



A comparative analysis of occupational health and safety risk prevention practices in Sweden and Spain

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ARTICLE INFO

Article history:

Received 28 October 2012
Received in revised form 28 May 2013
Accepted 14 August 2013
Available online 27 August 2013

Keywords:

Occupational health and safety
Work accidents
Organization management
Sweden
Spain

ABSTRACT

Introduction: Scandinavian countries such as Sweden implemented the occupational health and safety (OHS) measures in the European Directive 89/391/EEC earlier than other European countries, including Spain. In fact, statistics on workplace accident rates reveal that between 2004 and 2009, there were considerably fewer accidents in Sweden than in Spain. **Method:** The objective of the research described in this paper was to reduce workplace accidents and to improve OHS management in Spain by exploring the OHS practices in Sweden. For this purpose, an exploratory comparative study was conducted, which focused on the effectiveness of the EU directive in both countries. The study included a cross-sectional analysis of workplace accident rates and other contextual indicators in both national contexts. A case study of 14 Swedish and Spanish companies identified 14 differences in the preventive practices implemented. These differences were then assessed with a Delphi study to evaluate their contribution to the reduction of workplace accidents and their potential for improving health and safety management in Spain. **Results:** The results showed that there was agreement concerning 12 of the 14 practices. Finally, we discuss opportunities of improvement in Spanish companies so that they can make their risk management practices more effective. **Practical Applications:** The findings of this comparative study on the implementation of the European Directive 89/391/EEC in both Sweden and Spain have revealed health and safety managerial practices which, if properly implemented, could contribute to improved work conditions and accident statistics of Spanish companies. In particular, the results suggest that Spanish employers, safety managers, external prevention services, safety deputies and Labour Inspectorates should consider implementing streamlined internal preventive management, promoting the integration of prevention responsibilities to the chain of command, and preventing health and safety management from becoming a mere exchange of documents. The authors also encourage future research studies to use the methodology presented to compare and assess the European Directive 89/391/EEC implementation in other European countries.

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1. Introduction

The Scandinavian countries, Netherlands, Greece, and the United Kingdom legislated the framework of their national health and safety directives prior to 1989. In contrast, other European countries, including Spain, did not immediately adapt their national laws to the European economic and social contexts. In 1989, however, the European Union (EU) approved the Council Directive 89/391/EEC, which contained measures to improve occupational health and safety (OHS) in all European member states. Since the enactment of this directive in 1992, significant efforts have been made by all EU countries to adopt and implement these regulations for work accident prevention in order to better protect worker safety and health (Directive 89/391/EEC, 1989).

The transposition of the EU directive into Spanish legislation took place in 1995 as the Occupational Health and Safety Act 31/1995,

which became a law in February 1996. Previous Spanish OHS laws dated from the authoritarian dictatorship of Francisco Franco (1936–1975), when European agreements were violated and there was a general lack of integration of OHS into business mentality. Not surprisingly, its implementation involved the specification of new rights and obligations for all those involved in occupational health and safety management (e.g., companies, labor unions, government agencies, workers). However, these new responsibilities and practices did not go into effect immediately (Hale, Heming, Catfhey, & Kirwan, 1997) since the new law signified sweeping changes that affected Spanish industry at all levels (Walters, 1996).

In contrast, Scandinavian countries, such as Sweden, were only obliged to slightly amend their national legislation (Johansson, Denk, & Svedung, 2009), as they already had similar preventive rules in place. Therefore, the transposition of the EU directive into the Swedish legislation took place earlier and in a more progressive way. For example, the Safety Deputy (i.e., the worker's representative with specific responsibility for the safety and health of workers, elected, chosen or designated by workers to represent them) and the Health and Safety

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Committee appeared in 1912 and 1928, respectively, in the Swedish preventive legislation. Moreover, the Swedish social and labor model has always been particularly concerned about the welfare of its citizens, in line to the Scandinavian model.

This research study provides further insights into occupational health and safety management by exploring OHS practices in Sweden and Spain, two countries that implemented the European Directive 89/391/EEC almost a decade apart. Based on a set of occupational health and safety indicators (e.g., standardized incidence rate of accidents at work or standardized incidence rate of fatal accidents at work, from European Statistics on Accidents at Work, Eurostat Statistics, 2009), and other socio-demographic, economic, and employment factors, we performed a case study that compared risk prevention measures in both countries. These measures were subsequently assessed by a panel of experts in a Delphi study to identify those that were most effective. The paper concludes by discussing lessons to be learned not only by private companies but also by government agencies. The results of this study will further the implementation of more effective health and safety policies, which in turn will reduce workplace accident rates.

2. Method

2.1. Research design

This research used a combined quantitative and qualitative approach (Ivankova, Creswell, & Stick, 2006) to compare workplace accident rates in Sweden and Spain starting from a cross-sectional analysis (Smith & DeJoy, 2012) of occupational health and safety (OHS) indicators (Eurostat Statistics, 2009) and other socio-demographic, economic, and employment factors in both countries.

It was followed by a case study, which is a qualitative research method widely used in social research, contemporary, complex, and changing realities. In general terms, the case study method helps to understand a phenomenon, not to measure it. Within this research study, it was used to have a better understanding of the quantitative results of the analysis of indicators. An initial hypothesis was defined which stated that differences in practices could be directly related to the higher or lower workplace accident rates in both countries. The case study was then used to identify, explore, and compare differences in OHS organizational and management practices in 14 Swedish and Spanish companies. A case study protocol (Yin, 2009) was specifically designed to ensure representativeness of the obtained results and support the generalization.

Afterwards, the OHS practices selected for being different in both countries were assessed by means of a Delphi study (Hsu & Sandford, 2007) with the participation of a panel of Swedish and Spanish experts. The Delphi study is a sequential and iterative method developed by Norman Dalkey and Helmer in 1963. It has been widely used to obtain consensus of opinions from experts in particular areas of expertise and it provides high quality and rich information about real life practical aspects. During the study, experts are interrogated by means of successive questionnaires to finally reveal convergences of views and consensus. The purpose of the Delphi study was to discover in what way different OHS practices in both countries might have influenced their respective workplace accident rates and whether the implementation of more effective practices by Spanish companies might reduce accidents. Finally, the results obtained in each phase were discussed.

2.2. Cross-sectional analysis of the workplace accident rates in Sweden and Spain (2004–2009)

A comparative cross-sectional investigation (Smith & DeJoy, 2012) provided a comprehensive overview of workplace accident rates in Sweden and Spain from 2004 to 2007. This study particularly focused on OHS practices and other contextual factors (i.e., socio-demographic, economic, and employment factors), which could have indirectly affected accident rates.

The data for the study were mainly obtained from the Eurostat database (Eurostat Statistics, 2009), which provided reliable statistics and standardized comparable results for European member states from 2004 to 2007 (Economic and Social Research Council [ESRC], 2007). To better contextualize the results, we also reviewed a wide range of European studies on occupational health and safety (European Agency for Safety and Health at Work, 2010; European Foundation for the improvement of living and working conditions [EUROFOUND], 2007, 2009a,b, 2010; Eurostat Statistics, 2007; The European Network for Workplace Health Promotion (ENWHP) [ENWHP], 2009), Swedish and Spanish national reports (Arbetsmiljö i Samverkan Svenskt Näringsliv, 2009; Confederación Española de Organizaciones Empresariales (CEOE) [CEOE], 2010; Inspección de Trabajo y Seguridad Social [ITSS], 2010; Instituto Nacional de Estadística [INE], 2010; Instituto Nacional de Seguridad e Higiene en el Trabajo [INSHT], 2008; Instituto Nacional de Seguridad e Higiene en el Trabajo, 2010; Observatorio Estatal de Condiciones de Trabajo [OECT], 2010; Official Statistics of Sweden [SCB], 2009; PREVIA, 2009; Swedish National Institute of Public Health [SNIPH], 2009; Swedish Work Environment Agency, 2009; The Swedish Council for Working Life and Social Research, 2009; Universal Prevención y Salud SPA [UNIPRESALUD], 2010), and other research publications relevant to the topic (Aires, Rubio, & Gibb, 2010; Johansson, Svedung, & Anderson, 2006; Johansson et al., 2009; Spangenberg et al., 2003).

The comparative analysis primarily focused on those indications and data that reflected significant differences in both countries. Indicators that were the same or which only slightly differed were not included in the study. Also excluded were indicators for which no information was available in one of the countries and indicators that were not comparable because of the absence of a standardized method of assessment. The comparative study was based on the following premises (Eurostat Statistics, 2009): (i) although *fatal accident* is defined as an accident that causes the death of a victim within a period of time from the date of the accident, the duration of this time period is not specified in Swedish law, whereas in Spain, it is 1.5 years; (ii) accident indicators do not include self-employed workers; (iii) Swedish information sources were public organisms (e.g., the Social Security and Labour Inspectorate). Spanish information sources were the agencies involved in the management of Social Security (e.g., liability insurance for work accidents); and (iv) in-itinere accidents or accidents with no direct cause–effect relationship were not considered (Aires et al., 2010).

2.3. Case study

The case study approach facilitates in-depth investigation of particular instances of a phenomenon (Fellows & Liu, 2008) and is regarded as a suitable research methodology for explanatory questions focusing on contemporary events (Yin, 2009). Following Yin (2009), this research involved a multiple explanatory case study (i.e., a single design with multiple units of analysis). The protocol thus included the procedures and evidence sources that were to be used in the selection of the case studies and their subsequent analysis. It was aimed at facilitating the comparison of the results, and providing the study with traceability and validity.

Companies from Sweden and Spain of different characteristics and from different industry sectors were selected for participation. In order to better understand the implementation of Directive 89/391/EEC, the selection process was based on the following three sources of evidence (Yin, 2009): (1) findings from the cross-sectional analysis of the workplace accident rates in Sweden and Spain; (2) OHS regulations in each country; and (3) findings from meetings with stakeholders in OHS management in Swedish and Spanish companies. These meetings provided valuable practical insights into the implementation of the Directive 89/391/EEC.

These evidence sources allowed us to pay particular attention to construction companies, micro-enterprises as well as to small and medium enterprises, which appeared to have the highest workplace accident rate in both countries. A few more Swedish cases were then

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