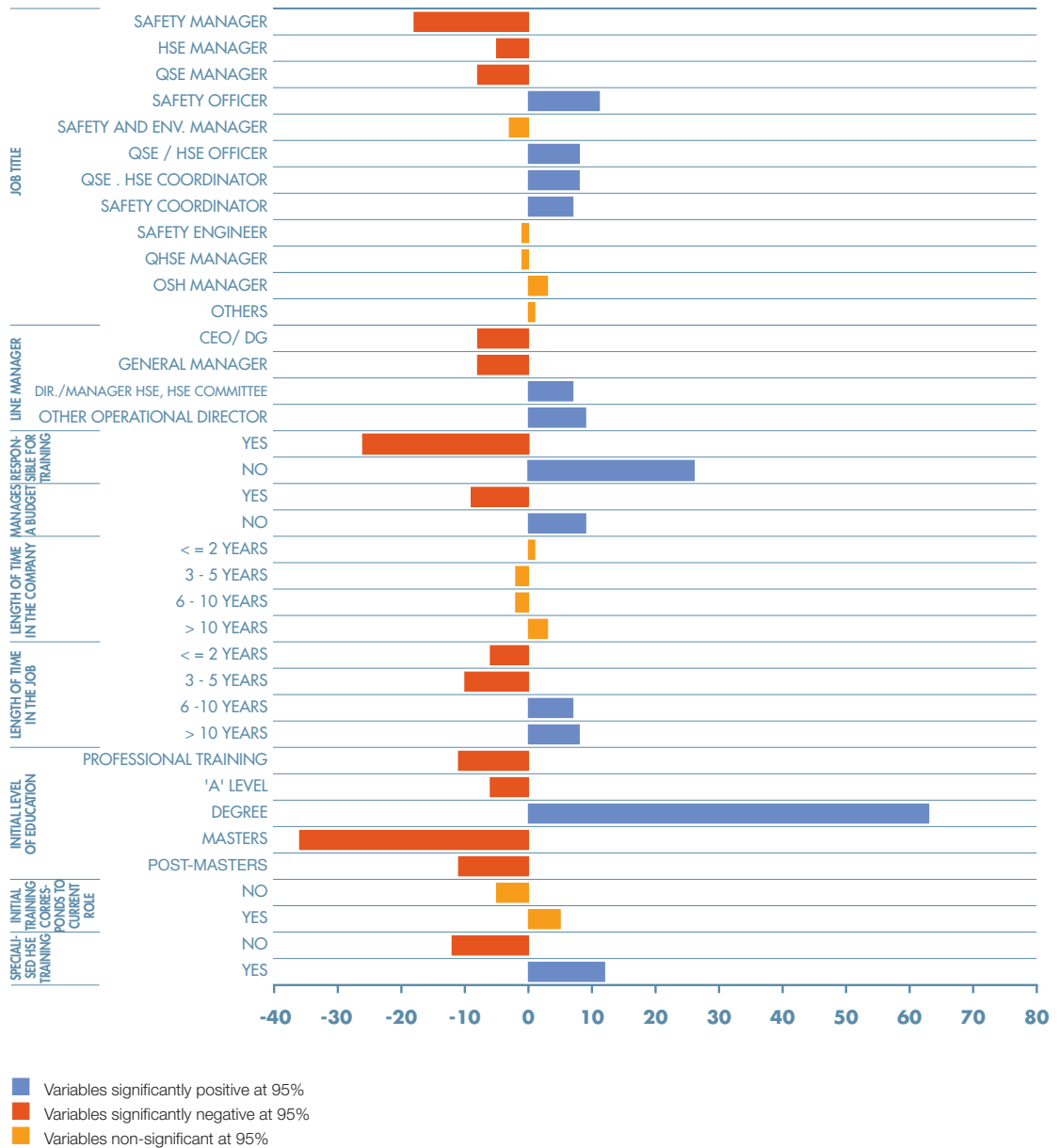
2.1.3. THE OSH OFFICER

Type 3, (Figure 3) described as the “**OSH officer**”, accounts for 22% of the sample. These OSH practitioners are:

- HSE, QSE safety officers/coordinators;
- Working in operations, or for HSE management, or for the Health and Safety Committee;
- Recently hired and new to the function;
- Are not budget holders and do not have a training role;
- Have an intermediate (degree) level of education;
- Have received specialised training in health and safety.

They are the intermediaries and operations personnel who have gradually become essential to businesses. In small and medium sized enterprises (SMEs), they take care of most health and safety issues (risk analysis, regulatory monitoring, liaison with bodies representing employees, etc.). In larger companies, they are the last link in the hierarchical chain and actively support the OSH manager and fieldworker. They specialise, according to the requirements of the situation, in on-site prevention. Their contribution is valuable because they work closely with all company employees. They usually want to consolidate their position and are keen to undertake specialised training. They have very limited decision-making powers (few recognised responsibilities and no budget). Their role is nevertheless important because they help to disseminate policy and actively participate in making management aware of field data and the attitude of staff to safety.

FIGURE 3 / PROFILE OF TYPE 3: "OSH OFFICER"
(Deviation from the sample mean, in %)





TYPOLGY OF BUSINESSES

The same typological analyses (MCA and k-means) were used to identify the characteristics of businesses. Five types of business were identified and differentiated according to: how long there had been an OSH function, the age of the company, certification, the ratio of work carried out as a sub-contractor, the market, regulatory pressure, and the size and sector of activity (Figures 4-8).

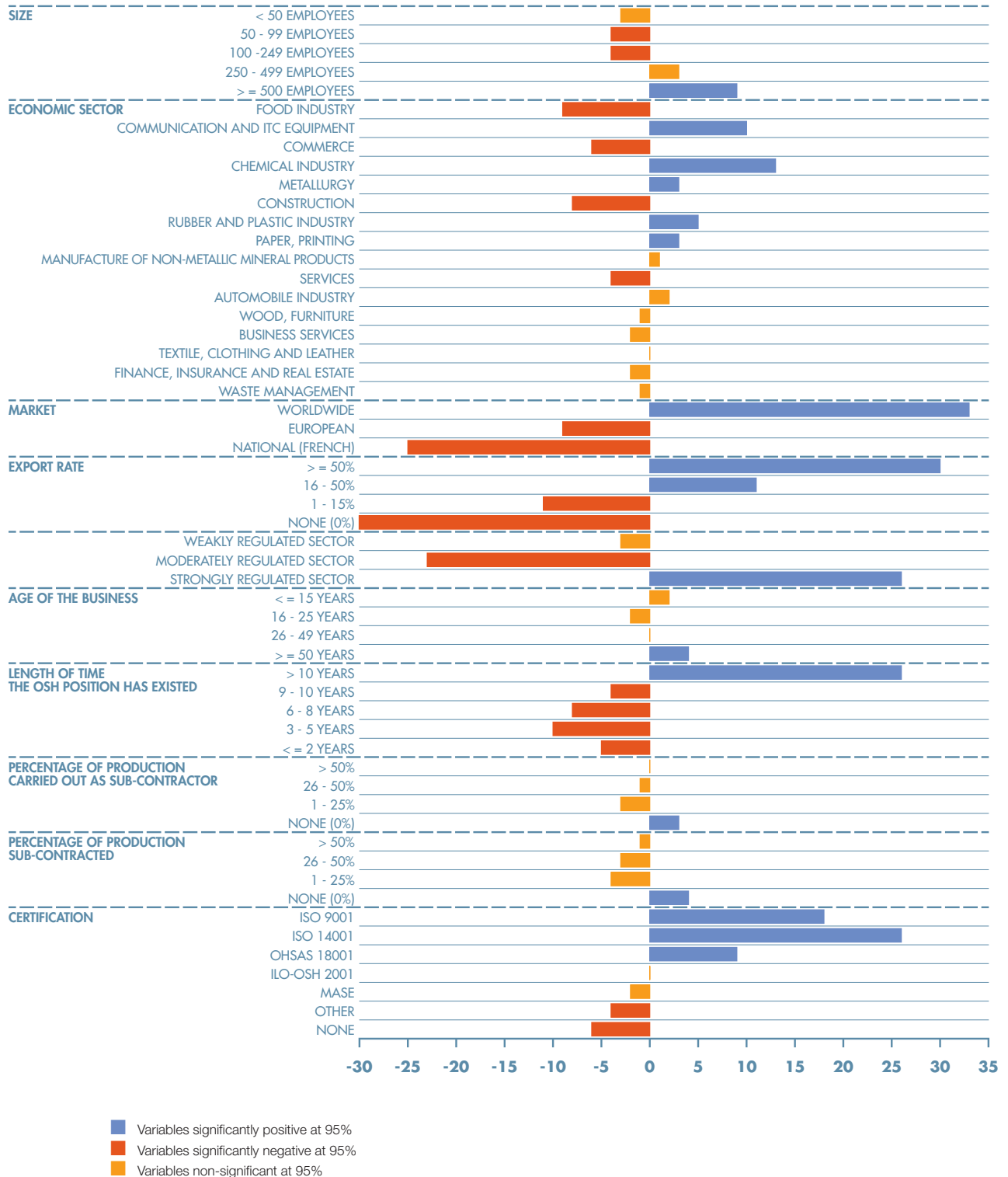
2.2.1. THE LARGE CERTIFIED INDUSTRIAL ENTERPRISE

Type 1, “the large certified industrial enterprise”, represents 28% of the sample and is characterised by the following (Figure 4):

- It is big (500 or more employees);
- It is in the chemical, rubber or plastic industry, or the manufacture of machinery and equipment, etc.;
- It is mature (in existence for 50 years or more);
- Its market is global;
- It belongs to a highly regulated industry;
- The OSH practitioner role has existed for over 10 years;
- It is certified (ISO 9001, ISO 14001, OHSAS 18001).

This kind of business is generally cited as the classical example in terms of health and safety management, and safety performance. This kind of business began their health and safety activities more than twenty years ago, and has made significant progress. They are structured and organised. They follow developments in health and safety closely (particularly regulatory changes). They take great satisfaction in their achievements in terms of certification, which they generally want to maintain. Their accident and illness statistics are “good” and are closely monitored. Because of their large size, safety is organised through an extended managerial network (flowing from headquarters out to branches or sites). The OSH manager, who very often delegates his responsibilities, plays a particularly important role in the definition of prevention policy.

FIGURE 4 / PROFILE OF TYPE 1: "THE LARGE CERTIFIED INDUSTRIAL ENTERPRISE"
(Deviation from the sample mean, in %)



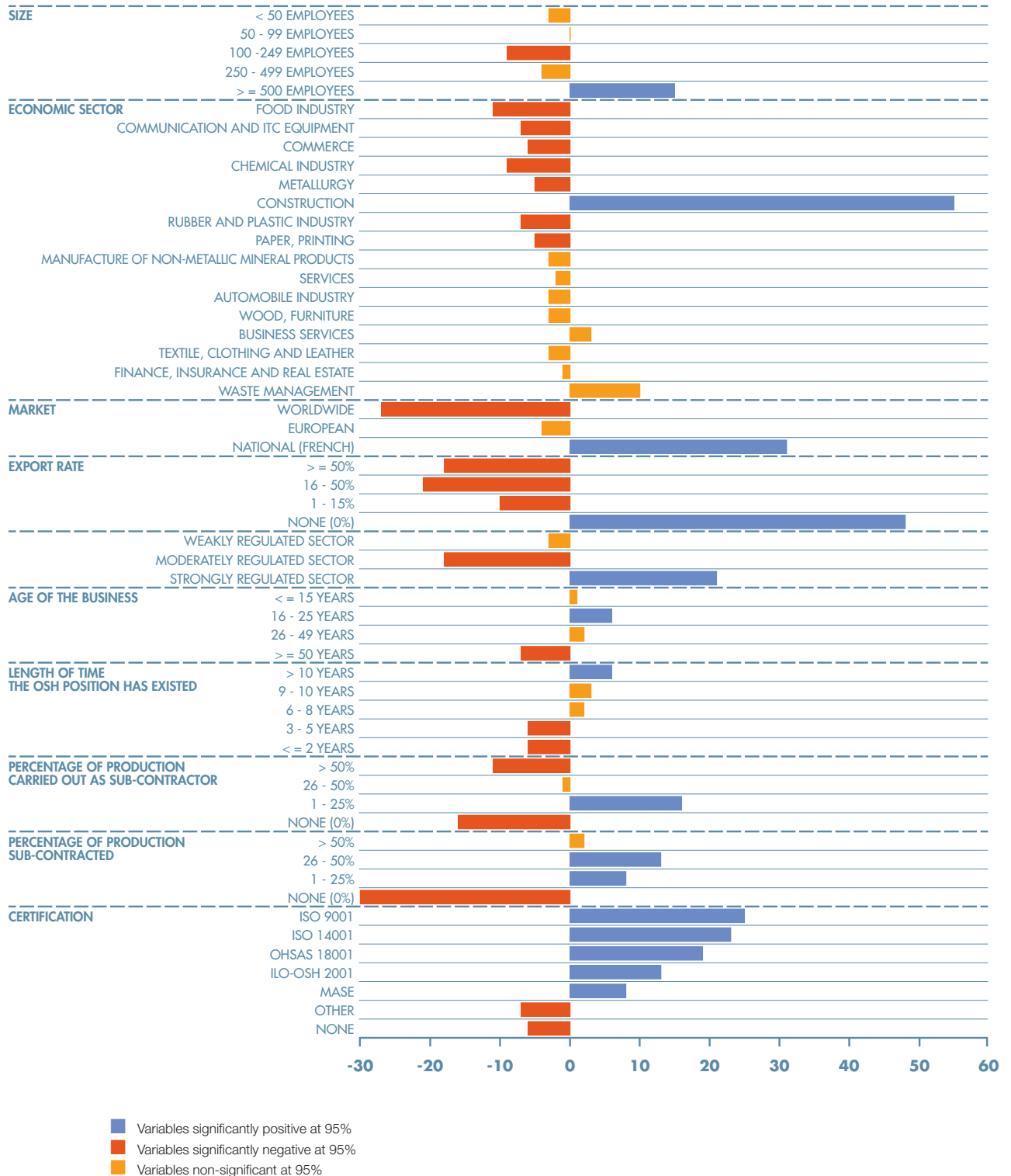
2.2.2. THE LARGE CERTIFIED CONSTRUCTION COMPANY

Type 2, “the large certified construction company”, represents 12% of the sample and is characterised by the following (Figure 5):

- It is big (500 or more employees);
- It is in the construction sector;
- It belongs to a highly regulated industry;
- Its market is domestic;
- The OSH practitioner role has existed for over 10 years;
- Its functions as both prime contractor and sub-contractor;
- It is certified (ISO 9001, ISO 14001, OHSAS 18001, etc.).

This is typically the company that lacks social acceptance and must recruit and retain a workforce who face a high risk of accident. The specifics of the workforce (diverse trades, training, cultures, etc.) coupled with the particular nature of construction sites (multiple stakeholders) translates into a recent, and rapidly increasing commitment to implementing safety management systems - with recourse to certification acting as a real driving force.

FIGURE 5 / PROFILE OF TYPE 2: "THE LARGE CERTIFIED CONSTRUCTION COMPANY"
(Deviation from the sample mean, in %)



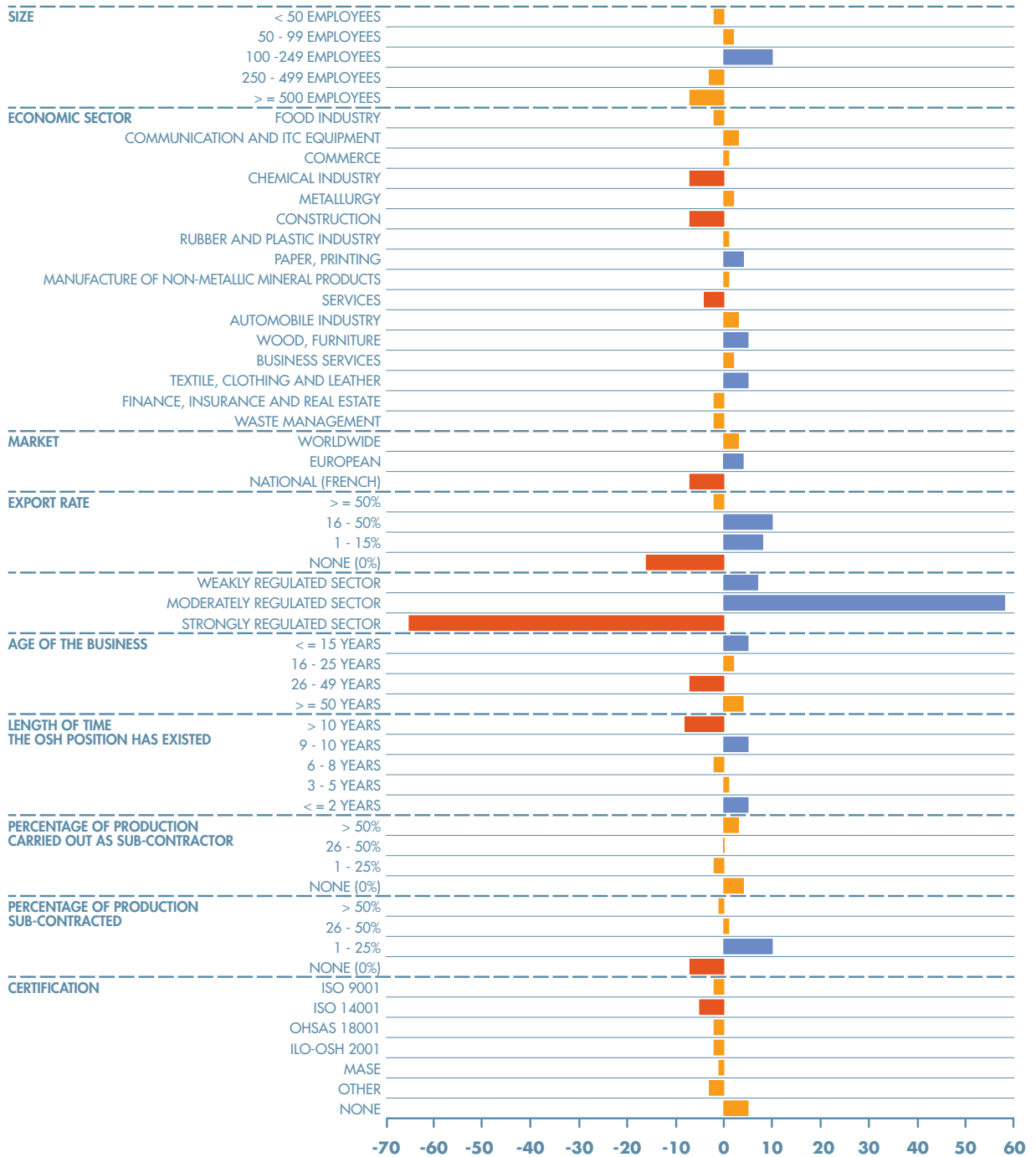
2.2.3. THE INDUSTRIAL SME

Type 3, “the industrial SME”, represents 26% of the sample and is characterised by the following (**Figure 6**):

- It is medium-sized (100 - 249 employees);
- It operates in the paper, wood and textiles industries (traditional industries);
- It belongs to a moderately, or poorly regulated sector;
- Its market is European;
- The OSH function is recently created;
- Part of production is sub-contracted (1 - 25%).

This is the “big”, traditional, SME, found in sectors that are already aware of occupational health and safety issues. Like all SMEs, it has limited resources, and its prevention policies are focused on regulatory requirements. Safety obligations are split between whoever is responsible for occupational health and safety and is closest to the problem at hand, and matters handled by the HSE committee.

FIGURE 6 / PROFILE OF TYPE 3: "THE INDUSTRIAL SME"
(Deviation from the sample mean, in %)



- Variables significantly positive at 95%
- Variables significantly negative at 95%
- Variables non-significant at 95%

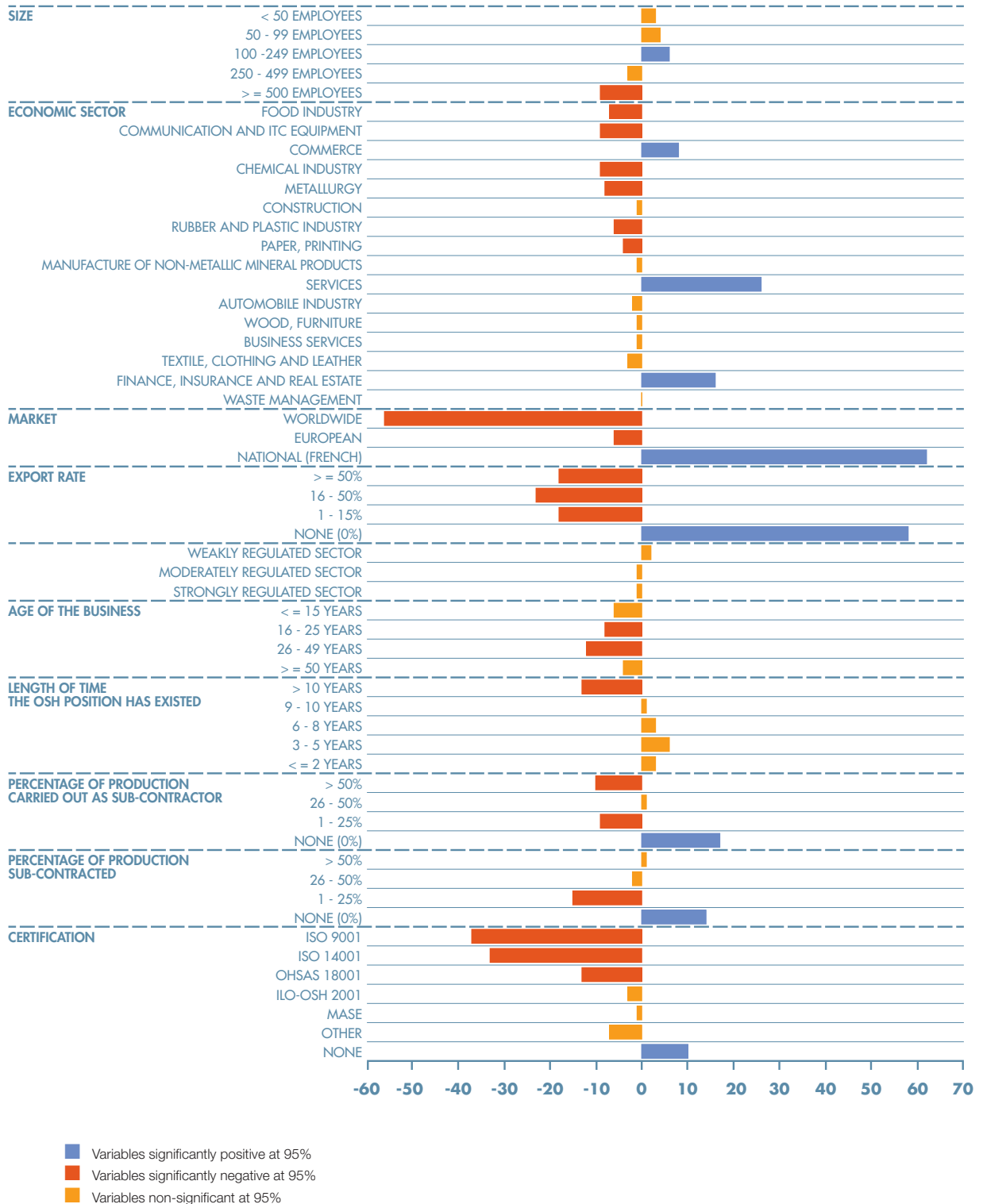
2.2.4. THE UNCERTIFIED SERVICE SECTOR SME

Type 4, the “uncertified service sector SME”, represents 12% of the sample and is characterised by the following (**Figure 7**):

- It is medium-sized (100 - 249 employees);
- It operates in the service sector;
- Its market is domestic;
- The OSH function was recently created;
- It does not have ISO 9001, ISO 14001 or OHSAS 18001 certification.

This is another “big” SME (although this time in the service sector) whose business is not particularly affected by accidents or occupational diseases. This does not prevent it from implementing a prevention policy, in keeping with the aims of the HSE committee. The function of OSH practitioner is a recent development, and is motivated by regulatory requirements and organisational choices, rather than resulting from a prevailing feeling of insecurity in the company. The position is often associated with the human resources role. From the point of view of resources, which are limited, the benefits of certification do not carry much weight.

FIGURE 7 / PROFILE OF TYPE 4: "THE UNCERTIFIED SERVICE SECTOR SME"
(Deviation from the sample mean, in %)



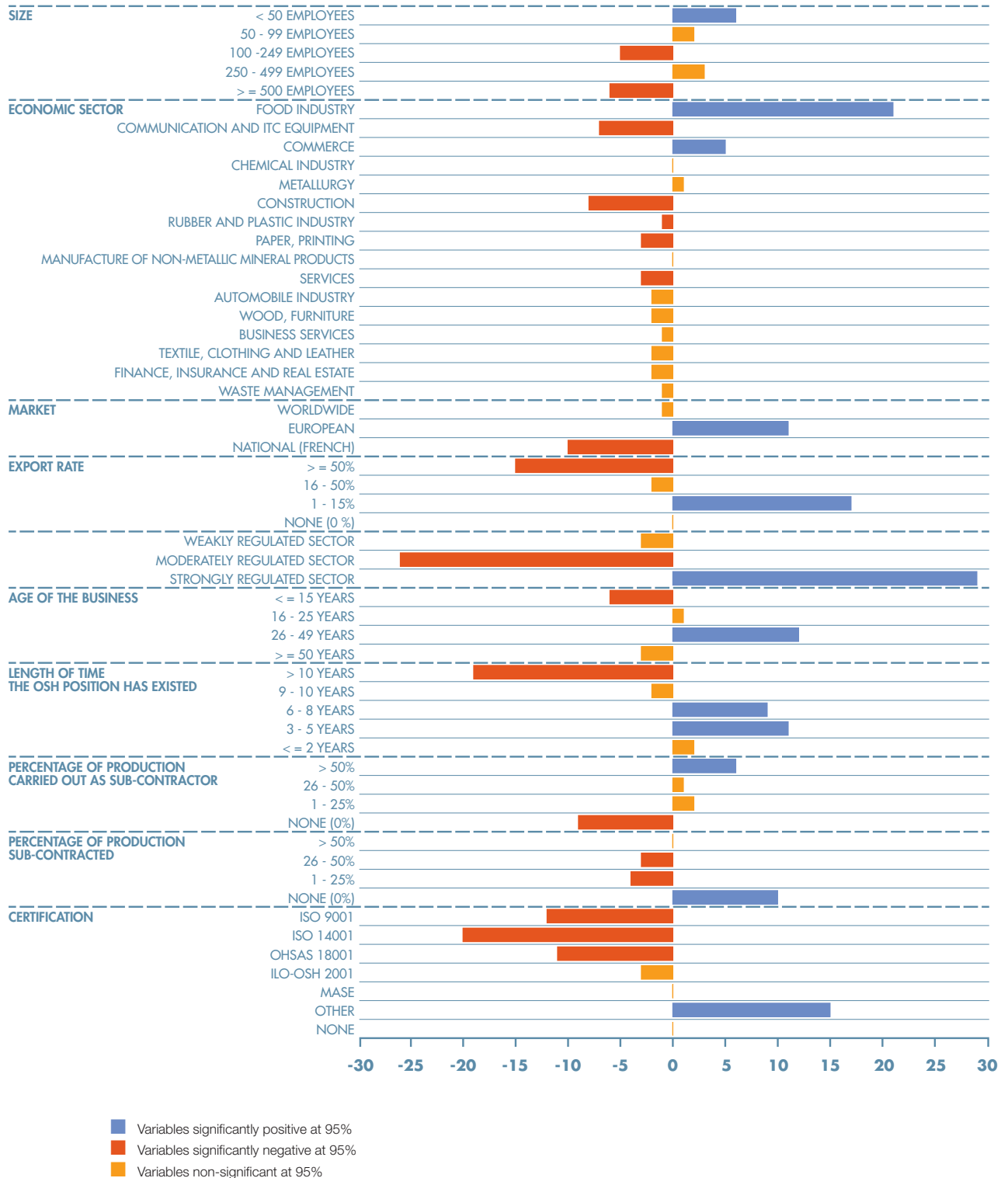
2.2.5. THE SMALL SUB-CONTRACTOR

Type 5, “the small sub-contractor”, represents 24% of the sample and is characterised by the following (**Figure 8**):

- It is small (less than 50 employees);
- It operates in the food and trade sectors;
- Its market is European;
- It belongs to a highly regulated sector;
- A high proportion of production is as a sub-contractor (over 50%);
- The OSH role is recently established (3 - 8 years);
- It does not have ISO 9001, ISO 14001 or OHSAS 18001 certification.

Classically, the “small” SME is most exposed to accidents, and most lacking, both in terms of health and safety policy, and the means to implement it. Due to lack of time, and an unrealistic perception of the risks, it has not fully grasped what is at stake in health and safety management. Either the role of OSH practitioner is entirely absent, or it is recent and often merged with another job, generally connected with production or human resources. The type of SME identified here must respond to a regulated market, a fact which encourages them to progress and deploy resources in order to consolidate activities in the area. In daily life, the OSH practitioner may be supported by the staff representative who has responsibility for occupational health and safety.

FIGURE 8 / PROFILE OF TYPE 5: "THE SMALL SUB-CONTRACTOR"
(Deviation from the sample mean, in %)



2.3

ASSESSMENT OF THE TWO TYPOLOGIES

The two typologies were cross-matched to see whether particular OSH practitioner profiles were associated with particular business profiles. The matrix (**Table 5**) shows that there is no correlation between the two.

TABLE 5 / CORRELATION BETWEEN THE TWO TYPOLOGIES

Typology of businesses	Typology of OSH practitioners		
	Manager	Fieldworker	Officer
The large, certified industrial enterprise	0.065 <i>0.067</i>	- 0.010 <i>0.779</i>	- 0.067 <i>0.057</i>
The large, certified construction company	0.001 <i>0.968</i>	- 0.036 <i>0.305</i>	0.032 <i>0.369</i>
The industrial SME	- 0.017 <i>0.637</i>	- 0.031 <i>0.379</i>	0.048 <i>0.172</i>
The uncertified, service-sector SME	- 0.079 <i>0.025</i>	0.122 <i>0.001</i>	- 0.019 <i>0.589</i>
The small sub-contractor	0.008 <i>0.819</i>	- 0.023 <i>0.514</i>	0.012 <i>0.741</i>

Figures in bold are significantly greater than 0 at p=0.05 alpha level

The lack of correlation between the types of OSH practitioners and businesses means that any combination of OSH practitioner and company is possible. This result confirms the idea that at the present time, the OSH profession is not codified, and that it covers a variety of situations.

The fact that all combinations are random and there are no trends indicates that it is not the OSH practitioner, at the heart of the organisation, who develops prevention policy. It is in fact, as we shall see later, perceptions about the importance of prevention, and the context that the organisation finds itself in that determine the vigour, scope and organisation of safety policy.

PREVENTION POLICY: SLOW EVOLUTION AND HETEROGENEOUS IMPLEMENTATION



PREVENTION POLICY: CONSTRUCTION OF A COMPOSITE VARIABLE

The creation of the position of OSH practitioner does not, in itself mean there is a prevention policy. Policy must evolve organically, from a budget, control and supervision mechanisms, and dialogue within the company.

In order to get a better idea of what an established prevention policy looks like, a composite variable was created (using an MCA analysis) which synthesises a set of factors that reflect the maturity and vigour of policy (Table 6).

TABLE 6 / VARIABLES USED

N°	Question	Options
Q8b	How are prevention activities defined ?	Annual programme In consultation with the HSE committee or employee representatives In agreements with the relevant services In reaction to a problem Depends on available human and financial resources
Q8c1	Evaluation tools	Number of tools (0-3)
Q8c2	Schedule for the evaluation of prevention	Very irregularly / Not defined At least annually At least quarterly At least monthly
Q9a	Are decisions / actions evaluated in terms of their relevance to prevention policy ?	Yes / No
Q9c	What criteria are used to evaluate this relevance ?	Evaluated using safety results Evaluated with respect to achieving objectives Evaluated using a cost / benefit analysis Evaluated in terms of the growth of a safety culture in the business
Q9d	Evaluation schedule	Very irregularly / Not defined At least annually At least quarterly At least monthly
Q26-Certification	ISO 9001	Yes / No
Q26-Certification	ISO 14001	Yes / No
Q26-Certification	ILO-OSH 2001	Yes / No
Q26-Certification	OHSAS 18001	Yes / No

Certification is included as one of the variables. Although it does not specifically or necessarily form part of prevention policy, it reflects a deliberate choice by firms to comply with international regulation.

The results of the MCA analysis (**Table 7**) shows that slightly more than two-thirds of the inertia of the information is contained in the variables of the F1 axis, which is called “**scope of prevention policy**”.

TABLE 7 / RESULTS OF THE MCA ANALYSIS

	F1	F2
Eigenvalue	0.19	0.08
Inertia (%)	17.48	7.46
Cumulative %	17.48	24.94
Adjusted inertia	0.02	0.00
Adjusted inertia (%)	66.86	4.97
Cumulative %	66.86	71.83

The F1 axis distinguishes between, on the one hand, companies that have systems in place for the codified definition of prevention policy, who most frequently assess results, and who have chosen to be certified (F1 axis is positive); and on the other, companies that have a less formal definition of prevention policy, which is barely, or not, evaluated (F1 axis is negative). Therefore, **the F1 axis can be considered as a true scale which measures the codification and maturity of prevention policy.**

3.2

PREVENTION POLICY: SOME DETERMINANTS

In order to determine where businesses lie on this scale, the following econometric model was developed:

$$F_1 = a + b\text{Size} + c\text{Regulation} + d\text{Status} + e\text{LengthOfService} + f\text{PrimeContractor} + g\text{Awareness} + h\text{HSECulture} + \sum_i s_i \text{Sector}_i$$

Where:

Size = a logarithm of the number of employees.

Regulation = the extent to which the business is subject to regulatory pressure. This variable is set to 2 when the business is highly regulated, 1 if moderately regulated, and 0 if there is no regulation.

Status = this variable has three possible values: an independent business, part of a French group, part of an overseas group.

LengthOfService = how long the position of OSH practitioner has existed in the business. This variable takes five values: less than 2 years; 3-5 years; 6-8 years; 9-10 years and more than 10 years.

PrimeContractor = balance of the percentage of production earned as a prime contractor, and the percentage earned as a sub-contractor.

Awareness = awareness and appreciation of the role of OSH practitioner (a binary variable: 1 if the position is valued, and 0 if not).

HSECulture = existence of a widely shared culture of health and safety at work (a binary variable: 1 if the culture is widely shared, 0 if not).

The results of these assessments are shown in **Table 8**. They are in the form of three equations, each testing the impact of a different set of variables on the influence of prevention policy. This separation is necessary to avoid problems of interdependence of explanatory variables (multicollinearity).

TABLE 8 / RESULTS OF THE ECONOMETRIC ASSESSMENT

Scope of the policy	Equation 1 (base)		Equation 2		Equation 3	
	Coef.	P>t	Coef.	P>t	Coef.	P>t
Constant	- 0.406	***	- 0.496	***	- 0.374	***
Size	0.039	***	0.040	***	0.035	***
Regulatory pressure	0.046	NS				
Overseas group	0.143	***	0.129	***	0.139	***
National (French) group	0.118	***	0.114	***	0,116	***
Independent company			Reference modality			
Number of years the function has existed						
3 - 5 years					0.020	NS
6 - 8 years					0.080	NS
9 - 10 years					0.108	*
More than 10 years					0.095	*
Less than 2 years					Reference modality	
Prime contractor			0.002	*		
Recognition given to the function			0.129	***		
Widely shared safety culture			0.118	***		
Other sectors of activity						
			Reference modality			
Construction	0.160	***			0.159	***
Textile, clothing, leather	- 0.250	***			- 0.278	***
Food and farming industry	- 0.077	NS			- 0.071	NS
Metallurgy	0.141	***			0.130	***
Rubber / plastics	0.098	**			0.096	**
OLS (robust)						
Number of observation		750		567		750
R ²		0.091		0.100		0.095

***: values are different from 0 at a significance level of 1%
 **: values are different from 0 at a significance level of 5%
 *: values are different from 0 at a significance level of 10%
 NS: not significant

7

Here we use the ideas put forward in Martin C. and Guarnieri F., (2008): "Pratiques et prévention des risques professionnels dans les PME-PMI". Éditions Lavoisier. Collection SRD, Paris.

8

See Martin and Guarnieri (2008), op. cit. page 14.

9

See Martin and Guarnieri (2008), op. cit. page 20.

10

See Martin and Guarnieri (2008), op. cit. page 23.

The results seem to confirm a number of observations from other studies⁷. **Size**⁸ is important, because the larger the firm, the more preventive measures are implemented. Companies subject to **intensive regulation** are more willing (or obliged) to build prevention capabilities. As far as **status** is concerned, companies belonging to a group are more organised in terms of prevention than independent operators⁹. **Sub-contracting**¹⁰, with the associated performance requirements, encourages companies to ignore prevention and safety aspects of the work, instead prioritising productivity. Perceptions of **recognition and appreciation** of the function of the OSH practitioner, and the existence of a **broadly shared culture** of health and safety at work, has a positive impact on the implementation of policy.

Finally, policy matures and becomes more ingrained when the role of OSH practitioner has existed within the company for a long time (probably well over 10 years).

The use of sectorial control variables does not add significant information. A few sectors do stand out to a greater or lesser extent. The construction, metallurgy, rubber and plastic industries distinguish themselves in a positive sense; textiles, clothing and leather, and food and agriculture industries in a negative sense.



OBSTACLES TO THE MANAGEMENT OF PREVENTION POLICY

An MCA analysis was performed using the responses to questions about obstacles to the management of prevention policy (**Table 9**), resulting in a typology of three distinct groups. The objective of the analysis is to better understand combinations of barriers and to characterise the companies that are subject to these obstacles.

TABLE 9 / MAIN OBSTACLES TO THE MANAGEMENT OF POLICY

Main obstacles	Number	%
Time constraints	537	67
Resistance to change	478	60
Insufficient human or financial resources	340	42
Inconsistency between policy objectives and the situation on the ground	298	37
Conflicting objectives	166	21
Poorly or misunderstood objectives	127	16
Lack of consensus on prevention and safety policy	113	14

The results of the MCA analysis are shown in **Table 10**. About 83% of the data is captured in the first coordinate axis (F1) and nearly 5% on the second axis (F2).

TABLE 10 / PRINCIPAL AXES

	F1	F2
Eigenvalue	0.22	0.16
Inertia (%)	22.12	16.19
Cumulative %	22.12	38.31
Adjusted inertia	0.02	0.00
Adjusted inertia (%)	82.93	4.91
Cumulative %	82.93	87.84

The classification constructed using these results takes into account obstacles to the deployment of safety policy. It was followed by a simple correlation analysis using the relevant variables. **Table 11** presents the three types identified.

TABLE 11 / RESULTS OF THE CLASSIFICATION

Obstacles (number)	Type 1	Type 2	Type 3	Total
Group weight (number)	293	254	256	803
Time constraints	238	76	223	537
Resistance to change	259	182	37	478
Insufficient human or financial resources	158	22	160	340
Inconsistency between policy objectives and the situation on the ground	208	43	47	298
Conflicting objectives	136	16	14	166
Poorly or misunderstood objectives	83	42	2	127
Lack of consensus on prevention and safety policy	99	7	7	113
Total	293	254	256	803

Obstacles (in %)	Type 1	Type 2	Type 3	Total
Group weight (in %)	36	32	32	100
Time constraints	81	30	87	67
Resistance to change	88	72	14	60
Insufficient human or financial resources	54	9	63	42
Inconsistency between policy objectives and the situation on the ground	71	17	18	37
Conflicting objectives	46	6	5	21
Poorly or misunderstood objectives	28	17	1	16
Lack of consensus on prevention and safety policy	34	3	3	14
Total	100	100	100	100

Type 1 businesses (36.5% of the sample) face **all obstacles** in the highest proportions (**Figure 9**). Type 2 businesses (31.6% of the sample) report **resistance to change** as the main obstacle (**Figure 10**). Type 3 businesses (31.9% of the sample) report problems of **resource allocation** and **time** (**Figure 11**).

FIGURE 9 / TYPE 1 AND OBSTACLES TO THE MANAGEMENT OF PREVENTION POLICY
(Deviation from the sample mean, in %)

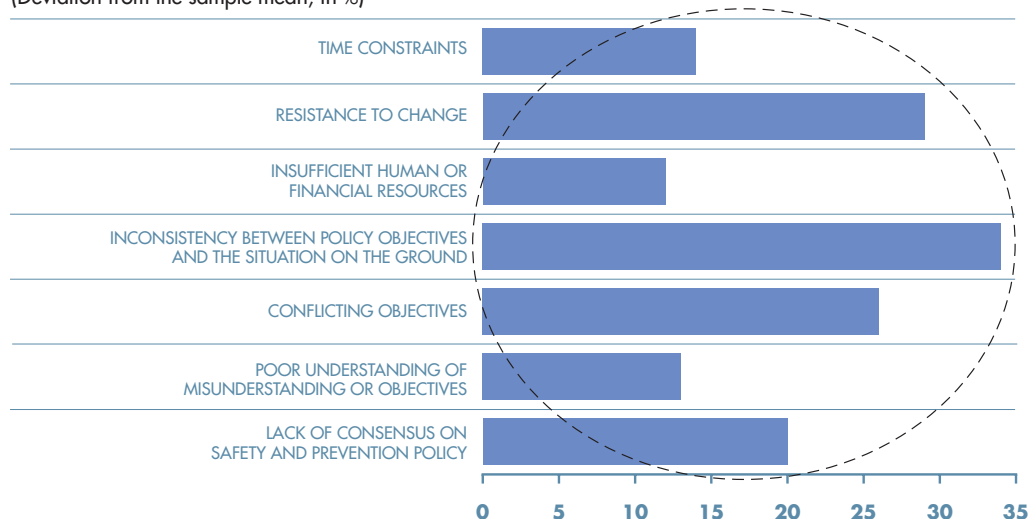


FIGURE 10 / TYPE 2 AND OBSTACLES TO THE MANAGEMENT OF PREVENTION POLICY
(Deviation from the sample mean, in %)

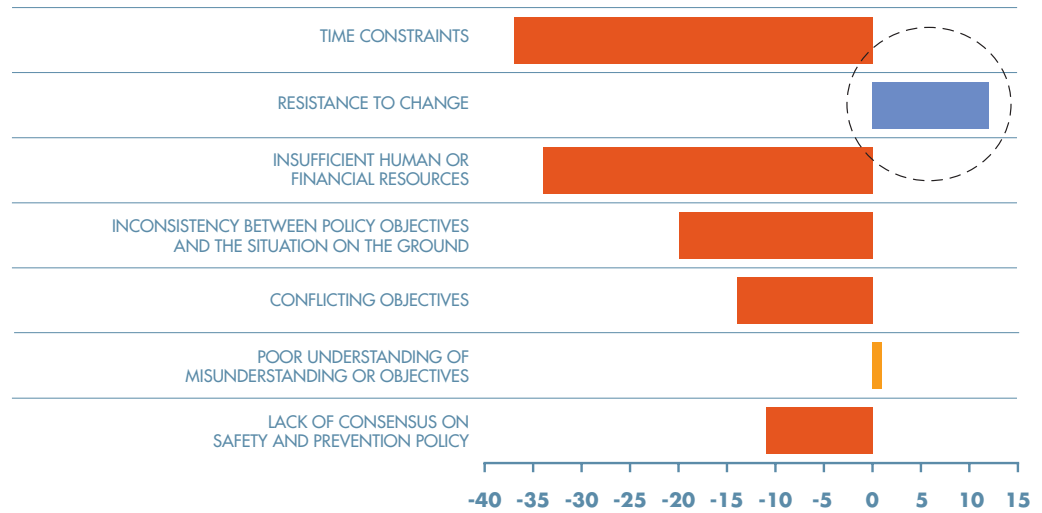
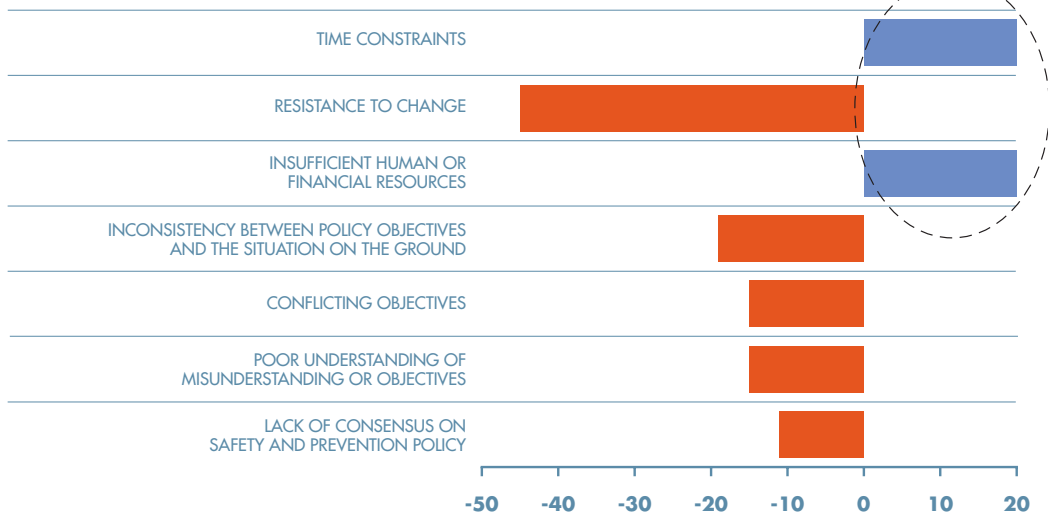


FIGURE 11 / TYPE 3 AND OBSTACLES TO THE MANAGEMENT OF PREVENTION
(Deviation from the sample mean, in %)



To simplify the analysis, businesses are divided into two main groups. On the one hand those who do experience barriers (of any kind) to the management of prevention policy, and on the other those who experience hardly any or no obstacles (with a few exceptions).



SUMMARY: POLICY, PERCEPTIONS AND OBSTACLES

In this section the influence of prevention policy, perceptions of the role of the OSH practitioner (recognition, acknowledgement and corporate culture), and obstacles to the implementation of prevention policy are integrated.

To do this, an econometric model has been formalised, which explains the presence of obstacles to the implementation of a prevention policy, based on a set of explanatory variables. The idea is to identify statistically significant factors that indicate the presence of obstacles. The model is as follows:

$$Obst = a + \sum_i^n b_i DefAct_i + \sum_i^n c_i ContrEnv_i + \sum_i^n d_i Percept_i + fPolit$$

Where:

Obst = this variable is constructed using the typology derived from the analysis of barriers to the execution of prevention policy. It has the value 1, when all obstacles are encountered and the value 0 when there are few or no obstacles.

$$Obst = \begin{cases} 1 & \text{if the business encounters significant obstacles (Type 1)} \\ 0 & \text{if the business encounters few or no obstacles (Type 2 + Type 3)} \end{cases}$$

DefAct = these variables represent the method for defining prevention initiatives; they take the value 1 if a method is present and 0 otherwise. The methods are: the presence of an annual programme, consultation with the HSE committee or staff representatives, agreements with the services directly concerned, reaction to an undesirable event, and the allocation of a budget.

ContrEnv = these variables represent competitive pressures on the company: on the one hand, net sub-contracting, on the other, the export rate (indicating the pressure of the global market).

Percept = perceptions of prevention within the company. Two variables are used. The first is recognition and appreciation of the function of the OSH practitioner (a binary variable that equals 1 if the function is recognised and valued, and 0 otherwise). The second is the existence of a broadly shared culture of health and safety at work (another binary variable that equals 1 if the culture is widely shared, 0 otherwise).

Polit = this is a composite indicator that reflects the maturity of prevention policies (F1 axis).

The results of the econometric assessment are shown in the following table (**Table 12**).

TABLE 12 / RESULTS OF THE ECONOMETRIC ASSESSMENT

Obstacles	Coef.	P>t
Constant	- 0.389	<i>NS</i>
Annual prevention programme	0.224	<i>NS</i>
Consultation with the HSE Committee or personnel representatives	0.089	<i>NS</i>
Agreements with relevant services	- 0.196	<i>NS</i>
Reaction to an unwanted event	0.205	<i>NS</i>
In relation to available human resources and budget allocations	0.308	**
Net sub-contractor	0.081	*
Export rate	0.005	**
Recognition of the role of the OSH practitioner	- 0.361	**
Widely shared safety culture	- 0.520	***
F1 axis (policy)	- 0.258	*
<i>Probit - Robust</i>		
Number of observations	529	
R ≤	0.082	

***: values are different from 0 at a significance level of 1%
 **: values are different from 0 at a significance level of 5%
 *: values are different from 0 at a significance level of 10%
 NS: not significant

The results of the econometric analysis show that the presence of significant barriers crucially depends on the **perceptions** of both management and employees of the company. The more the function of the OSH practitioner is recognised and valued, the fewer obstacles. The same pattern is seen for the existence of a widely shared health and safety culture (see also **Tables 13** and **14** and **Figure 12**). Pressure from a competitive environment plays an equally important role. In fact, the pressure exerted by **prime contractors or by market forces** is so great that the probability of encountering obstacles to implementing a prevention policy becomes statistically significant.

Of course, when the company responds by **simply allocating human and financial resources** (a last resort for policy definition), the probability of encountering significant obstacles increases dramatically. Finally, if prevention policy is structured (F1 axis), the probability of encountering obstacles decreases significantly.

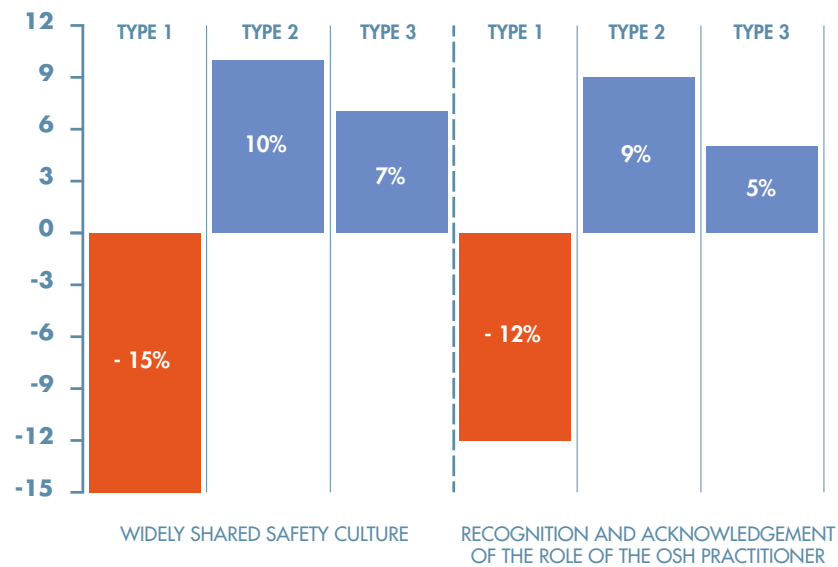
TABLE 13 / EXISTENCE OF A WIDELY SHARED OSH CULTURE

	Type 1		Type 2		Type 3		Total	
	Number	%	Number	%	Number	%	Number	%
Widely shared	146	50	189	74	183	71	518	65
Little or not shared	147	50	65	26	73	29	285	35
Total	293	100	254	100	256	100	803	100

TABLE 14 / RECOGNITION AND ACKNOWLEDGEMENT OF THE OSH FUNCTION

	Type 1		Type 2		Type 3		Total	
	Number	%	Number	%	Number	%	Number	%
Yes	181	62	212	83	203	79	596	74
No	112	38	42	17	53	21	207	26
Total	293	100	254	100	256	100	803	100

FIGURE 12 / PERCEPTIONS OF PREVENTION, USING THE TYPOLOGY
(Deviation from the sample mean, in %)



3.5 >

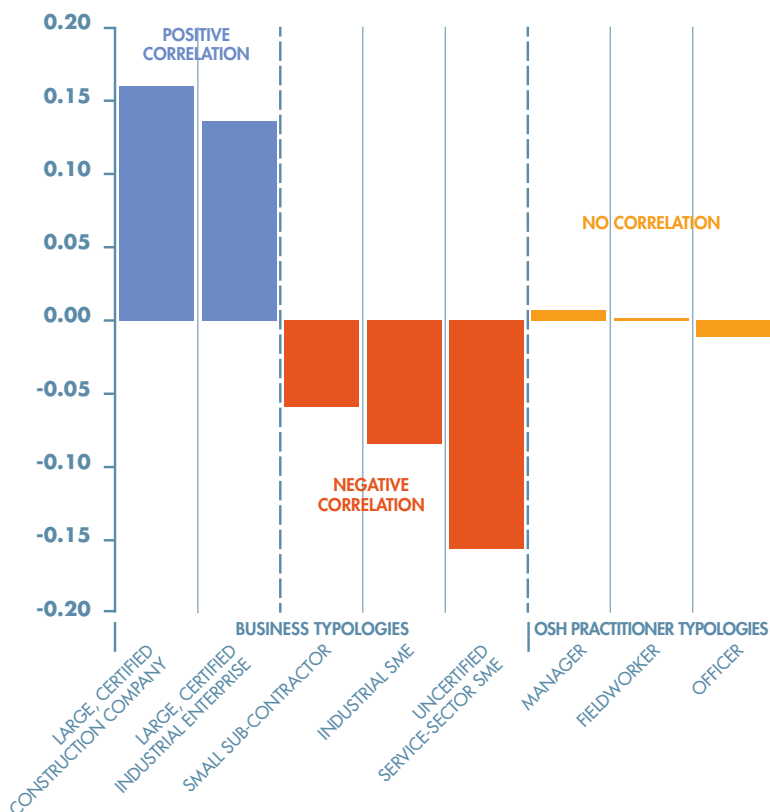
OSH PRACTITIONER: A HETEROGENEOUS FUNCTION

The second part of this report ended with the finding that there was no correlation between typologies of OSH practitioners and typologies of business. A variable was constructed to represent the influence and extent to which prevention policy is integrated into the organisation, which allowed us to observe links between it, and the two other typologies.

Figure 13 shows that a relationship exists between types of business and prevention policies. **Types 1 and 2** (large, certified companies) are positively correlated with prevention policy, while **types 3 - 5** (SMEs and small sub-contractors) show a negative correlation.

However, none of the groups resulting from the typology of OSH practitioners is correlated with the implementation of a prevention policy.

FIGURE 13 / CORRELATION BETWEEN THE TWO TYPOLOGIES AND PREVENTION POLICY



The deployment of a prevention policy can take various forms but it does not define, nor codify the function of the lead actor: the OSH practitioner.

DEVELOPMENTS, CHALLENGES AND RESOURCES USED BY OSH PRACTITIONERS

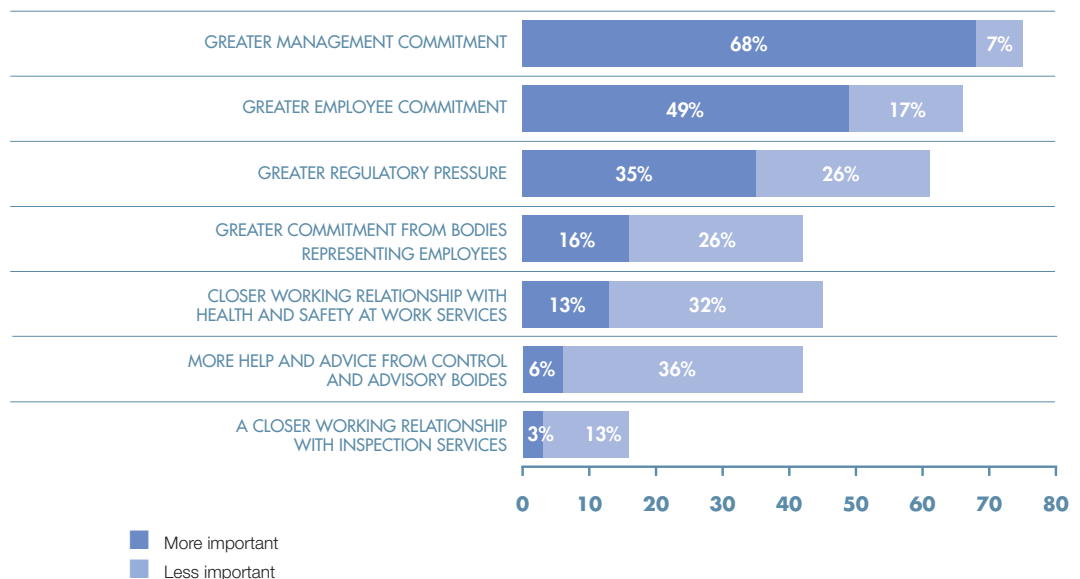


4.1 >

RECENT DEVELOPMENTS

Figure 14 shows that management commitment, crucially going hand-in-hand with employee involvement is seen as the accepted and obvious driver behind the implementation and deployment of prevention policy. However, while regulatory pressure is important (35%) this is far from being the case for the involvement of other stakeholders. Note the very large decline in the role of control and advisory boards, which seems to support the hypothesis of growing independence amongst OSH practitioners.

FIGURE 14 / RECENT DEVELOPMENTS IN SAFETY AND PREVENTION
(Base 100: 803 OSH practitioners)



4.2 >

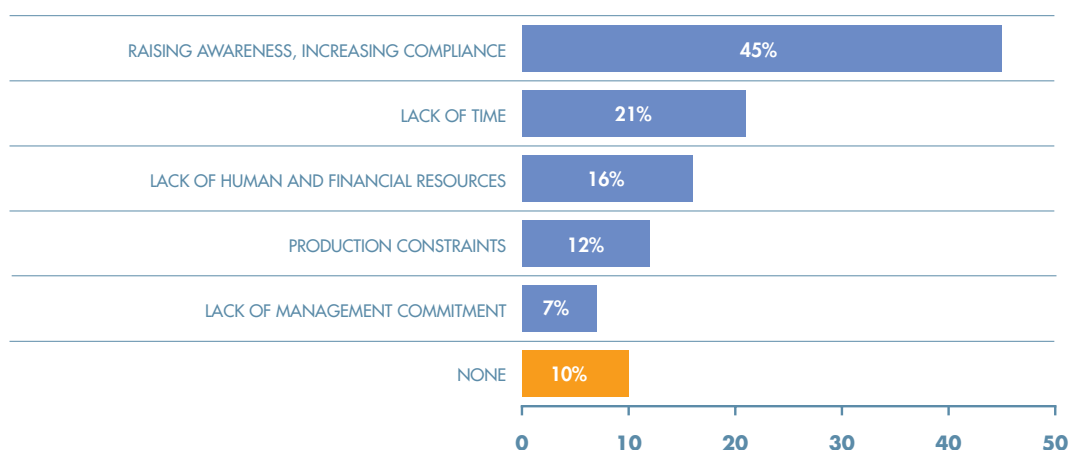
MAIN DIFFICULTIES

OSH practitioners were asked to talk spontaneously about the main difficulties they face in exercising their profession, and more broadly about the implementation of health and safety measures.

Nearly half (**Figure 15**) stated their main problem as that of raising employee awareness (meaning their compliance with safety rules). For a little over a third, it is lack of time and resources (human and financial).

FIGURE 15 / MAIN DIFFICULTIES FOUND IN THE EXERCISE OF THEIR PROFESSION AND THE IMPLEMENTATION OF HEALTH AND SAFETY MEASURES

(Base 100: 803 OSH practitioners – response to an open ended question)



To illustrate the close relationship between the difficulties encountered by OSH practitioners, and the perceptions of company managers and employees, the two datasets were cross-matched and tested. **Table 15** highlights the fact that the problem of lack of commitment on the part of management is closely linked to the lack of recognition and value attributed to the OSH profession. Conversely, when the profession is recognised and valued, the probability of OSH practitioners having no difficulties increases significantly.

TABLE 15 / MAIN DIFFICULTIES ACCORDING TO THE RECOGNITION AND VALUE PLACED ON THE PROFESSION

In %	Recognised and valued	Not recognised and valued	Total
Raising awareness of personnel	45	45	45
Lack of time	22	17	21
Lack of human and financial resources	16	16	16
Production constraints	11	14	12
Lack of commitment from management	6	13	7
None	12	5	10
Total	100	100	100

When the company has a widely shared culture of health and safety at work (**Table 16**), prevention is less of a constraint on production, and commitment from management increases. In contrast, when the culture is not, or only little shared, the probability of having no difficulties is almost zero.

It is interesting that when the culture is widely shared, OSH practitioners report not having enough time to do their work. This leads to the hypothesis that the more value placed on occupational safety and health, the greater the demands on the OSH practitioner.

TABLE 16 / MAIN DIFFICULTIES AS A FUNCTION OF HSE CULTURE

In %	Widely shared	Little or not shared	Total
Raising awareness of personnel	46	44	45
Lack of time	23	18	21
Lack of human and financial resources	14	20	16
Production constraints	8	18	12
Lack of commitment from management	4	14	7
None	13	5	10
Total	100	100	100

4.3 > AVAILABLE RESOURCES

Figure 16 ranks the problems commonly encountered by OSH practitioners on a daily basis. Lack of information and employee awareness is by far the most significant, followed by compliance with controls and risk analysis. Monitoring of safety indicators (such as severity and frequency rates) lags far behind the first two factors, although they are very much related. The outsourcing of safety through the use of third-parties (control and advisory boards) is not much used, ranking very far behind relations with other stakeholders and reporting to management.

FIGURE 16 / CURRENT PROBLEMS

(Base 100: 803 OSH practitioners)

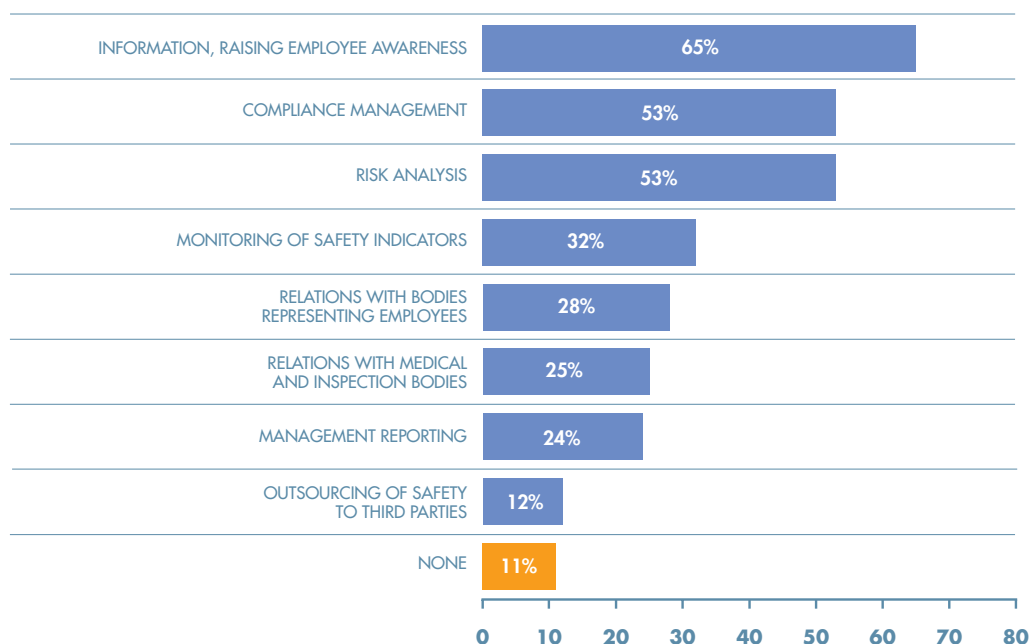


Figure 17 shows the major trends, in terms of resources used to address the issues outlined above. Training is well in the lead (62%). It is followed by the extensive use of documentation found on websites (information that is generally accessible and free), books related to the discipline (primarily legal and methodological) and newsletters distributed by operators such as training providers and judicial, control, or advisory boards. While practitioners often turn to advisory and control boards for support in making policy decisions, the full potential of databases and software is not exploited.

FIGURE 17 / TOOLS USED TO DEAL WITH PROBLEMS

(Base 100: 803 OSH practitioners)

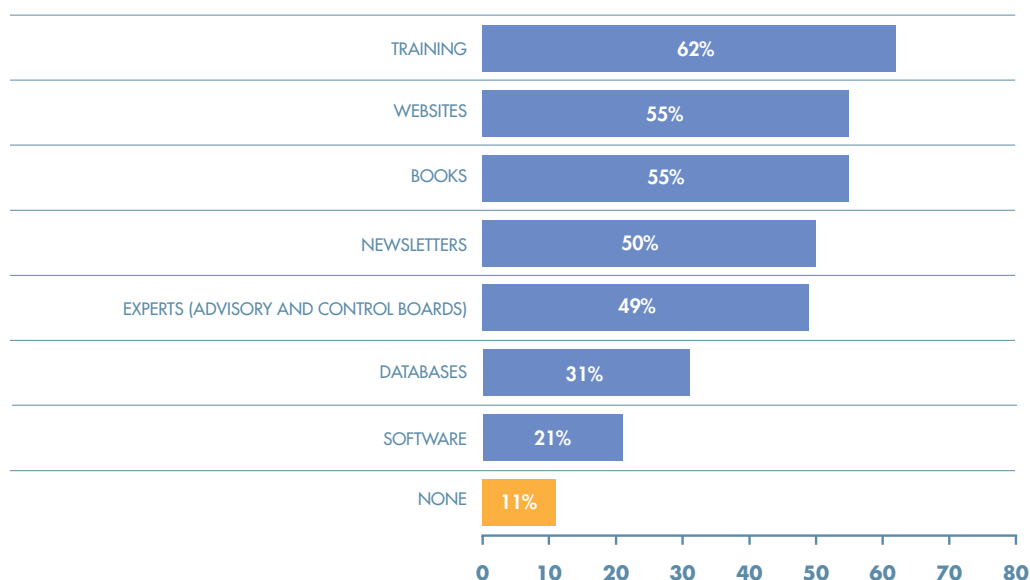


Figure 18 demonstrates that **training** is mainly used to inform and educate employees. “Classic” risk management activities (compliance, analysis and monitoring of indicators) seem to have been mastered, and therefore there is not much demand for training in these areas.

FIGURE 18 / HOW TRAINING IS USED

(Deviation from the mean: %)

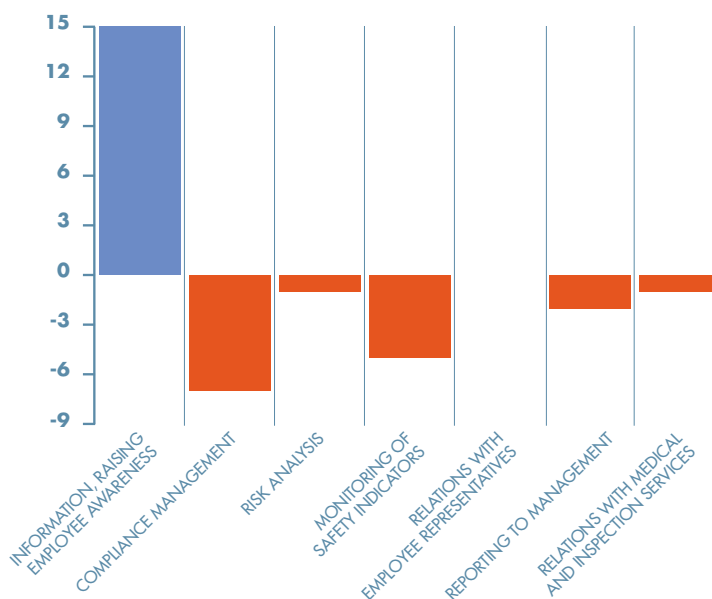


Figure 19 shows that **websites** are primarily used to manage compliance and carry out risk analysis. These websites are generally institutional sites that are easy to access and offer free information.

FIGURE 19 / WEBSITE USAGE

(Deviation from the mean: %)

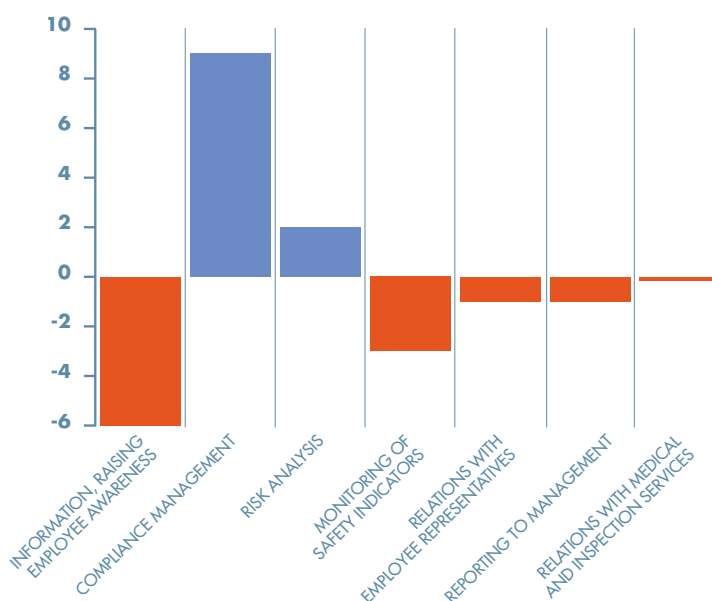


Figure 20 clarifies the use of **books** and highlights the fact that they are widely used to manage compliance (legal guides, collections of regulatory texts and methods), and to a lesser extent for risk analysis (mainly to research methods).

FIGURE 20 / BOOK USAGE
(Deviation from the mean: %)

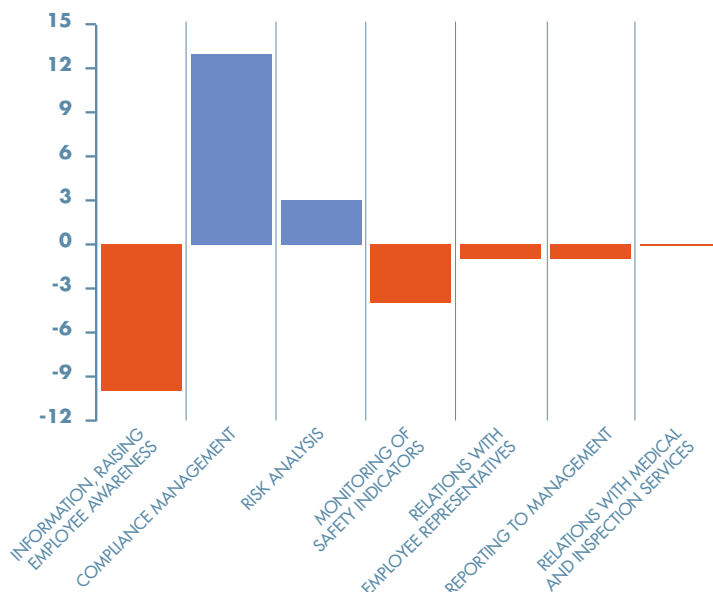


Figure 21 highlights the use of **newsletters** in order to provide information and heighten the awareness of employees, mainly in order to create a risk culture.

FIGURE 21 / NEWSLETTER USAGE
(Deviation from the mean: %)

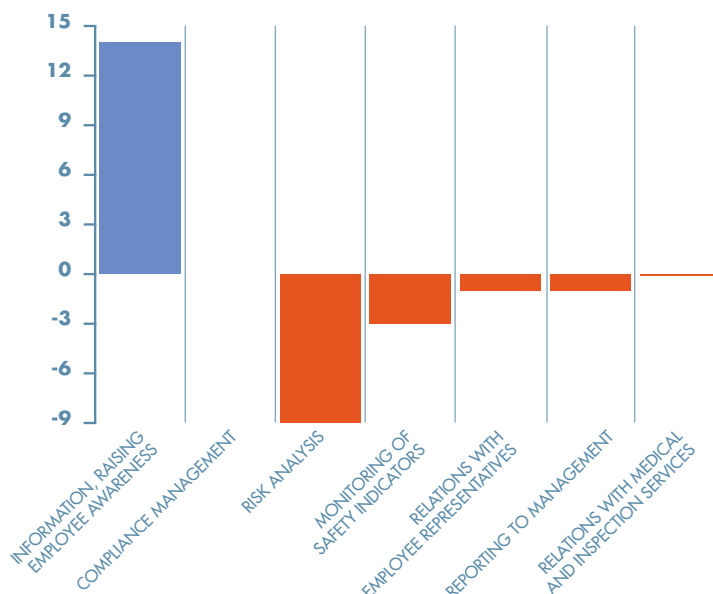
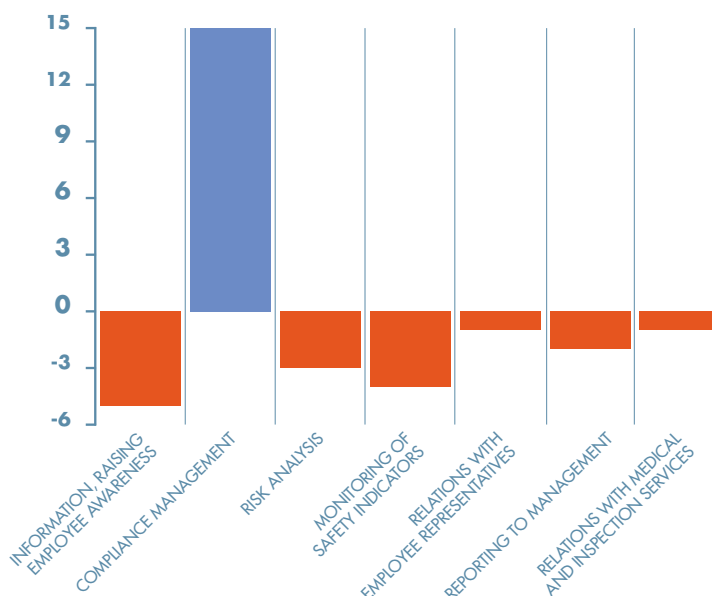


Figure 22 shows the use that is made of **experts** working in advisory and control bodies in order to manage compliance.

FIGURE 22 / USAGE OF EXPERT ADVICE

(Deviation from the mean: %)



Figures 23 and 24 clarify the use of regulatory **databases** and **software** as a support for decision making in the areas of risk analysis, monitoring indicators and management reports.

FIGURE 23 / DATABASE USAGE

(Deviation from the mean: %)

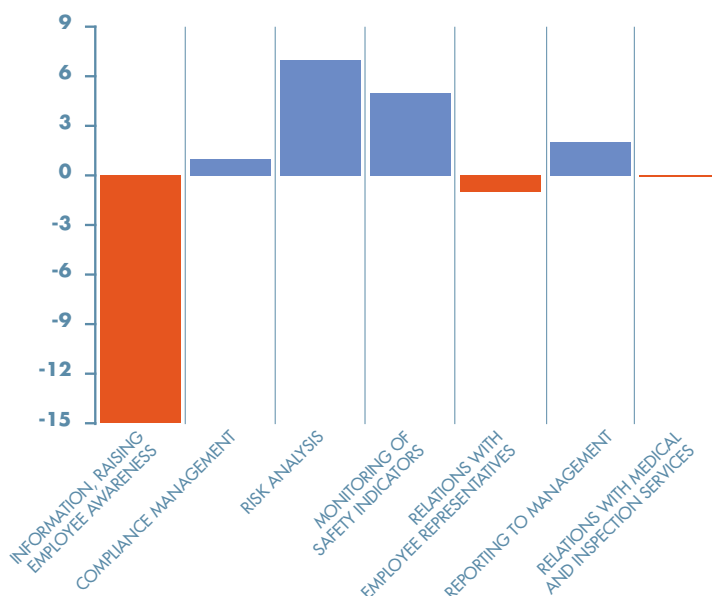


FIGURE 24 / SOFTWARE USAGE
(Deviation from the mean: %)

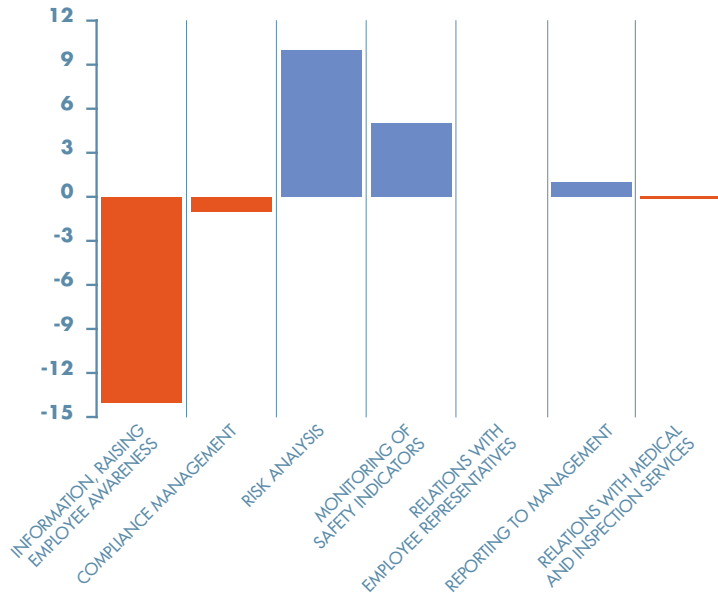
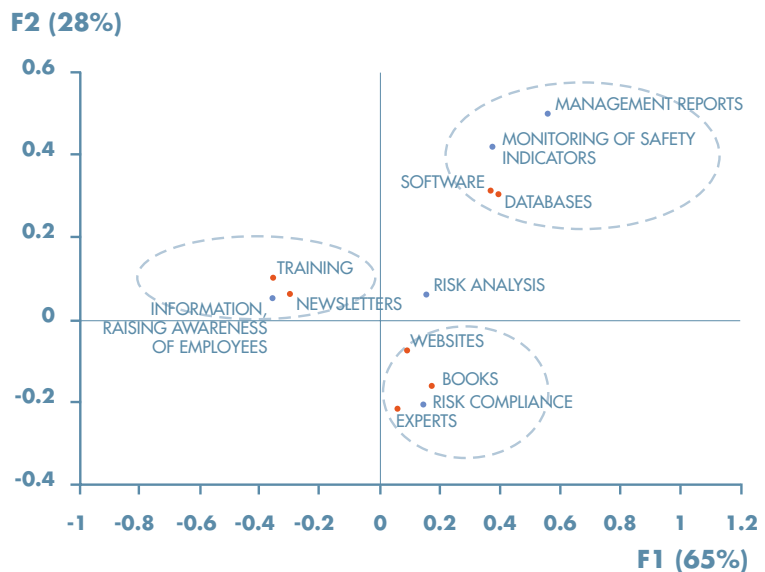


Figure 25 summarises the seven previous graphs and demonstrates the associations between tools and problems. Three groups are clearly identified. The first uses training and newsletters to inform employees. The second tackles compliance management with information gathered from websites, books and experts. The third combines reporting and monitoring with the use of software and databases.

FIGURE 25 / TOOLS AND PROBLEMS: THE ASSOCIATIONS
(AFC axes F1 and F2: 93%)



LESSONS LEARNED

➤ **This analysis** has shown the heterogeneity of situations which fall within the remit of the OSH practitioner. This diversity is based heavily on the perception of the value of a prevention policy, and the contribution that an OSH practitioner can make (from the point of view of both managers and employees). These two points are only acknowledged when the company is mature, and the OSH function is long-standing (probably well over 10 years).

External conditions resulting from a competitive environment may exacerbate the perceptions and beliefs surrounding the role of the OSH practitioner. If the company must outsource much of its business, or is subject to heavy market pressure, there is little incentive to develop the function of the OSH practitioner, particularly if the company has related productivity problems. On the one hand, external conditions and perceptions make it difficult for the OSH practitioner to be heard. On the other hand, they delay the implementation of an effective prevention policy. These conditions lead to a poorly defined OSH role, but do not necessarily imply that there is no prevention policy.

The major problems faced by OSH practitioners are raising awareness of employees, compliance management and risk analysis. The resources that they turn to first to deal with these problems are training, books and third-parties. Websites are also widely used as a free resource. In contrast, little use is made of software and databases, which opens up real opportunities for greater use of these tools.

