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Interaction between human resources management and OHS: Preparing future managers

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Sustainable Prevention and Work Environment

Studies and Research Projects



REPORT R-788



Interaction Between Human Resources Management and OHS Preparing Future Managers

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SOMMARY

A number of disciplines, including ergonomics, medicine, toxicology and andragogy, have helped to further our knowledge of occupational health and safety (OHS). Despite the scientific advances, a challenge remains: to develop the competencies of managers and make them aware of their responsibilities regarding preventive and corrective measures to ensure occupational health and safety. A team of professors from the Université du Québec à Montréal (UQAM) decided to tackle the problem by creating a database of case studies to be used to educate future managers. The cases were developed from information obtained during interviews with human resources (HR) and OHS managers in 11 organizations. During the interviews, emphasis was placed on management situations that involved interaction between OHS and human resources management (HRM).

The pedagogical objectives of the project were to develop the competencies of future managers so they will understand OHS and HRM determinants, know how to diagnose an OHS problem and develop insight and foresight with respect to the emergence of OHS issues. The goal was to help future managers to create dynamics that encourage an OHS culture and to incorporate OHS measures in a sustainable organizational change process.

The participants are large and small organizations operating in a variety of industries, some in metropolitan areas and others in outlying areas. The OHS problems cited were of all types: back pain (herniated disc), musculoskeletal disorders (tendinitis, bursitis), burns, falls and mental health issues (depression, harassment, mobbing). These problems were related to difficulties with work organization, management, harmonization of work methods, wearing of protective equipment and physical or psychological overwork. The HRM problems involved difficulties recruiting and retaining a competent workforce, poor work relations, increased absenteeism and staff turnover, and lack of work/family balance. Most of these HRM problems came to light when the OHS problems were analyzed.

What we heard from the representatives soon led us to look at the interactive effects of HRM and OHS caused by major restructuring. As the data collection progressed, the interviews proved richer sources of information than expected. The complexity of the cases and the efforts invested to solve the problems revealed different forms of organizational resilience, an element that proved important in understanding problem-solving strategies. From the surveys also emerged compelling data on the impact of societal problems on the interaction between OHS and HRM issues.

Most of the participants had conducted exhaustive analyses of their problems and of possible solutions. All, however, admitted they had not solved their problems and had neither assessed the solutions implemented nor systematically recorded their observations. They proposed, as case studies, unresolved problematic situations that involved current societal problems and contexts to which they are exposed.

This database of case studies was validated with five groups of students enrolled in undergraduate or graduate OHS courses. The primary objective was to validate the user-

friendliness of the teaching materials. In general, the descriptive case studies were easy to use. Nonetheless, some cases were more difficult, as they were packed with confusing background information and the students had to work to identify and bring together the elements essential for solving the problems. The second objective was to validate the transferability of what was learned to other disciplines, such as labour relations. Though efforts were made to involve teachers of labour relations, the topics addressed in the case studies were too different from what they teach to be used in their syllabi. Teachers in other fields will most likely be able to find case studies in the database that can easily be incorporated into their course material. The third objective was to validate the impact of case-based teaching. Student grades on written reports were satisfactory, and exchanges in class were lively and meaningful. However, actual debates emerged only in the graduate level classes. Teachers and students who had more work experience and had used case studies before as a learning tool benefited more from this approach.

Faced with complex interactions between OHS and HRM, the companies demonstrated organizational resilience. The researchers looked at four elements in analyzing organizational resilience in the problem-solving processes: a) the triggering or accelerating event; b) the threat to corporate identity, corporate survival or market share; c) experience return, or the lesson learned from the threatening experience; d) the flexibility to think outside the box when analyzing problems and exploring solutions.

Almost all respondents mentioned societal issues that affect their company's operations, even though the topic was not included in our interview guide. One section of the report discusses societal issues that contribute to the interaction between HRM and OHS. In order of importance, these issues are as follows: a) workforce renewal; b) an aging workforce; c) integration of the new generation of workers; d) impoverishment of workers and communities. All these societal problems are found within the companies and interact with the OHS and HRM issues.

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1. INTRODUCTION

For employers, OHS is becoming an increasingly important part of human and financial resources management as well as organizational development—in terms of training as well as skills development. As a result, management expectations with respect to new graduates from business schools are changing.

The challenge is to develop the competencies of future managers and to make them aware of their responsibilities regarding preventive and corrective measures to ensure occupational health and safety. There are three parts to this challenge: the first is to ensure that future managers have a thorough understanding of OHS laws and regulations, risk analysis methods and approaches for developing suitable solutions. The second is to help students understand the interaction between OHS and HRM and the intra- and extra-organizational impacts of this interaction. The last is to teach students to make a critical analysis that takes contemporary OHS and HRM issues into account.

To help meet this challenge, a team of professors from UQAM put together a database of case studies based on real situations. OHS and HR managers were asked about unresolved cases for which the usual OHS and HRM solutions had proved unsatisfactory.

The objectives of the project were to develop and validate teaching materials. The first part of the project results section includes brief descriptions of the cases and guidelines for using them. A series of recommendations for developing management and OHS cases is also provided. The second part of the project results section looks at why the case method of study is worthwhile and at the feedback received from students and teachers.

As the data collection progressed, the interviews proved much richer sources of information than we had anticipated. The complexity of the cases and the efforts made to solve the problems brought us to recognize a variety of forms of organizational resilience, and we felt it was important to analyze organizational resilience as an element that could contribute to our understanding of the strategies used to solve problems involving interaction between OHS and HRM. The results of the analyses of organizational resilience and societal problems are included in this report, as we consider them essential elements in the training and skills development of future OHS managers.

2. BACKGROUND

Successful management of occupational health and safety is crucial to industry because of the direct and indirect costs of mobilizing human resources (Centre patronal de santé et sécurité du travail, 2007). Direct costs include contributions to the Commission de la santé et de la sécurité du travail (CSST) and investments in protective equipment and preventive measures. Indirect costs stem from work disabilities and prolonged absences (Centre patronal de la santé et de la sécurité au travail, 2007).

Successful implementation of preventive OHS measures has mobilizing effects. However, not all prevention and protection initiatives are successful (Berthelette et al., 1995). Lack of accountability of management teams, poor coordination between management and production teams and outsourcing of responsibility for managing OHS measures can lead to failure of even the best projects and undermine the best of intentions (Baril-Gingras et al., 2006). It is imperative that the future managers of companies of all sizes understand the economic and organizational issues associated with OHS and that they master the related problem-solving processes. Though they may not be the principal players, managers cannot escape responsibility for management of these processes. Successful implementation of an OHS culture depends largely on the complementary abilities of the different players to analyze events such as accidents or the emergence of occupational disease symptoms. This means creating conditions that are favourable to the involvement of key players in analyzing the emergence of injuries, particularly in small companies where it is rarely possible to dedicate resources on a continuous, regular basis to the implementation of OHS measures (Carpentier-Roy et al., 2001). For example, job induction and OHS training are rituals or traditions in small companies mainly when there is an HR manager (Gravel et al., 2011), since the latter will include them in new employee orientation traditions. However, small companies with the means to employ an HR manager are rare.

Even the leading OHS experts in diverse disciplines are unanimous in acknowledging the limits of their particular disciplines in building an OHS culture in organizations (Vézina, 2007). As consultants, they are not present on a regular basis and therefore cannot teach OHS management reflexes on a daily basis within organizations. This phenomenon has been identified internationally and is particularly regrettable in small companies (Frick et al., 2000 a; 2000 b).

How can we encourage executives to seriously consider the impacts of HRM decisions on OHS in times of major cutbacks or restructuring? How can we develop their competence and accountability with respect to these issues? These are the questions that guided this project, which aims to further the teaching of business administration and human resources management.

In the teaching of management, learning is very often based on case discussion—a tradition that has become established in management schools. Case study textbooks generally contain situations helpful in teaching organizational diagnosis and strategic management.

To our knowledge, however, none address the interaction between HRM and OHS (Bédard et al., 2005; Mauffette-Leenders et al., 2005; Croué et al., 1978). Understanding this interaction requires that managers have complex knowledge and skills. OHS knowledge relies on a body of information about different risk factors and cofactors (biomechanical, biological, psychological, chemical and work organization-related) as well as OHS legislation and standards. In addition, managers must be able to critically analyze risks and mobilize human and material resources to overcome them in a lasting way.

In addition to lecture-style teaching, three approaches dominate the teaching of management: simulations, internships and case studies (Garel et al., 2004). According to Garel et al. (2004), in order to be effective, these teaching techniques must be adapted to the level of work experience and personal maturity of the learner. Simulations, for example, require that the learner have some experience in industry for the role-playing to be realistic and coherent. Internships are for students who have completed an undergraduate program of study and, for the very first time, must reconcile theories with the daily reality of management. And finally, case studies prompt students who already have work experience to discuss situations and hear the positions of colleagues so they can develop a coherent perspective that reconciles different points of view. The case method of study requires humility in a learner, recognition that one doesn't know or see everything, and mastery of the art of compromise.

As the educational goal of this project was for students to develop an ability to handle complex situations where HRM and OHS interact, we felt the best approach was to build a database of case studies. In addition, because case discussion is essentially a democratic process, the case method of study seemed to us the most appropriate approach given the fundamental guiding principle of OHS: union-management cooperation.

3. STATE OF KNOWLEDGE

In both OHS and management literature, interaction between HRM and OHS generally appears as a conclusion to studies of occupational injuries or management problems. Rarely does the interaction constitute a research topic in and of itself. Nonetheless, research on complex occupational injuries—musculoskeletal disorders (MSDs) in combination with mental health problems, for example—has raised questions about management decisions, particularly those meant to improve productivity (Davezies, 2007).

The quest for improved productivity has led companies to introduce processes that have altered the risks of occupational injury (RRSSTQ, 2006). Automation, for example, has helped to minimize exposure to noise, vibration and allergenic or carcinogenic dust, but it has not eliminated the risks associated with repetitive tasks—it has only changed them (Marchand, 2006; Duguay *et al.*, 2006; Giraud, 2006). Though automation has played a key role in industry in recent years, the economic tensions of the financial crisis have increased the pressure on workers to be more productive, with a faster work pace and longer work hours (Kuorinka *et al.*, 1995).

MSDs (accidental as well as chronic injuries) have increased to the point that they now account for more than one-third of all health-related absences from work in industrialized countries (WHO, 2004). The scope and persistence of MSDs are likely due to postural demands together with adverse psychosocial factors, such as deadlines or lack of decision latitude. This double stress too often leads to prolonged absences caused by occupational disease (Baillargeon, 2010). According to Stimec *et al.* (2010), MSDs resulting from organizational changes also provoke a simultaneous drop in productivity, rise in absenteeism and increase in employee turnover.

Psychosocial work organization factors and psychological pressure are today essential considerations in any risk analysis, such that the analysis of management practices has changed to include OHS in the strategic management of quality or productivity processes (Walters *et al.*, 2009). The Work Improvement in Small Enterprises (WISE) program, for example, offers tools for parallel tracking of OHS data and fluctuations in productivity and economic markets as well as continuous employee performance evaluation, according to various departments and production units (ILO, 2011). Unfortunately, these models lacked foresight and did not anticipate today's aging workforce and labour shortage, societal challenges that interact in HRM and OHS.

From the same perspective of interactive management of HR and OHS, some authors have proposed including OHS performance indicators in the managerial paradigms: occupational injury frequency and severity rates, number of days lost from work and OHS-related cost—particularly those related to worker's compensation, replacement of absent workers, lost production and slowdowns (Roy *et al.*, 2004).

According to the European Agency for Safety and Health at Work (EU-OSHA), enterprises that introduced performance indicators were able to create a healthier and safer work environment, improving the company's overall performance (EU-OSHA, 2010).

At the same time as these studies of the interaction between MSDs and management practices

were being conducted, other studies looked at the correlation between MSDs and the development of mental health problems at work. These studies demonstrated that chronic MSDs tend to degenerate into anxiety disorders. According to Davezies (2007), workers suffering from physical disabilities, such as chronic MSDs, find their duties more difficult and work relations get complicated—to the point of generating suspicion in colleagues. Being subject to functional limitations yet having one's physical suffering doubted by colleagues engenders a profound feeling of injustice that negatively affects the work atmosphere ... another situation where an OHS problem turns into an HRM issue.

Workplace mental health problems are generally on the rise. In the past, workers' mental health problems were associated with personal issues (personality, lifestyle) or disturbing life events (family, marital or financial problems), but today work organization is often seen as the cause. The organizational disruptions brought on by mergers and restructuring lead to adjustment, mood and anxiety disorders in individuals with no personal predispositions to these (Brunet *et al.*, 2003).

The financial and social costs of workplace mental health problems are currently an issue for all stakeholders: employers, unions and professional associations. Psychological distress ranks as the second leading cause of disability worldwide, after heart disease (WHO, 2004a, 2004b). This is already perceptible in Québec, where CSST claims tripled between 1990 and 2005 (from 530 to 1,213) with annual payouts in income replacement benefits increasing from \$1.5 to \$12 million (CSST, 2007). The Canadian Life and Health Insurance Association (CLHIA) estimated that 30% to 50% of work disability benefits paid in the year 2000 were for mental health disorders (CLHIA, 2000). The Public Health Agency of Canada recently published results of similar import. Layoffs have resulted in increased workloads for employees, with impacts on the latter's health reflected in a rise in medical consultations (Higgins *et al.*, 2004). Workplace mental health problems are not exactly in the hands of the manager alone, but they do stem from poor management decisions.

The impact of increased workload on employees' mental health is discussed by a number of authors from the angle of imbalance: job demands/control imbalance (Karasek model), effort/reward imbalance (Siegrist mode) or a high level of psychological demand. The imbalances are predictors of perceived poor health (Vézina *et al.*, 2006). These findings are pushing HR managers to get involved in planning organizational changes, so as to be better prepared for their impacts on OHS.

In response to these concerns, some researchers have worked to develop HRM diagnostic and prevention tools to ensure employee well-being and prevent mental health problems. These include the Quality of Working Life Systemic Inventory (QWLSI), which measures quality of life at work using individual and group scores for psychological distress (Dupuis *et al.*, 2009). Other researchers, Dagenais-Desmarais *et al.* (2010) for example, conceptualize psychological well-being at work along five dimensions: interpersonal fit at work, thriving at work, feeling of competency at work, desire for involvement at work and perceived recognition at work. This research in industrial psychology is based on the interaction between OHS and HRM.

Other studies in management sciences have contributed to our understanding of the interaction

between OHS and HRM, essentially from studying changes in the labour market: the globalization of markets, labour mobility, off shoring of business operations and technological innovation (Gagnon, 2007; St-Arnaud *et al.*, 2007). These transformations bring new challenges, in particular the attraction and retention of staff (CRHA, 2010). At first, the rapid market transformation was marked by recession, and companies too often responded with layoffs (Autissier *et al.*, 2003; Heisz *et al.*, 2006). For Gutsche (2010) and Mitchell (2010), layoffs as the only response to market disturbance have become outmoded because companies have to preserve the competencies developed within their staff. Workforce renewal difficulties associated with aging of the workforce and recruitment of young people are forcing employers to re-think their strategies in order to keep competencies within the organization and attract and retain new candidates (Mitchell, 2010). Succession training alone engenders major costs (David *et al.*, 2002; Saba *et al.*, 2004). Even when these new HR issues are listed among the challenges for future managers, they are examined alongside OHS problems but never as interacting with them.

Under current labour market conditions, companies have no choice but to rethink HRM so they will be able to attract and retain new recruits (Thibodeau *et al.*, 2010). An excellent OHS record is among the criteria that the new generation of workers considers in applying for and accepting a position (Tapscott, 2010).

Employers are aware of the aging of the workforce. They are also aware of its impact on skills retention and the fragility of the latter (David *et al.*, 2001; Saba *et al.*, 2004). By 2021, close to 20% of Canada's labour force will be 55 years of age or older (Audet, 2004; Martel *et al.*, 2006). The OHS literature clearly indicates the importance of skills maintenance in organizations (Chrétien *et al.*, 2009). This takes a variety of forms, including retaining older workers who might want to retire early because of their health as well as younger workers who demand safer and healthier work environments. If things continue as they are, we can expect the skilled labour shortage to intensify in the years ahead (Brassard, 2010), which explains why employers are focusing on talent retention and skills development (Saba and Guérin, 2004; Thibodeau *et al.*, 2010). Talent retention strategies go beyond monetary benefits: employers must offer a stimulating and safe work environment.

However, this strategy alone cannot ensure the necessary labour force in certain less attractive and physically demanding industries. Hiring of foreign workers is one attractive alternative, among others, for seasonal industries that have difficulty recruiting labour. However, this solution generates other problems involving the interaction of OHS and HRM, including unfamiliarity with standards and instructions, the need to adapt new-employee training, and diversity management (Gravel *et al.*, 2011).

Faced with the labour shortage, employers are more and more hiring immigrant labour of diverse origins (Loth, 2006). This workforce diversity has a positive impact on the creation of new markets, products and services, but it renders HRM more complex, OHS measures in particular (Meier, 2008). Recent studies of OHS measures management in small Montréal enterprises that hire immigrant labour show that such workers are engaged little or not at all in preventive or corrective OHS measures, as they do not feel concerned or accountable (Gravel *et al.*, 2011). Hiring of immigrant labour is an attractive strategy for dealing with labour shortages,

but demands hiring process adjustments (Durivage *et al.*, Longpré, 2009) as well as alignment of work practices and validation of employee understanding of OHS directives (Gravel *et al.*, 2011).

How can enterprises reconcile their labour needs with their desire to retain skills and aging personnel within the organization? How are they to recruit and retain new employees, align work practices and ensure understanding of OHS directives with a workforce that is increasingly diverse, culturally and linguistically? How are they to handle the interaction between HRM and OHS stemming from these challenges?

The team of academics and experts who worked on this project decided to contribute to the development of the competencies of future HR managers who will have to tackle these OHS and HRM challenges in the years ahead. The method selected was creation of a case study database, a method firmly rooted in management education traditions. Management literature includes a number of publications devoted to the case method of learning (Eskrine *et al.*, 2003; Bédard *et al.*, 2005). The case method develops critical analysis skills, allows exploration of a given situation from different viewpoints and gives learners within any one group the opportunity to take diametrically opposed positions to a particular problem. These studies place learners squarely within the grey zones where decisions must be made between diverse problem-solving processes.

4. OBJECTIVES

The purpose of this pedagogical research project is to create a database of complex cases of OHS situation management, each with two or even three management dimensions. The initial project objectives were as follows:

- a) To develop 10 case studies for the teaching of OHS management to undergraduate HRM students and for use in the continuing education of practicing managers
- b) To write comprehensive descriptions of the cases as well as teaching and classroom facilitation notes
- c) To validate cross-curricular learning in OHS in courses designed to teach OHS as well as in other courses (on labour relations, for example)

The educational objectives of the project were to prepare future managers to do the following:

- Understand an organization's OHS and HRM determinants
- Make an appropriate diagnosis of the relationship between occupational injuries and management problems
- Develop insight and foresight with respect to the emergence of such problems and their impacts
- Build a team that can determine OHS guidelines and necessary measures
- Create dynamics that promote an OHS culture and the implementation of long-lasting protection, prevention and promotion measures
- Integrate OHS measures into a permanent process for organizational change.

5. METHODOLOGY

This section describes the methodology for this pedagogical project according to the usual structure for research projects: study population, sample, how participation was solicited, data sources and data-gathering instruments, and conceptual framework. However, in this project we were under no obligation to ensure our sample was representative of the study population.

5.1 Study population, sample and solicitation

The study population is made up of large, medium-sized and small organizations, in both metropolitan and outlying areas. Some are in the public sector and some in the private sector; some are unionized and some not. The only criterion for inclusion was to have experienced an OHS problem that had an impact on HRM, or vice versa. Our sample is a non probability sample obtained through judgmental (or purposive) selection without applying any representation criteria. Originally it consisted of 10 organizations, but by a stroke of luck we were able to bring the number up to 11. There are nine large organizations and two SMEs (small and medium-sized enterprises); seven are located in the metropolitan area and four in outlying regions. Public-sector organizations make up nearly one third ($n=4$) of our sample, while the other seven are in the private sector. The majority ($n=8$) are unionized.

We initially planned two solicitation strategies. The first was to invite companies that had helped students enrolled in the UQAM course ORH 3620 (basics of occupational health and safety) prepare term papers on an OHS problem in that company. The second strategy targeted companies that had participated in the OHS conference organized by the CSST in Montréal in 2008. Neither of these two strategies yielded any results. In the end, 15 companies were approached through the research team's professional and personal networks. Of those 15, 11 agreed to participate and were very generous with their time during the interviews. It is therefore difficult to establish a participation rate, given the changes we had to make in our strategy to get organizations to participate. To ensure the credibility of the project and offer the necessary guarantees of confidentiality, the initial contact by telephone or e-mail was made by one of the lead researchers in the initial study.

The first criterion for inclusion was to have experienced, or to be currently experiencing, a complex problem involving interaction between OHS and HRM. The participating organizations were dealing with certain common OHS problems, including work-related mental health problems (burnout, depression, harassment, violence), musculoskeletal disorders (repetitive movements, accidents, back pain) and respiratory problems (occupational asthma). The HRM problems linked to these OHS issues were of various natures, including labour relations and interpersonal relations between employees (immigrant workers, intergenerational conflict), worker rights (maintaining the employment relationship, reasonable accommodation, seniority, job security) and organizational change (mergers, restructuring, technological change, increased production volume, modification of work schedules).

5.2 Data sources and data gathering/processing instruments

The cases were developed from two data sources: interviews with people from the organization; and management documents produced by the organization. The interviews, which were partially structured and lasted an average of 90 to 120 minutes, were conducted by a member of the research team (whoever made the initial contact) and a research assistant. We asked to meet with the HR director and the OHS manager, and in most cases (6/11) we were able to do so. In two instances, we met only with the HR director and in three only with the OHS manager. The interviews took place between March 2008 and March 2010. The data gathering was greatly facilitated by the generosity of our respondents with their time.

These data do not claim to report situations from the different perspectives of the people involved (workers, supervisors, OHS officers, attending physicians, external consultants, etc.). Each organization agreed to tell us about its situation through its HR and OHS managers, on the assumption that those two had dialogued with everyone involved at some point during the events. In most cases, it would have taken a full-time observer a whole year to make an ethnographical analysis of these complex situations involving interaction between HRM and OHS that took into account the perspectives of the various individuals concerned.

The interviews were conducted with the help of an interview guide e-mailed beforehand to the participants (see Appendix 1). The guide contained six sections in the following order: 1) organization profile and socio demographic characteristics of its workforce; 2) the main OHS problems in the organization; 3) identification of one OHS problem encountered that had an impact on HRM; 4) the HRM issues revealed by this OHS problem; and 5) the organization's OHS structure (who is responsible, OHS committee, monitoring methods and training). We applied Michel Pélusse's problem-solving process (1995) in developing our interview guide. During the interviews themselves, several other topics not included in the guide were raised, clearly evoking the organizations' concerns about the interaction between OHS and HRM and about a number of societal problems.

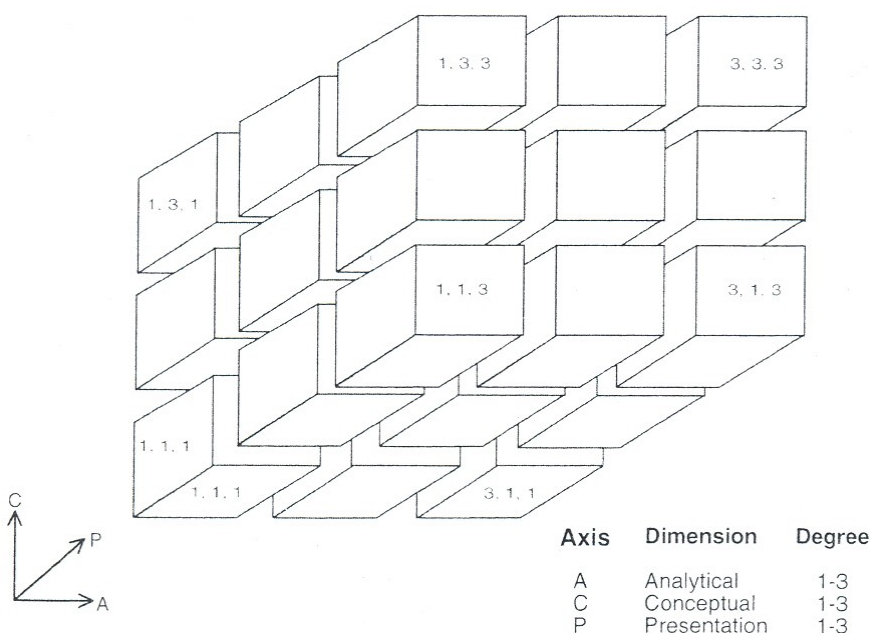
The guide turned out to be an invaluable tool for keeping our questions on-topic; by the same token, however, it restrained respondents' free expression and even, at times, prevented a logical understanding of events. For the last three interviews, we let the respondents tell the story in their own way, referring to the guide at the end of the interviews only to make sure we had obtained all the information we needed for our project.

The interviews were recorded and transcribed with the interviewees' consent, and then imported into the software program NVivo 7. An expert committee made up of five OHS and HR professionals assessed the validity of the interview content for use in developing the cases.

5.3 Case writing

We drew on two frameworks to develop the cases. First of all, we used the three-dimensional cube of Leenders *et al.* (2001, p. 23), who propose designing cases along three axes: (1) analytical; 2) conceptual; and (3) presentation. Each axis has three degrees of difficulty, resulting in 27 levels of complexity. For example, even if a case is easy to analyze, the concepts could be very difficult to grasp or recognize, and the case may be presented in a text that is very long and requires extensive sorting in preparation for analysis.

Exhibit 1-2
THE CASE DIFFICULTY CUBE



M.R. Leenders, L.A. Mauffette-Leenders and J.A. Erskine. 2001. *Writing Cases*. Richard Ivey School of Business, 4th ed., London, Canada.

We also drew on the work of Croué (1997, p. 62), especially for the drafting of teaching and classroom facilitation notes for the preparation of case pretests. According to Croué, case-based teaching consists of five steps: 1) student preparation (case distribution and visualization); 2) explanations (presentation of the problems and how they relate to the curriculum); 3) case application (guidelines and case treatment, work method, target competencies); 4) teaching logistics (schedule, oral and written examinations); 5) case evaluation (assessment guide and expected results). Inspired at first by these two case writing models, we soon discovered their limitations for describing complex situations involving HRM/OHS interaction. Additional steps proved necessary in writing these complex cases.

Moreover, the fact that the problems submitted by our sample group were never solved left the field wide open for exploring solutions, a considerable advantage pedagogically.

Figure 1
Steps in Case Writing

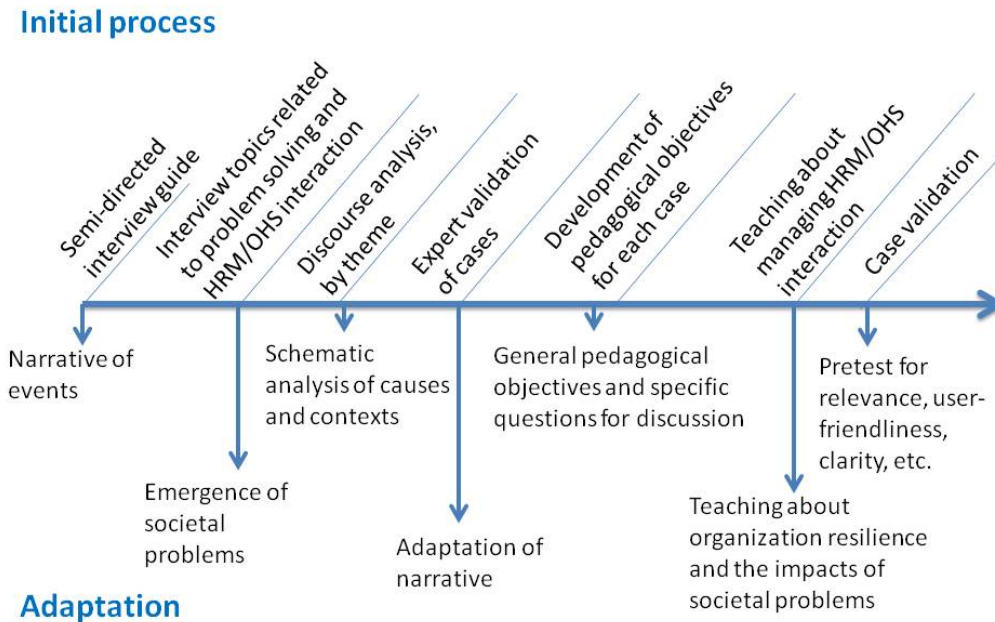


Figure 1 shows the initial case writing process (top part) plus the adaptations we made to maximize the potential of our material and accurately reflect the complexity of the cases (bottom part). The drafting of the descriptive case studies, the formulation of the pedagogical objectives and instructions, and the selection of supplemental teaching material were done by the project team: Henriette Bilodeau,¹ Monique Lortie,² and Sylvie Gravel,³ all professors of OHS at the Université du Québec à Montréal (UQAM), as well as Jessica Dubé, a Master's student in human resources management at UQAM, whose Master's thesis stemmed from this project. The team enlisted an expert committee, which guided them throughout the process, particularly during the case writing. Each committee member was asked to join the team because of his or her particular expertise.

The experts, all of whom made exceptional contributions to the project, are, in alphabetical order: Danielle Desbiens, professor at UQAM and a specialist in case-based teaching; Charles Gagné, advisor at the IRSST and a specialist in knowledge transfer; Frédéric Gilbert, professor at UQAM and a specialist in labour law; Michel Pérusse, professor at the Université de Sherbrooke, specialist in OHS and a business consultant.

In the interest of efficiency, the expert committee and the project team worked sometimes together in one group and sometimes in tandem. The collaboration was an agreeable and enriching experience.

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6. RESULTS

Two types of results are presented in this section: pedagogical results and complementary results derived from case cross-analysis. The pedagogical results are those initially expected as per the project mandate, while the complementary results emerged in the course of the project. The complementary results supplement the pedagogical results and are essential to the development of complex case studies.

Under the heading of pedagogical results, we first present a summary of each of the 11 cases. We then report on the recommendations formulated in working with the experts to develop complex cases of OHS/HRM interaction. Lastly, we report our observations during the pretests with the teachers and students of the Winter 2011 semester of the Basics of OHS Management course (ORH 3620).

The section on the complementary results derived from cross-analysis deals with two elements that emerged during the project: organizational resilience and societal problems. These two elements turned out to be essential for understanding and resolving situations of OHS/HRM interaction.

6.1 Pedagogical results

A. Case descriptions

Nine of the 11 organizations have more than 250 employees; the medium-sized organization has 139 employees and the small one fewer than 50, but it is a branch of a very large corporation. Some of the organizations operate in the public sector (n=4) and others in the private sector (n=7). Some are located in a metropolitan area (n=7) and others in outlying areas (n=4).

The OHS problems cited are of all types: back pain (herniated disc), musculoskeletal disorders (tendinitis, bursitis), burns, falls and mental health problems (depression, harassment, mobbing). One organization reported the sporadic presence of respiratory problems (asthma and allergies). These OHS issues are closely linked to problems of work organization, management, harmonization of work methods, wearing of personal protection equipment, and physical or psychological overload.

The human resources management problems are linked to difficulty in recruiting or retaining competent workers, poor worker/manager relations, increases in absenteeism and turnover, and balancing work with family and personal life. Most of these HRM issues came to light when OHS problems were analyzed.

Ten of the 11 organizations conducted an exhaustive analysis of their problems and the possible solutions. At the time of the interviews, eight had tried to implement one or more solutions.

However, all admitted that they had failed to solve the problem, and none had evaluated the solutions implemented. Some had proceeded by trial and error without systematically recording their observations. All shared their situation with us in the hope that our work might help in developing effective strategies for managing situations where OHS and HRM interact. Although they operate in different sectors, all the participants made contributions that were enriching.

The organizations fall into four economic sectors: agri-food, public services, manufacturing and distribution. The case descriptions describe all aspects of the interaction between OHS and HRM and are about eight or nine pages long. They are summarized below in a few lines.

- *Agri-food companies*

Our sample includes four companies in this sector: a cheese manufacturer, a yogurt producer, a producer of convenience foods and a poultry slaughterhouse.

Bon Fromage has 509 employees, all non-unionized: 15 executives and managers, 140 administrative and distribution staff and about 350 production workers. Although the company has been operating for several decades, it hired its first OHS coordinator just two years ago and gave him a mandate to correct MSD problems. According to this coordinator, there are two factors at cause: the aging workforce and the workers' tendency to disregard OHS directives. The workers have no qualms about engaging in risky behaviour if it means they can finish a shift early or increase their productivity. And, as the company encourages employee autonomy and decision latitude at all levels, they readily take liberties such as rejigging their personal protection equipment.

Yogourt-yogourt, which has been unionized for 20 years, has 270 workers, most of them male: 230 full-time production workers, 10 hired on a weekly basis through a personnel agency, and 30 managers. The average age is 45, and the workweek is three days with 12-hour shifts. The frequency of upper-body injuries, especially to the back (lumbar sprains and herniated discs), has risen considerably, and the injured workers are absent for longer and longer periods since their condition requires a more lengthy convalescence. The HR department has to deal with a fragile and aging workforce, while replacement and temporary assignments are next to impossible.

Mange-mange produces fresh convenience foods: salads, spreads, dips, pâtés and appetizers. Sales grew by 34% in the past few years, forcing the company to hire en masse to fill its orders. This non-unionized company has 250 employees, mostly immigrants for whom the job is their entry into the Canadian economy. In summer, the workers have to do many hours of overtime. The company has two frequently recurring OHS problems, both common in the food industry: falls and MSDs.

The main HRM problem is personnel turnover, which can be as high as 375%. This has led to problems of staffing and workforce stability, making it impossible to develop an OHS culture.

Poules-poules slaughters and butchers poultry according to the halal method. It has 128 employees, who are unionized: 15 managers and 113 production workers. The plant had a five-day workweek, but management decided to switch to four 10-hour days a week to accommodate 30 casual workers, hired through a personnel agency, who had to travel about 100 kilometres every day to work. One morning, four of the most experienced regular workers, who were responsible for training new hires, called in sick for an undetermined period due to MSDs. Their absence destabilized production, and the remaining personnel became severely overworked. MSDs multiplied to the point where they became a worry to management and a risk to order fulfillment.

- *Public-sector organizations*

Our sample includes four public service organizations: a municipality, a school board, a workforce integration service and a long-term care/social services facility. All are unionized. Two are located in metropolitan areas and two in outlying regions.

Grandeville is the result of the merger of four municipalities. It has over 3,000 unionized employees in various job categories (police officers, firefighters, white-collar workers, blue-collar workers, etc.). It often uses subcontractors to assist the blue-collar workers in their daily tasks and to compensate for a shortage of personnel. There are all types of work schedules: day, evening and night. The merger led to a certain laxity in the application of OHS policies and directives. It also led to a lack of harmonization and uniformity of the work methods, procedures and equipment used from one site to the next. Workers going to a new site have to change their work methods and adapt to the equipment used at that site. And finally, the merger led to HRM problems, with conflicts between the old municipalities at both the employee and managerial levels, as well as a problem of organizational loyalty.

École du Grand Savoir is a school board with 15,000 employees in 300 schools. Three co-existing managers' associations and five large unions govern labour relations. Last year, there were outbreaks of gastroenteritis in several of the board's schools that resulted in the absence of up to 50% of the teachers and students. The main cause was found to be inadequate cleaning and sanitization of the common areas and washrooms. Many of the janitorial staff are illiterate, which hinders their comprehension of dilution instructions, the uniformization of work procedures and the selection of adequate cleaning products.

Petits et Grands boulots offers workforce integration services in the metropolitan area. The branch had 24 unionized employees. After a restructuring, it proceeded to regularize the status of its temporary employees. A total of 85 casuals thus became permanent employees. The organization took advantage of the opportunity to apply its employment equity plan for traditionally underrepresented groups. Visible minorities were given preference in the awarding of positions, especially in the metropolitan area. Two casual employees in the metropolitan area who had eight years of seniority and were of Québécois origin, could not be granted permanent status. One of them filed a complaint with the Commission de la santé et de la sécurité du travail (CSST) for psychological harassment and the other obtained a medical certificate for burnout.

Long Repos is a public-sector long-term care facility in an outlying region. It has 1,600 unionized employees working on three shifts: day, evening and night, both weekdays and weekends. As a result of a merger, the facility became part of a Centre de santé et de services sociaux (CSSS), leading to a centralization of management. The change in structure had a detrimental effect on the work climate. An orderly filed a complaint with the HR department for psychological harassment, which led to an investigation. In addition, the HR department received two other complaints regarding the employees already accused of harassment, denouncing them for disrespectful treatment of patients. The work climate became poisoned to the point of compromising the employer's reputation and ability to recruit new employees.

- *Manufacturing sector*

There are two companies in this sub-group, one in the clothing industry and the other in transportation. They are both large, privately owned companies with more than 900 unionized

employees. The first is located in a metropolitan area and the second in an outlying region.

Belles Chemises is a garment maker. Market globalization has forced the company, like many others in the industry, to lay off 70% of its personnel, going from 3,000 to 900 workers. The workers are paid by the piece and receive productivity bonuses. Ninety percent of them are immigrants and have held this job since their arrival in Canada. They suffer from MSDs caused by repetitive movements. In the past few years, the company has noted a rapid increase in MSD declaration in the weeks prior to layoffs—a strategy commonly used by workers with less seniority to avoid being laid off and to obtain compensation payments that exceed unemployment insurance benefits.

Voie lactée is a transportation equipment manufacturer with 2,800 unionized employees and 1,000 managers. The company processes 300 claims a year, 75% of them for MSDs, especially back pain. Five hundred employees suffer from permanent functional limitations. Claims for mental health problems have doubled in the past few years. The permanent functional limitations and mental health problems complicate the management of work teams in the plant, particularly with regard to distributing tasks in the event of replacements or temporary assignments. The aging workforce and recent layoffs have aggravated the situation. The OHS and HR departments are in conflict, accusing each other of negligence in handling the causes of the increase in prolonged absences and the emergence of mental health problems.

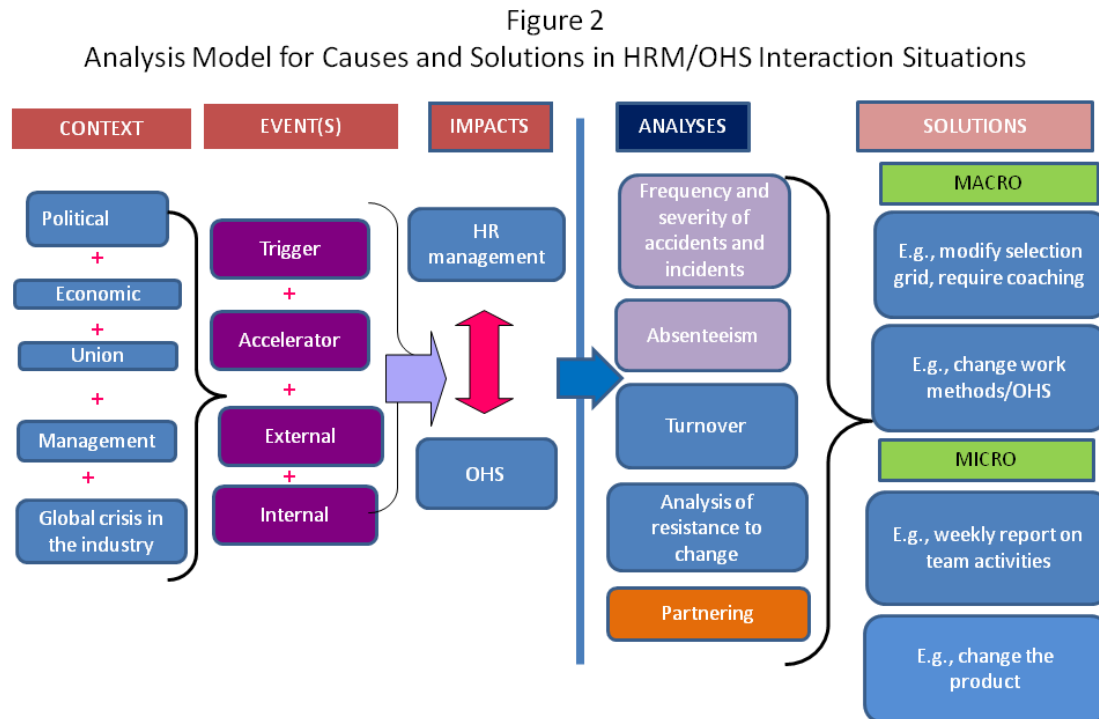
• *Food distribution sector*

Only one company in our sample belongs to this sub-group.

Au Petit Comptoir is a Canadian chain of food stores. It has over 8,500 non-unionized employees and 825 managers. Sixty percent of its employees are students. The stores are open all week long and some are open all night. The most frequent problems are falls, burns to the upper body and MSDs caused by handling activities. In terms of severity, however, the problem of greatest concern to management—for several years now—has been post-traumatic stress caused by robberies and attacks. The employees who are the victims require a long rehabilitation; some of them quit soon after the attacks. These events have led to a very high turnover rate. Young employees perceive the work environment as potentially dangerous, especially in poor neighborhoods where the crime rate is high.

The 11 companies presented vary widely in their areas of activity. Each is a unique case and is not in any way representative of a sector of activity, a region or organizations of the same size. Nonetheless, these cases meet the requirements of our pedagogical project of creating a bank of complex case studies in which OHS and HRM problems affect each other.

To extract the elements essential for the teaching of the complex situations of OHS/HRM interaction in the 11 cases, the team used a methodology for analyzing the material obtained in the interviews. This methodology is a combination of cause tree analysis, borrowed from OHS, and the decision tree used in management. It is illustrated in the diagram below, which was used to classify and organize our data for the case descriptions.



In the methodology there are five dimensions of analysis: 1) the contexts in which the problems emerged; 2) the events that revealed the presence of problems; 3) the impacts of these events on HRM, OHS and the interaction between the two; 4) the analyses used to understand the scope of the problems, in terms of either severity, frequency or symbolic importance; and 5) analysis of the solutions, situating means and actions in a macro perspective (sector or industry, i.e., the organization's external environment) or micro perspective (the organization, its management, its teams), and the means for evaluating these.

B. Recommendations for case building

Organizing the data for case writing was a painstaking process, whether the interview was conducted according to the interview guide or more free-form. The difficulties we encountered were of several orders. Fortunately, our experts were able to give us invaluable advice on overcoming them. Following are the obstacles encountered and the strategies used:

- a) *Timeline*: As the respondents recounted their cases, they often went back and forth in time, which made it difficult to build the case. We opted for a chronological timeline even if it meant straying from the respondents' narration of the events. For example, if two events were recounted to us in parallel, we described them sequentially while indicating the time periods.
- b) *Narrator*: It is crucial for the student to identify with one of the main actors, so we gave preference to the narrating manager or director. The cases were written in such a way as to reinforce the student's identification.
- c) *Tone*: The tone adopted in the case places the student in an introspective mode. The case description thus invites the student to understand the data and identify missing data and

inconsistencies in the situation described. We tried to encourage the students to take an approach based on facts rather than on value judgments of the persons involved.

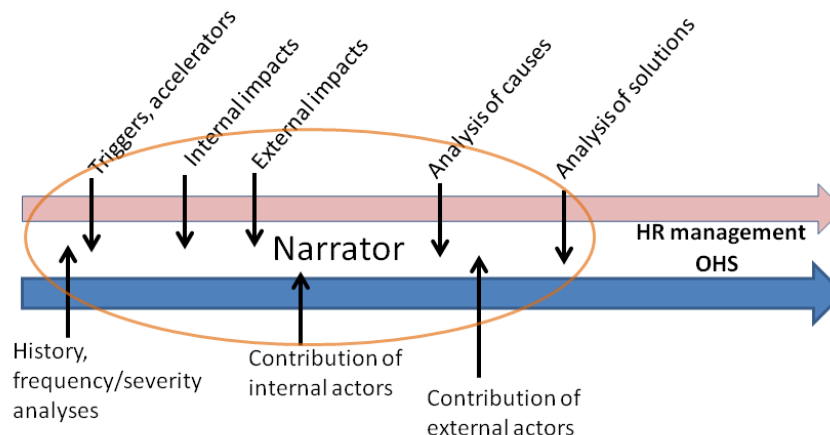
- d) *Time references*: Most of the events were reported as occurring during specific periods (e.g., during the financial crisis at the start of the decade), specific years (e.g., in 2009) or specific months (e.g., in February). To ensure that the cases could continue to be used and would not age too rapidly in the eyes of students, we used vague time references such as “during the last economic crisis,” “a year ago,” or “in recent months.”
- e) *Events*: In narrating their cases, the respondents recounted the events (accidents, complaints, absences, legal notices, etc.) sometimes in order of importance and sometimes in chronological order. We encountered all sorts of variations.
- f) *Pre-analysis*: During the data gathering, we did not give the respondents any particular instructions on how to report the events and information. For example, we did not instruct them to give us only the facts. We recorded their perceptions of the events and of the people involved, their analyses of the causes, their opinions and their arguments, demanding no proof to confirm their statements. Some of them, however, gave us copies of the documents, analysis reports and expert opinions they had used to draw up their plan of action. We recorded their remarks as though it were an actual situation of exchange and discussion within a management team.
- g) *Missing or erroneous data*: In all cases, our experts noted missing data (e.g., no accident frequency or severity rate given) or erroneous data (e.g., reference to a joint OHS association that does not exist in the industry in question). We chose not to correct or complete the data, but rather to provide the students with situations where they must learn to do so themselves in order to optimize the analysis and problem-solving process.
- h) *Case complexity level*: As mentioned, we gave no instructions on how to report the situations or on the level of case complexity. The only requirement was the existence of an interaction between OHS and HRM. Again, we encountered all possible configurations. Some cases that were described in simple terms led us to highly complex management situations. Conversely, certain cases that were very complex in terms of dynamics, legislation and issues demanded only quite simple solutions.
- i) *Amount of material*: Generally speaking, the respondents were very generous in describing their cases. We tried to keep the maximum amount of material while removing redundancies. In some instances, we kept all the data, including background information not needed to understand the case. This was deliberate. Once again, we made the pedagogical choice to place the students in a situation where they would have to separate the wheat from the chaff. Nevertheless, we often summarized the respondents’ remarks in order to reduce the material to eight to ten pages.
- j) *Reorganization of material*: With a number of the cases, two or even three pedagogical objectives could have been addressed. We decided instead to distribute the different learning objectives of the project over the various cases, shortening some of the descriptions and removing certain solutions considered in order to make maximum pedagogical use of case components.
- k) *Pedagogical objectives*: The case bank offers highly varied pedagogical content in the fields of competence of our experts. A series of general and case-specific pedagogical objectives is proposed. Although the list may seem exhaustive, it is a suggestion only. Each of our experts clearly demonstrated that they could add to it.
- l) *Anonymity*: The organizations in our sample all participated voluntarily and were happy to contribute to the training of future managers. Some were ready to have their identity made known, as is the tradition in management journals when presenting case studies. We

nevertheless decided to keep all names of organizations and their representatives anonymous. While keeping the essential background information, we modified a few parameters (region, number of employees, product) so that no associations could be made. After a number of trials and errors, our encryption efforts proved effective.

In sum, these 12 obstacles are factors to consider in the development of case studies from actual situations. Writing fictional case studies would of course involve fewer constraints, but would also offer less in the way of richness and complexity.

The advantage of developing cases from actual unresolved situations described by real organizations is that the cases confront students with current contexts and societal problems. Schematically, the narrator must be at the centre of the case and the elements used in writing it (events, impacts, causes, solutions, actors) placed on a timeline according to the narrator's progression in understanding the situation or its importance in the organization.

Figure 3
Central Elements in the Narrative
of a Complex OHS/HRM Case



C. Additional teaching material

In addition to the case analysis model, teaching material was developed for each case, with case-specific teaching objectives that emphasize specific things to learn about—for example, biological risks or a certain HRM function such as staffing. We also provided discussion questions designed to help the students integrate knowledge acquired in other fields, such as the application of employment equity policies in cases where diversity management is important. For each case, the important legal principles to know, such as the right of refusal, are listed. All documents provided by the organization that contribute to a thorough understanding of the case (an example would be production line rate analyses) are also included in the additional teaching material. A list of scientific references dealing with three or four themes broached in the case—aging workforce, training and retention of new hires, and links between MSD aggravation and mental health problems, for instance—is provided along with the case description. For some cases, secondary

references are indicated, such as an audiovisual document on one of the case aspects (e.g., temporary personnel agencies).

A case study, including the long case description and all the pedagogical material, is presented in Appendix 2 (p.54): *Poules-poules*

D. Case pretests on teachers and students

Objectives of pretests

The aim of the pretests was to check

- the pertinence of using case studies to teach about complex OHS/HRM situations;
- the user-friendliness of the material for teachers and students;
- whether the cases could be used in the teaching of areas of management other than OHS;
- the impact of learning through case studies.

Pretest methodology

Initially, five pretests were planned: (a) three in course ORH 3620: Fondements de la gestion de la santé et de la sécurité au travail (Basics of OHS Management) and (b) two in course ORH 4425: Relations de travail en gestion des ressources humaines (Labour Relations in HRM). Both are courses in the Bachelor of Business Administration program. We requested the collaboration of six teachers: two professors and four lecturers. All of the teachers (professors and lecturers) of the OHS Management course volunteered, while those in labour relations, initially very enthusiastic about the experiment, declined in the end. They thought the situations described in the cases were too far removed from what they were teaching. At the last minute, one of our experts volunteered to test the cases with his Master's level students in OHS management at the Université de Sherbrooke in the course SST 802: Développer un plan stratégique en SST (Developing an OHS strategic plan). In the end, four cases were tested on teachers and students, with one tested twice (in an undergraduate course and a graduate-level course).

The teachers were free to test the case that interested them as long as it had not already been chosen by another teacher. The cases tested were *Voie lactée*, *École du Grand Savoir*, *Bon Fromage* (twice) and *Belles Chemises*, for a good mix of public- and private-sector organizations.

The case evaluation is based on the work of Croué (1997). Thirteen measurements were used to judge the pedagogical quality of the case studies. Among the components measured were the elements chosen by the teachers, case preparation time and the reactions of the students and teachers (see Appendix 3). For each measurement, observations were recorded by a research assistant at three different times: during in-class presentation of the cases and during teacher interviews before and after the classes.

Results of pretests

The following observations were recorded for the 13 measurements:

- a) *Pedagogical objectives*: Teachers at the undergraduate level all selected the same pedagogical objectives, namely (a) analyze and diagnose the problem; and (b) analyze

the solutions. In two cases, there was a third objective, namely to link the appropriate OHS laws and regulations to the case.

- b) *Questions for discussion:* All of the teachers at the undergraduate level took the suggested questions, formulating additional ones to bring the discussion more in line with the targeted themes. Only one teacher used only his own questions, which were deliberately phrased to focus on the workers' interests. The teacher of the graduate course asked his students to look at the company's strategic analysis.
- c) *Themes and reference material selected:* Because of the case content and the expertise of each teacher, the themes selected were very different from one case to the next. For example, the HRM consultant focused on internal and external contexts and on the roles and responsibilities of the HR and OHS departments, while the labour activist focused on the presumption of MSDs in certain industries, on maintaining the employer/employee relationship and on the defense of workers' rights.
- d) *Student evaluation methods:* There were two possible methods for evaluating students: class discussion and written assignment. With both methods the teachers of the undergraduate classes found the correction difficult. They asked our research assistant to help them draw up a grid for evaluating participation in the class discussion and a written assignment correction key. This request went against our initial intention, namely that the teachers should use the cases according to their own expertise and should decide what they wanted the students to learn. Nevertheless, we granted the request because of the limited time the teachers had to master the cases.
- e) *Presentation of cases to students:* The teachers used various means to present the cases. Some sent it by e-mail while others used the university's document-sharing platform. All of them presented the case two weeks prior to the class discussion. The instructions varied as well: some made all teams answer the same questions, while others let teams choose between two questions and still others assigned different questions to each team. All the cases were analyzed by teams of two or three students.
- f) *Case enrichment:* Some teachers used all the material provided while others concentrated either on the reference material or the case analysis. One even proposed other readings that were more in line with the themes he was teaching. Here again, two factors contributed to this variation: the time the teachers had to prepare, and their field of expertise.
- g) *Pedagogical advantages of the case-study approach as seen by the teacher:* The teachers did not seem to have any difficulty presenting the cases. The suggested readings worked well with the questions and with the main issue in each case. The material was organized so as to leave the teacher free to choose the level of difficulty. One teacher emphasized the importance of having real cases as a way of encouraging the students to play the manager role and getting them to think about their reactions, analyses and decisions. The graduate students did a role-play in which they got to play the role of consultant.
- h) *Difficulties encountered by teachers:* There were a few minor technical difficulties in the preparation of the pedagogical material, including conversion of the accompanying texts into PDF format for optimal reading. However, some teachers who were unfamiliar with the use of case studies found the scope of the teaching materials a bit overwhelming: long case description, too many pedagogical objectives, a large

number of questions for discussion and a lot of reading material. We had to remind them that they did not have to deal with all of it and that they could choose objectives and discussion topics that were relevant to the aspects they wanted their students to explore and study. This observation led us to shorten the list of pedagogical objectives and to propose a more specific list for each case.

- i) *Pedagogical advantages of the case-study approach as seen by the students:* The students had a lot to say about the pedagogical experience of using case studies. First, they enjoyed the exercise, although the time spent on preparation (5 to 10 hours) and discussion (2 hours) was more than they had expected. They were very pleased to be able to use the theoretical knowledge they had acquired earlier in the course, for example, risk factors or Michel Pérusse's case resolution stages. Because the cases were based on actual situations, the students felt more motivated to do the exercise and to discuss the various options proposed by their classmates. The role-plays on analysis and decision processes brought them face-to-face with their future responsibilities as managers.
- j) *Difficulties encountered by students:* Here the feedback was not unanimous. For some of the cases, the students said the case descriptions were too long, contained too much background information and included elements that were not relevant, while for other cases the description was said to be perfect. We must admit that this observation is accurate. We knowingly prepared the cases in such a way as to sometimes confuse the students with the quantity of information they could receive, some of it relevant and some of it not so relevant. In some cases, the students were overwhelmed by the solutions proposed and had no idea how to innovate. In other cases, the questions were ambiguous, poorly formulated, too broad or too subjective. Many thought that explicit questions on the interaction between OHS and HRM problems should be added.
- k) *Competencies acquired:* Students unanimously identified critical analysis as the primary competency. Secondly, they named the ability to solve problems and to apply the theoretical knowledge acquired in class.
- l) *Instructions for discussion facilitation:* Generally speaking, the facilitation instructions suggested by Croué (1997) were applied: be clear, invite all students to express themselves, direct the discussion, avoid getting involved, do not judge mistakes too harshly, remind participants about the concepts and lessons to be learned, and keep the discussion within the allotted time. In one class, the discussion extended to background elements while the analysis and problem-solving process was pushed aside. In general, the exchanges were rich and instructive and, above all, they highlighted the collaboration needed between parties to find the best solutions.
- m) *Debates arising from case discussions:* Contrary to our expectations, a case gave rise to a debate in only one group of students: the graduate students. There were several reasons for this. First of all, this was a pretest only, which meant the teachers and students at the undergraduate level were less capable of going beyond the case and raising a debate. In principle, when several cases are examined in the same course and the same semester, students and teachers develop the competencies and assurance needed to engage in debates on topics of current interest. Moreover, the teacher who pretested the case in his Master's-level seminar had prepared his students for debate by asking them the following questions: What do you think of the company's strategic choices? Did the OHS manager make the right strategic decisions? Why? What is the

likelihood that he or she will be successful? Could the OHS manager improve the strategic approach taken? If you were his or her consultant, what would you recommend? There are two things to learn from this: first of all, students approach the case method of study differently depending on their experience, their mastery of OHS and HRM knowledge and their personal maturity. Secondly, debates do not arise spontaneously but are provoked by targeted questions.

Achievement of objectives

In light of these observations, we can modestly conclude that our case pretest objectives were partially attained. Our primary objective was to validate the relevance of using case studies to teach about complex situations involving interaction between OHS and HRM. The observations of the teachers and especially of the students indicate that case studies are a good way of teaching about complex OHS and HRM situations. They promote the development of competencies, especially critical analysis and synthesis. This is all the more apparent when students play the role of manager or decision-maker. However, as the students pointed out, the discussion questions should be explicitly about the interaction between OHS and HRM issues in order to avoid falling into the trap of parallel analysis of the two types of problems as if they were completely unrelated.

Generally speaking, the pedagogical material for the case studies was user-friendly. However, some cases were more difficult to use because the descriptions are packed with confusing background information. We could have chosen to leave out this extraneous information, but we are convinced of the value of keeping it, since it forces students to make choices in the critical analysis needed to solve the problem. Nevertheless, as recommended, we plan to revise the pedagogical objectives and make them more specific for each case. Also as recommended, we plan to formulate certain discussion questions in a more neutral way and add questions focused on the interaction between OHS and HRM.

The validation of the first two objectives is well documented, but we have fewer data for confirming the other two. The objective of validating the transferability of the cases to learning in areas other than OHS management was not attained. Efforts were nonetheless made to involve labour relations teachers. A labour relations professor (a member of our expert committee) and another teacher who had long been a lecturer in the organization and human resources department participated in the first few hours of the training. Both found the topics dealt with in the case studies too far removed from what they taught to be included as-is in their curricula. We hope that under other circumstances, during the development or revision of curricula, teachers in fields other than OHS—especially labour relations and ergonomics—will find cases in our case-study bank that they can easily incorporate into their teachings.

Finally, the last objective, which was to evaluate the impact of case-study teaching, was only partially attained. Three measurements were to serve in evaluating the attainment of this objective: the evaluations of the students' written reports, the evaluations of the exchanges during in-class discussions, and the debates elicited. Generally speaking, the results obtained by students for written reports were satisfactory. According to students, teachers and the research assistant (class observer), class discussions were lively and rewarding. However, debate arose during discussions in the Master's level seminar only. We attribute this to the fact that the teacher had submitted questions that would necessarily provoke a debate. As mentioned, the inexperience of the teachers and especially of the students was another factor that contributed to

the lack of debate. We hope that in a program or course taught primarily by the case study method the teachers and students will acquire the skills needed to take the next step and see the societal issues managers face when dealing with complex situations involving interaction between OHS and HRM.

Limits of pretests

Our pretesting of the case studies was limited. Observations noted during classes and comments from the teachers have led us to make certain adjustments for next time: ideally, each case should be tested twice in different groups with teachers having expertise in either OHS or HRM. We were able to test four of the eleven cases only once, and one case only twice. Too few resources were allocated to this task.

About 30 hours per case were spent on the pretesting. The teachers spent about 15 hours: ten hours of preparation, three hours for the class discussion and two hours for follow-up. The research team also worked on each case for about 15 hours: two hours coaching the teacher, three hours in class, three hours to prepare a correction key and two hours to record their observations. In short, the time needed for validation must not be underestimated.

In sum, cases must be written using an analysis model for events, contexts, OHS/HRM interaction and the means available for analyzing the problems and their solutions. All elements must be named without being pre-analyzed; they must be recounted as in a story narrated by someone who witnessed the events; and problem-solving processes must be present. The events must be reported in a neutral tone, and wherever a bias is expressed, such remarks must be enclosed in quotation marks so as to distinguish clearly between the narrator's voice and that of the case authors. Finally, inconsistencies and missing data must be left as is, in order to make the reader aware of the need for complete and relevant information.

6.2 Results of cross-analyses

This section describes our cross-analyses of organizational resilience and societal problems in the 11 case studies. As mentioned earlier, these two elements emerged in our work as affecting the interaction between OHS and HRM. All of the case studies were analyzed in light of four components of organizational resilience: a) the *event* that triggered the OHS or HRM problem; b) the event-related *threats* that led the organization to react; c) the *experience return* that led the organization to transform the critical situation into a learning opportunity; and d) the organization's *flexibility* in innovating and overcoming the crisis. During the data-gathering interviews, certain societal problems emerged as factors contributing to the complexity of the interaction between OHS and HRM: a) *workforce renewal*; b) *an aging workforce*; and c) *worker and community impoverishment*. Our findings with respect to organizational resilience and societal issues transformed our initial model for analyzing the interaction between OHS and HRM. A model incorporating both these elements seems to be a more appropriate platform for introducing an OHS culture.

A. Organizational resilience

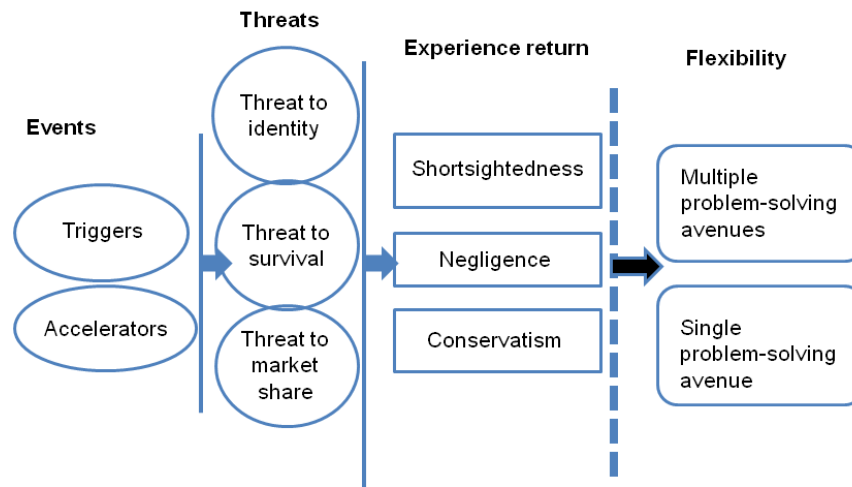
Analysis of organizational resilience was not one of the original objectives of this pedagogical project. It was only during the data-gathering stage that we began to perceive a distinction between the organizations that had taken an unusual problem-solving approach and those that clearly remained powerless in the face of the disruptive events. Given the richness of the material, we decided to extend the boundaries of our project and to proceed with an analysis of resilience within our sample in dealing with complex interactions between OHS problems and HRM.

Resilience—a notion borrowed from natural and human sciences, including psychology—is the ability to bounce back, to call on unusual resources in the face of obstacles (Dentz and Bailli, 2005). As applied to management, organizational resilience means an organization's ability to rebuild itself in the wake of a threat that compromises its market share, productivity, reputation, brand image or mission (Koninck and Teneau, 2010; Rivest, 2010). Several components are considered in an analysis of organizational resilience (Rivest, 2010). In this project, we look at four of them:

- 1) *The event*. This may be a trigger, i.e., a sudden event, either internal or external. The event may also result from an accumulation of undesirable situations, in which case we refer to it as an accelerator.
- 2) *Threats* can be on various levels. The organization's identity, survival or market share may be threatened. A threat is generally related to the organization's obligations: towards its customers, its workforce, the government or the environment. There may be several threats at a time.
- 3) *Experience return* is the lesson learned from the threatening experience. The value of this will be proportional to the organization's willingness to incorporate the lessons into its management practices. Shortsightedness, negligence and conservatism are obstacles to learning and to gaining value from trial and error (Koninck and Teneau, 2010; Rivest, 2010).
- 4) *Flexibility* refers to an organization's flexibility in analyzing problems and potential solutions. It does not mean a lack of rigour, but that the organization is willing to explore non-conventional avenues.

Figure 4

Conceptual framework of organizational resilience adapted to situations of interaction between OHS and HRM



Adapted from Koninck, G. and Teneau, G. (2010). Résilience organisationnelle. De Boeck, Brussels.

A resilient organization knows how to transform threats and seize opportunities to rethink its structure. Organizational resilience is not a quality that belongs to a few people in the organization. It is a skill applied by a management team to tackle challenges that can involve several aspects of organization management: finance, labour relations, operations, competition, productivity, political and social commitments, etc. We see it as essential to the resolution of complex interaction problems. Organizational resilience encompasses the dynamics among actors beyond their respective roles, the skills of one complementing those of others in ways that go beyond the usual organization framework.

Events

In the 11 organizations in our sample, we found both types of events: triggers (sudden and new) and accelerators (events exacerbating a latent situation or malaise). Some were internal while others were provoked by outside factors. All were related to OHS. None of the organizations initially identified an HRM problem that might have interacted with OHS.

a) Internal vs. external events

Three of the organizations reacted to external events. In all three cases, the event was provoked by inspectors from the Commission de la santé et de la sécurité du travail (CSST). Specifically, management had been ordered by a CSST inspector to eliminate common latent safety hazards.

The other eight organizations reacted to problems triggered by internal events: mental health problems, worsening musculoskeletal disorders (MSDs) and the outbreak of an epidemic.

b) Triggers

The triggers were all related to health problems, including mental health. Generally speaking, mental health triggers are internal events. In the case of *Long Repos*, an employee was subjected to psychological harassment and mobbing by co-workers. At *Petits et Grands boulots*, two employees claimed they had experienced severe suffering due to an administrative decision regarding permanent positions for employees. In both cases, the mental health problems resulted from conflicts between employees. In the case of *Voie lactée*, absenteeism due to mental health problems grew to the point where it caused intergenerational and interdepartmental conflict either because of management's failure to manage or an administrative decision perceived as unfair. Only one mental health case was the result of external factors: at *Au Petit Comptoir*, workers who had been victims of a violent hold-up developed post-traumatic stress syndrome.

Two companies had to deal with MSDs, mostly due to repetitive movements. An employee of *Yogourt-yogourt* had a severe disc hernia that required surgery and more than two years of convalescence. This one case raised alarm bells throughout the company about the potential for severe MSDs in workers in the same team—older workers with years of seniority and all showing signs of premature physiological aging due to repetitive movements. At *Poules-poules*, four workers simultaneously obtained sick leave certificates for MSDs caused by repetitive movements. These workers, who were the most experienced in the company, showed solidarity in expressing their exhaustion in order to force management to react to the increased incidence of MSDs and the impacts of certain decisions, such as changes in work schedule and the hiring of unqualified temporary workers.

Lastly, *École du Grand Savoir* had an outbreak of gastroenteritis that spread very rapidly; within a few days, half the students and teaching staff had called in sick.

It can be seen that triggers are often actions taken by employees in reaction to problems that have been present for months. The organizations' managers reacted by obtaining the cooperation of the various parties so as to avoid aggravating the situation.

c) Accelerators

Five organizations in our sample experienced problems that grew worse over the years but without any particular exacerbating event. Of these five, four tackled their latent problems after modifying their OHS structure or attempting to distribute responsibility for OHS matters among members of the management team. At *Mange-mange*, attempts to have someone take effective responsibility for OHS were successful when the company hired an HR manager and put him in charge of all OHS matters. A similar scenario took place at *Bon Fromage*, where an OHS advisor was hired. At *Au Petit Comptoir*, a criminologist was hired to join a team of safety officers and solve the problem of hold-ups. *Voie lactée*, which is highly organized in terms of OHS, opted for a new distribution of responsibilities and asked its HR department to take charge of cases of mental health problems.

Only one company, shirt manufacturer *Belles Chemises*, did not manage to solve its latent problem. *Belles Chemises* faced a situation in which MSDs were over-declared by workers threatened with layoffs. Having gotten wind that they were about to lose their jobs, the workers—mostly sewers—used presumed MSD to obtain sick leave certificates before they could be laid off. This latent problem grew worse from one year to the next with the fluctuating

production cycle.

To deal with cumulative events and prevent them from worsening, the organizations' first reflex was to hire new OHS or HRM advisors, whose first task was to draw up an action plan to correct the latent situations.

Threats

Three types of threat were cited by the organizations in our sample: 1) threat to identity; 2) threat to market share; and 3) threat to survival. Some cited two of these. The most common was the threat to identity, followed by the threat to survival.

a) Threat to identity

Nine of the eleven organizations felt threatened in their identity. Fear of losing their reputation as a good employer was the threat most frequently cited. They were concerned with maintaining their reputation of offering employees a responsible, fair and safe work environment. They were aware that MSDs and chronic absenteeism had a detrimental effect on their image as an organization that offers a desirable, safe and healthy work environment.

Some organizations, specifically those in the public sector—*Long Repos* and *Petits et Grands Boulots*—were concerned with presenting the image of an organization committed to equality, social equity and sustainable development. However, the problems they encountered in implementing these policies, for example equal job access for immigrants and visible minorities, were the subject of great controversy. Some of the more senior workers expressed vehement feelings of injustice.

These organizations had to juggle with a severe labour shortage and policies of social equity in hiring.

b) Threat to market share

Two private-sector companies, *Mange-mange* and *Poules-poules*, foresaw the risk of losing market share if they did not resolve the situation in which they found themselves. In each case, the company had swooped up a large market share and had doubled or even tripled its production. According to our respondents, these newly acquired market shares were fragile.

c) Threat to survival

Lastly, three private-sector companies—*Mange-mange*, *Poules-poules* and *Belles Chemises*—realized they could not survive unless they kept their production level up. A public-sector organization, *Long Repos*, also felt threatened, not in its survival but in its ability to uphold the code of ethics regarding patient care. These organizations, in both the public and private sectors, were worried about how they would maintain the quality of their services or their productivity if they were unable to recruit new hires or keep the more senior employees on staff. The balance between workforce size and productivity was compromised by interwoven problems of OHS and HRM.

At *Grandeville*—the entity born from the merger of five municipalities—the complex OHS and HRM problem was soon traced back to an inadequate restructuring process. Loyalty and allegiance became issues, as employees openly criticized the political and economic soundness

of the merger.

Experience return

The severity of a threat is inversely proportional to the amount of attention given to management error. The longer a problem is ignored, the greater the probability that it will spread to various facets of management. The error may be shortsightedness, negligence or conservatism. None of the organizations in our sample could be described as conservative, but in some there was a tendency to think, rather naively, that the company would just naturally adapt to the changes that were occurring.

Although the respondents spoke readily of their complex OHS and HRM situations, they did not necessarily go through the exercise of identifying their experience return. Five organizations—*Yogourt-yogourt*, *Mange-mange*, *Grandeville*, *Long Repos* and *Au Petit Comptoir*—had a viewpoint that was similar to analyzing experience return: their objective was to find a sustainable solution that would prevent the problems from recurring.

a) Shortsightedness

École du Grand Savoir acknowledged that it had been shortsighted when it let each school choose its own cleaning products. The gastroenteritis outbreak was soon traced back to environmentally friendly cleaning products, which did not contain sufficient disinfectant to sanitize the surfaces and common areas used by hundreds and thousands of students and teachers.

Petits et Grands Boulots, too, admitted its shortsightedness. Wanting to apply its employment equity policy right away, it neglected to consider the impact on employees with more seniority still waiting for permanent status, and it never anticipated the feelings of injustice that its actions might provoke or their impact on the mental health of the employees in question.

b) Negligence

After a year of conflict at *Long Repos* rest home, events took a turn like those that occurred a few years earlier at another rest home, when mobbing and harassment ended in the tragic suicide of an employee. Aware that the situations were similar, management finally took action and implemented measures to stop the harassment and improve the work climate. It also recruited new employees and instituted one-month work schedules to facilitate work/life balance and stabilize the teams.

c) Naive belief in natural adaptation to change

The merged municipality *Grandeville* confessed that it had underestimated the scope of the difficulties involved in the merger. It had failed to take into account the need to harmonize work methods and the existence of collective identities built up over many years, among other things. Although it has a very large management structure, *Grandeville* focused on one department, and one unit in particular—excavation—to initiate change, hoping to repeat the exercise on a large scale in the various departments.

Grandeville was not the only organization to rely on just one department or division to bring about change in a highly complex OHS and HRM structure. The same was true of *École du Grand Savoir*, where each of the five unions has its own OHS committee in addition to the regional division OHS committees.

Despite the complexity of the OHS and HRM structures in some organizations, and the complete lack of such structures in others, many of the organizations demonstrated flexibility in their search for solutions.

Flexibility

For an organization to be resilient, able to bounce back, it must first of all be flexible. In our sample group, flexibility (or the lack thereof) was demonstrated at two crucial steps in the problem-solving process: during analysis of the problem, and during analysis of the solutions. Organizations that explored multiple avenues in their analyses showed more flexibility than those that stuck to one path.

a) Multiple-avenue problem-solving

Six of the eleven organizations used multiple approaches when analyzing the problem and the solutions. Some of them hired specialists not usually called on. For example, the managers at *Au Petit Comptoir* called in a criminologist to help them understand the attackers' behaviour and explore solutions. In so doing, they went against the CSST's recommendation of adopting the preventive programs used by the banks. Similarly, *École du Grand Savoir* called in the public health department, toxicologists and infectious disease epidemiologists to help analyze its problem. It also enlisted the services of adult education specialists to develop a training program for the school board's janitors and janitorial assistants, most of whom are functionally illiterate.

b) Single-avenue problem-solving

Three organizations used multiple approaches to analyze the problem but a single approach to analyze the solutions. Managers at *Belles Chemises* looked at both repetitive movement and worker fear of layoffs before deciding that the problem resided in the over-declaration of MSDs. However, the only solution considered was to raise physician awareness of the possibility of abuse if MSD is presumed in garment workers without a proper medical examination.

One company used a single approach to analyze both the problem and the solutions. *Bon Fromage* viewed its OHS/HRM problem in terms of inappropriate behaviour on the part of workers, who were considered insubordinate and negligent. The sole solution considered was training and information for employees and supervisors.

Organizations that used multiple approaches to analyze their OHS/HRM problems all arrived at the same conclusion: they were dealing with the consequences of broad societal problems—such as the economic crisis, the need for education programs that are better aligned with the skills sought by employers and the need for more work/life balance—all of which manifest on a smaller scale within individual organizations.

B. Societal Issues Underlying the Interaction of OHS and HRM

Almost all our respondents raised the question of societal issues affecting their organizations' operations—and the topic was not even in our interview guide. We have devoted a special section to these issues so that we can deepen our analysis of complex situations where OHS and HRM issues are interwoven. The societal problems affecting the organizations in our sample group are,

in order of importance, a) workforce renewal; b) an aging workforce; c) integration of the new generation of workers; d) worker and community impoverishment.

Workforce renewal

Eight of the eleven organizations said they have trouble recruiting workers because the jobs they offer are unattractive or not valued. Often physically demanding (strenuous or repetitive movements), dangerous (physical attacks or verbal abuse), or performed in uncomfortable conditions (evisceration, extreme temperatures, etc.), the jobs are also poorly paid and the skills required are not highly valued.

Three organizations—*Poules-poules*, *Mange-mange* and *Long Repos*—experienced chronic recruitment problems and tried to compensate through short-term solutions, until their market share or image was threatened.

Poules-poules, a halal poultry slaughterhouse and butcher, was a victim of its own success. Needing to find workers quickly when its production skyrocketed, the company hired immigrants through temporary personnel agencies. Because these workers lived in Montréal and had to travel 100 kilometres to get to work, the company instituted a 10-hour work day to make the trip worth their while. But this solution soon proved unsatisfactory due to lateness caused by winter storms, the obligation to regularly work overtime, and worker fatigue. What's more, the long hours exacerbated the problem of MSDs, which was to be expected given the repetitive tasks performed day in and day out. The workers most affected—the most senior ones, who held key positions on the production line—took disability leave, disrupting the production line operations. The company needed to find a permanent solution, i.e., a way to attract workers and stabilize the workforce. It decided to expand its plant and to have two eight-hour shifts, a day shift and an evening shift. This made the job more attractive to workers with families. The company worked with the local employment centre to recruit people who had been laid off from other companies in the region due to the economic crisis. To achieve its objectives, *Poules-poules* made use of government employment services to correct its chronic labour shortage at a time when the region was experiencing its worst unemployment in many years. The company also promoted the skilled nature of food industry trades as a way of attracting workers.

Mange-mange, too, was a victim of its own success and had to ramp up production very quickly. Unlike *Poules-poules*, this company was well equipped to deal with the increased production, since several jobs had been automated. But the personnel turnover rate was so high—as much as 375% one year—that there was no collective memory for training and supervising new hires so that they could do their jobs safely. As a result, injuries were frequent. Most of the workers were immigrants who saw these jobs as a way to get into the job market and left as soon as possible. The company called in an HR expert to structure its HRM system and correct the OHS problems. This HR expert—who was from the same country as the owner but trained in HR in Québec—adroitly persuaded the owner to reconfigure his management methods so as to maintain a balance between production management on the one hand and HR and OHS management on the other.

The third organization, *Long Repos*, a public-sector organization resulting from a merger, also had recruitment problems—not because of rapid growth, as in the previous two cases, but because it had an image as a bad employer. Labour conflicts, employee suspensions and

investigations for employee violence and inappropriate behaviour toward patients had tarnished the image of the organization, which is a large employer in the region. Short-staffed and plagued by absenteeism like *Mange-mange* and *Poules-poules*, *Long Repos* first tried to compensate by regularly imposing a second work shift. This was replaced by the hiring of healthcare professionals on a casual basis through an agency. The solution was costly (the hourly rates are higher than those of regular employees) as well as time-consuming (the casuals required more supervision)—in short, a stopgap measure that the organization relied on for far too long. Here again, the solution was to stabilize the workforce and implement a sustainable strategy. The organization hired an advisor to lead workshops designed to sort out the labour conflicts. Despite the shortage of staff, all employees were given time off with pay to participate in the workshops. The unions were called on to help set up one-month work schedules, which enabled employees to better plan their time and achieve a better work/life balance.

In all three cases, management had underestimated the impact of organizational changes on worker OHS, an impact that was exacerbated by the shortage of personnel. All of the temporary solutions—extended work hours, hiring through agencies—only aggravated the HRM problems, so that it became necessary to redefine the recruitment strategies. To do this, the organizations either enlisted the help of the unions and local employment centres or upped their salaries. In the end, correcting the recruitment problems solved some of the OHS problems, though this HRM problem was never initially mentioned by our respondents.

Aging workforce

Two companies, *Yogourt-yogourt* and *Voie lactée*, quickly realized that their OHS problems were linked to the aging of their workforce, a problem that will probably escalate in the coming years.

Yogourt-yogourt became aware of this problem when it analyzed the jobs in which there had been severe injuries (disc herniation) resulting in prolonged absences (two years). The workers assigned to these jobs averaged 45 years of age and had many years of experience. The accidents were not attributable to inexperience but to worker fatigue. Some of the employees in these jobs were able to take early retirement. The company was concerned about the effects of its aging workforce. The aging workers were hard to replace because there were few applicants and training is expensive, yet the increase in frequency and severity of injuries, including MSDs, suggested there might be additional early retirements. The company therefore decided to preserve its personnel by analyzing workflows to improve and automate tasks.

At *Voie lactée*, the aging workforce problem was brought to light by three trends: extended absences of employees suffering from MSDs, the emergence of mental health problems, and intergenerational conflicts. Annual MSD claims were already numerous, but recently health problems had also emerged among middle managers and supervisors. The company identified a problem of work team stabilization, aggravated by layoffs of workers with the least seniority during slow periods that compromised the company's reputation as a good employer and made it difficult to recruit and retain young workers—who were frustrated that they had no job security yet were still expected to volunteer to help out other teams when more senior workers were absent. The OHS people did not feel responsible for the mental health problems caused by the poor labour relations, and the HR managers refused to get involved because they felt it was an OHS issue. In short, it was a complex situation involving OHS, HRM and an aging workforce—

a situation that remains unresolved.

Worker and community impoverishment

The impoverishment of workers and communities is a societal problem that affected two companies in our sample. The first, *Belles Chemises*, said outright that the workers' fear of losing their jobs had an effect on the MSD declaration rate. Fierce global competition has led to the loss of nearly 80% of the jobs in the garment industry over the past decade. For immigrants with little education and little knowledge of French, the possibility of finding another job when they are laid off is very slim. The company complained that the workers took advantage of the presumption of MSDs in garment workers to report injuries, forcing the employer to postpone their layoff and maintain the employment relationship until the injury was healed. Our respondent from this plant, where efforts had been made to manage diversity (through French classes at the workplace, for example), deplored the lack of adequate job insertion services for companies employing a lot of immigrants. This respondent also criticized physicians who grant sick-leave certificates for MSDs without a proper medical examination. The problem was handed over to the public health and work integration authorities.

Au Petit Comptoir, on the other hand, took full responsibility for finding solutions to the problem of poverty in the neighbourhoods where it operates. Initial recommendations were for the adoption of the usual preventive measures in cases of violence, aggression and hold-ups. Through an analysis of the hold-ups by area, the company found a close link between unemployment, low neighbourhood income and the rate of hold-ups in its stores. Without aspiring to eliminate poverty, the company began working with neighbourhood services and potential criminals, i.e., young delinquents and the jobless. One of the company's safety officers, a criminologist, studied the behaviour and actions of the robbers and developed a series of preventive measures: lower shelves, bluish lighting, blocked-off windows, advertising panels simulating the presence of people, higher counter, guard dog, etc. All of these measures were designed to increase the distance between the customer and the employee without forcing the employee to work in an enclosed space such as a locked glass cubicle. The company also forged ties with youth drop-in centres in poor neighbourhoods. In this way, the company developed preventive actions in the community that went beyond the company itself but were nonetheless within its reach.

These problems—workforce renewal, aging workforce, integration of new generations and worker and community impoverishment—are societal problems that were brought up time and again by our respondents. Other problems were also referred to indirectly, such as the integration of immigrants and the absence of job mobility in regions where the company is the biggest employer.

7. DISCUSSION

Although this project has some limitations in terms of methodology, it confirms the trends noted in the literature. First of all, as in the OHS scientific literature, organizations start by stating their OHS problems and then make the links with their HRM problems. Rarely does an organization do the reverse, i.e., start by identifying HRM problems that have had impacts on OHS. Among our respondents, the OHS managers seemed more familiar with the interaction than the HR managers. However, both groups readily went beyond the confines of the interview guide to discuss societal problems.

Despite being weighed down by problems related to workforce renewal, an aging workforce, impoverishment of workers and communities, immigrant integration and job mobility, most of the organizations showed resilience. Some used a variety of approaches to analyze the problems and try solutions. Of course, some took the long way around in their search for a lasting solution. In most cases, their shortsightedness gave rise to astronomical costs and only aggravated the threat to the organization.

As reported time and again in the literature, the threat to corporate identity and the potential loss of hard-won market share have huge impacts on an organization. The legal threat, too—the one wielded by the CSST inspectors—has had a decisive effect in making some companies take charge of their OHS and HRM problems.

Other actors, such as unions and OHS committees, have certainly contributed to this taking charge, but they have never initiated the action; instead, there has always been a triggering or accelerating event. The ability to anticipate problems is almost nil, even in the most classic, well-documented situations, namely, mergers.

Our observations are nonetheless limited, due to the original scope and methodology of the project. Initially, it was purely a pedagogical research project aimed at developing 10 case studies based on real situations, and this objective was largely achieved. All this pedagogical material of course constitutes a reference tool for anyone wishing to teach about complex situations involving OHS/HRM interaction, but it also forms the basis for a new Master's-level class at UQAM's school of management: ORH 8408, *Gestion des situations critiques : problèmes de santé et comportements hors norme en entreprise* (managing critical situations: health problems and non-compliant behaviours in the workplace).

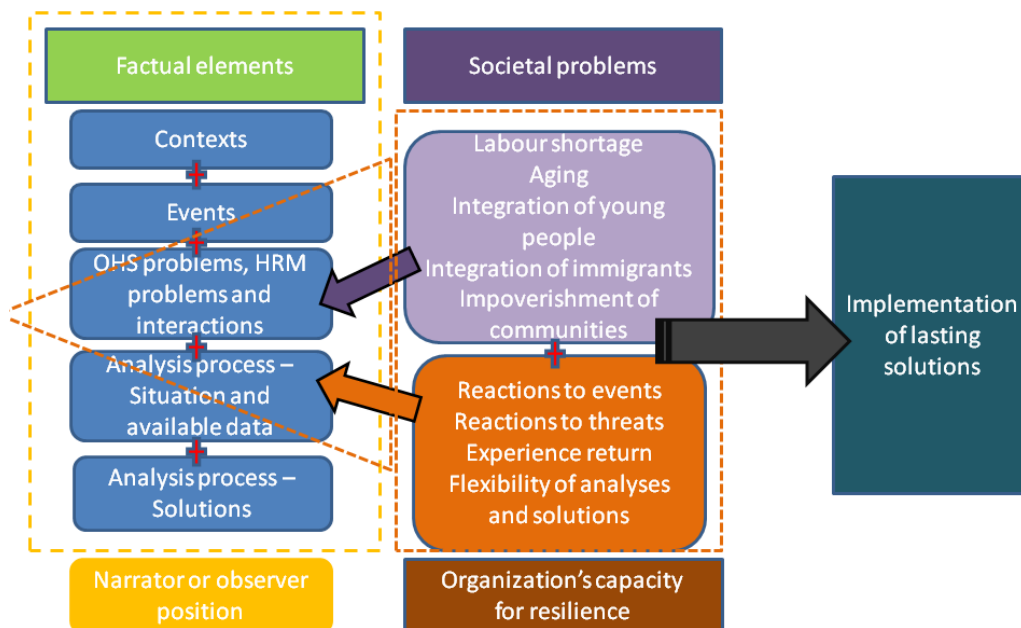
The entire case-study development process—from designing the interview guide to writing up the descriptive case studies and the pedagogical objectives—was a highly enriching experience. Case writing based on real situations is an exciting and very instructive endeavour, but it requires conditions conducive to expression. The organization must be allowed to tell its complex story in the order in which the events came to light, even if the timeline makes no sense. The elements most significant for learning must be sorted, but the case author must avoid providing any pre-analysis, so that students will be forced to develop their own critical analytical skills. The data (including erroneous or missing data) must be organized so as to develop the students' judgment. And to help students become critical thinkers, the case writer must be able to construct a story in which the reader can step into the narrator's shoes and share the same temporality and the same

accountability. The pedagogical objectives must contribute to the development of these competencies. In addition, the students must be led to discuss the complexities of the situations, the interaction between HRM and OHS problems and the impacts of societal problems on organizations. Students must be taught to present opposing interpretations and analyses of situations and solutions, and to accept different opinions in debates where there is not one solution but several solutions. And especially, organizations must be allowed to contribute to the development of future managers.

Our project also revealed that organizations are keenly interested in developing such material and are eager to contribute; the proof is that we were able to add one more case than initially planned to our database. Nonetheless, it is important to be aware of the tensions and the search for balance to which these complex OHS/HRM situations have given rise in the organizations. One must know how to identify the nature of the events (triggers, accelerators, internal, external), the threats (to identity, market share, survival) and the experience return (of shortsightedness, long-term vision, negligence) to understand the capacity for resilience and the strategies for bouncing back and transforming the forced changes into value-added. One must know how to think in a world characterized by risk, uncertainty and turbulence. Teachers must be reminded that a case study is a springboard for sending students into areas where problem analysis and problem-solving processes are a democratic exercise and where each person's expertise contributes to the organization's resilience. There are no ready-made answer keys.

These observations are difficult to apply across the board in Québec, since the organizations in our sample were not representative. Our sample included only one SME and did not include any companies in remote regions or any international companies. A number of manufacturing industries were not represented, including metallurgy, wood products, chemicals, plastics, transportation and many others. Instead, our analysis should be seen as a qualitative case-study project aimed at a thorough comprehension of the interaction phenomena observed. Although it was initially a pedagogical research project, the results lead us to propose a model for analyzing the interaction between OHS and HRM problems. This model combines 1) the factual elements we used to construct each case; 2) the societal problems that contributed to the interaction between OHS and HRM; and 3) the capacity for organizational resilience that acted as a lever within the organizations for the implementation of lasting solutions. Though we do not claim the analysis was exhaustive, we believe that for practising managers as well as future managers—the students on whom we tested our cases, for instance—this model constitutes a reference framework that situates their roles and responsibilities without necessarily making them don the OHS manager's hat.

Figure 5
Model for Analyzing the Interaction Between Occupational
Health and Safety Problems and Human Resources



To sum up, our pedagogical experience from using these real-life cases was highly instructive. Writing cases for the teaching of future managers is a promising avenue for diversifying strategies for the transfer of OHS knowledge. Such case studies target HR managers, getting them to think beyond their usual framework—recruitment, labour relations, training and compensation—and to address questions of interaction between OHS and the various problems of HRM.

Could this model be used for other types of teaching? Probably, but we doubt whether students could grasp the issues involved in OHS/HRM interaction during an internship (too task-centred), a simulation (too centred on dialogue between characters) or a lecture class (too centred on ideal situations). Case studies always situate the issues outside the realm of the ideal, in everyday reality. It is our contention that case-based teaching using such an interaction analysis model could be a valuable contribution to the development of competencies in OHS managers.

8. CONCLUSION

The use of case studies in management teaching is not new, but focusing on cases involving OHS/HRM interaction is. We recommend continuing the experiment and growing the case database by three new cases a year so that, three years from now, teachers and students could tackle new situations, with new companies, that would involve emerging societal problems. We can already identify the OHS/HRM interaction problems that we think will be of central concern: substance abuse (alcohol, prescription drugs and non-prescription drugs), outsourcing (OHS obligations vis-à-vis regular employees as opposed to casuals), presenteeism, adaptation of training for foreign workers, and many others. Continual updating of the case database for the next three years will ensure its optimization as well as the ongoing relevance of the material.

In several cases, the managers reported a problem-solving process that at first relied on temporary solutions—solutions that soon proved unsatisfactory, even causing further OHS problems in certain cases. Some had to re-examine their solutions and turn to permanent OHS and HRM measures, an essential condition to the development of an OHS culture. By taking their problems to local structures specialized in personnel training and recruitment, companies such as *Poules-poules* were able to take advantage of regional economic changes to meet their labour needs in a sustainable way. The building of an OHS culture must be done not only in collaboration with the various management functions—management of quality, production and human resources—but also in tandem with services for the training, competency development and stability of the workforce.

We believe it would be worthwhile to pursue the research on organizational resilience, emphasizing the interaction between problems of OHS, HRM and the labour force in society as a whole. This may constitute an avenue for understanding how to build an OHS culture in an organization, regardless of its size, its area of activity, whether or not its employees are unionized, or any other structuring characteristic.

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APPENDIX 1

INTERVIEW GUIDE

*Thank you for participating in this study. Is it all right if we record the interview?

*Do you want your company and yourself to remain anonymous?

Section 1: Workforce Profile

- 1.1 Where is your company located?
- 1.2 What is your line of business?
- 1.3 How many people does your company employ? How many managers, employees, unionized employees?
- 1.4 What are the percentages of men and women?
- 1.5 What are the percentages of various ethnic origins? Does this cause problems in terms of managing diversity?
- 1.6 What are the company's work shifts?
- 1.7 Is there a union? Which one? How long has it been present?
- 1.8 Does the company use subcontractors? Casuals?

Section 2: Introduction

- 2.1 What are the main occupational health and safety (OHS) problems in your company?
- 2.2 Have any of these problems had repercussions on HRM in the company? Which ones?
- 2.3 What kind of repercussions? Can you give examples?
- 2.4 Would you consider telling us about one of these problems as a way of contributing to the training of future managers in the handling of complex OHS cases? Which one?
- 2.5 What were the challenges involved in the _____? *[name of problem]*

Section 3: Occupational Health and Safety Problem

- 3.1 Initially, what was the nature of the _____ problem? *[insert name of problem mentioned above]*
- 3.2 When did this problem arise?
- 3.3 What were the circumstances and who were the people involved?
- 3.4 Initially, what were the perceived main causes of the _____ problem? *[insert name of problem mentioned above]*
 - a) According to management:
 - b) According to the workers:

- 3.5 How and when was the HR department called in? *[how long does it usually take, and were there delays?]*
- 3.6 When did you start looking for possible solutions?
- 3.7 Who was responsible for analyzing the problem?
- 3.8 Who else participated in the analysis?
 - a) Internal resources
 - b) External resources
- 3.9 How did you document the problem?
[analyzing logs, analyzing absences, conducting audits, external resource]
- 3.10 What problem-solving approach did you use?
- 3.11 Was it the same people who analyzed the possible solutions?
- 3.12 If not, who was it?
- 3.13 How did you document the solution?
- 3.14 What solutions were identified? Which ones were selected?
- 3.15 What criteria were used to select these solutions?
[severity, worker exposure, cost, availability and efficacy of intervention, worker perception and awareness, impact on production processes, impact on the work of other workers, time needed to implement solution, etc.]
- 3.16 How did you implement the solution?
[prerequisite steps, implementation time, delays]
- 3.17 To implement the solutions, what resources were available to you on an ...
 - a) organizational level?
 - b) human resources level?
 - c) material resources level?
 - d) financial resources level?
- 3.18 Who was in charge of implementing the selected solution?
- 3.19 Who else participated in the implementation?
- 3.20 During implementation, did you plan any mechanisms for evaluating the solution?
- 3.21 What did you want to evaluate?
- 3.22 Who was in charge of the evaluation?
- 3.23 Who else participated in the evaluation?
- 3.24 What were the results of the evaluation?
- 3.25 Did the solution bring about the desired changes?
- 3.26 Did the problem-solving process bring about unforeseen positive and/or negative effects? If so, what were they?

Section 4: Human Resources Management Issues

- 4.1 Did the health and safety problem bring to light other issues related to human resources management?
- 4.2 Who was involved in managing these HRM issues related to the health and safety problem?
- 4.3 How did you analyze the HRM issues arising from the health and safety problem?
- 4.4 Did implementation of the OHS solution lead to medium- or short-term changes in any aspect of HRM?

- 4.5 What were these changes?
- 4.6 Did the problem have medium- or short-term effects on the organization in terms of...
 - methods/processes?
 - organizational change (training/restructuring)?
 - labour relations?
 - work climate?
 - organizational culture and/or management model
 - changes in specific organizational values?
 - changes in the management committee?
 - new policies or procedures?
 - workstation layout or work organization?

Section 5: OHS Structure

- 5.1 Who is responsible for health and safety in the organization?
- 5.2 Is there an OHS committee? If so,
 - A. who sits on the committee?
 - B. what is its mandate?
 - C. how frequently is it supposed to meet?
- 5.3 Do you use any of the following methods for tracking health and safety:
 - Audits?
 - Files?
 - Incident log?
 - Accident log?
- 5.4 Do you have an external safety advisor? If so, why was this person chosen (what is the connection)?
 - ASP advisor
 - Mutual group, private advisor
 - Local OHS team/CLSC advisor
 - Public health educator in your region
 - Someone from a toxicology laboratory
- 5.5 Do new hires receive general health and safety training or orientation
[*Workplace Hazardous Materials Information System (WHMIS)*]?
 - A) For their specific workstation?
- 5.6 Does the organization provide training...
 - at the time of hiring? (If so, what kind of training?)
 - on a continuous basis (If so, what kind of training?)
 - whenever there is a change in work processes or in the equipment or materials used?
(If so, what kind of training?)
- 5.7 Are there mechanisms to facilitate worker access to OHS professionals within your organization?
 - Anonymous box
 - Offices
 - Other (please specify):

Duration of interview: -----

Interviewed by:

| | |
|--------------------|--------------------------|
| Sylvie Gravel | <input type="checkbox"/> |
| Monique Lortie | <input type="checkbox"/> |
| Henriette Bilodeau | <input type="checkbox"/> |
| Jessica Dubé | <input type="checkbox"/> |
| Myriam Franco | <input type="checkbox"/> |

APPENDIX 2

Sample teaching materials

Case description: *Poules-poules*

Triggers

One Monday morning, the HR department received four medical certificates of disability for duty. The certificates were from four employees in the evisceration department, all with personal ties (spouses, parents and friends) and all with similar medical certificates. The previous Friday, they had all seen the same physician for repetitive stress injuries: tendinitis, bursitis and back pain. These were among the company's most experienced workers, and their work had a direct impact on the quality of the final product. Needless to say, having all of them absent at once was a major problem for the company.

Tendinitis and bursitis are the most common health problems arising from the movements required in slaughterhouse jobs. The medical certificates arrived seven months after 10-hour work shifts were instituted and after workers were hired through an agency to address a personnel shortage.

Company background

The company is located in central Québec and has been active for several years in poultry slaughtering, specializing in halal meat. There are three separate departments: slaughtering, evisceration and packaging. In the slaughtering department, the tasks are simple but specialized. According to the halal method, the butcher must slit the chicken's throat while reciting a prayer thanking God for providing an abundance of food. The butcher must be facing the mosque when performing the slaughter. The chicken must then be bled before it is cut into pieces and packaged. The company processes an average of 40,000 chickens a day in this way.

Halal method

The halal method consists in striving to spare animals "any avoidable excitement, pain or suffering during movement, lairaging, restraint, stunning, slaughter or killing."⁴ Animals must be stunned before they are killed, or must be killed instantaneously. For the meat to be halal, the animal must be alive at the time the cut is administered, the name of God must be invoked at the time of the cut, and the animal must be thoroughly drained of its blood after it is killed. The knife must be intact and of sufficient size and sharpness that it cuts the animal's throat in one swift and continuous movement, severing the carotid artery and jugular veins. All blood must be drained out of the animal after the slaughter. Halal meat does not have sunken veins and is never soaked or salted.⁵

⁴. Council Directive 93/119/EC of 22 December 1993 on the protection of animals at the time of slaughter or killing

⁵. Web site of One Voice, Abattage rituel, [online]. <http://www.one-voice.fr/fr/article/abattage-rituel-les-faits> (consulted June 30, 2010)(our translation)

The company has only one shift, the day shift. It has 128 employees: 15 managers and 113 workers assigned to various production processes. Of these 113 workers, 83 were recruited locally and 30 came through a temporary personnel agency. Almost all are immigrants who are bussed daily from Montréal to regions where casual workers are needed.

Most of the company's employees are male (70%). Although the work requires some skill, no education apart from a high school diploma is required. The workers are unionized, except for the 30 hired through the personnel agency. The company has had union certification for four years, and the first collective agreement was signed three years ago. The workers are affiliated with the United Food and Commercial Workers Union (UFCWU). This affiliation led to the adoption of several changes in work organization and HRM.

Consequences of increased production

The order book for halal products doubled in a very short time. The company had to quickly hire butchers who could apply the halal method. With the rapid growth in production volume, the company also sought to hire more workers, at a time when the entire meat-packing industry was experiencing a labour shortage.

Halal poultry slaughterers are an extremely rare commodity. Fortunately, one of the owners was able to find people in his Muslim community who had the necessary qualifications. However, doubling the number of workers at a time when the entire production sector was experiencing a labour shortage proved very difficult.

To overcome this obstacle, the company modified its working hours. The 35-hour week (five eight-hour days) was replaced by a 48-hour week (four twelve-hour days). Overtime hours were systematically added to the 12-hour day.

This gave the company greater flexibility to recruit casual workers through a private agency. It hired 30 workers of various ethnic origins: Turkish, Lebanese, Moroccan and Mexican. But the workers had to travel hundreds of kilometres—between Montréal and the region where the company is located—on a daily basis, and this travel time was on top of their 12-hour work day. The daily transportation posed various problems including that of worker punctuality, with the distance and the poor driving conditions in winter combining to cause workers to arrive late for work. Very often they joined the production line after operations had already begun. And even despite these arrangements, the company had a hard time filling its orders.

Product specifications: Halal chicken

Once the live chickens are delivered, they must be slaughtered within 36 hours. Live poultry cannot be kept in cages more than a day, otherwise the quality of the meat is diminished and the company risks losing chickens due to dehydration and contamination. Subsequently, once cut into pieces, the chickens must be sold quickly.

In practical terms, the first challenge faced by management was to replace the missing personnel (the four experienced employees) in order to meet the day's production target. The second challenge was to find a way to replace them for an indefinite period while minimizing disruptions to the production line. The absent workers had complained to management on many

occasions about their exhaustion and muscular pains. The HR advisor made the following remark:

“Nothing could be done. Maybe I could have reorganized the shifts so they could have had the previous Thursday and Friday off, but I knew it wouldn’t change anything for them.” (our translation)

How were the absent workers to be replaced when there was a chronic recruitment problem? Management briefly entertained the idea of accusing the four employees of collusion, but rejected it for two reasons: first of all, no one had the time or energy to prepare a file, since the managers—being unwilling to risk letting the product deteriorate—were busy filling in for the missing employees. And secondly, musculoskeletal disorders in the meat-packing industry are common to the point of being a foregone medical conclusion; any attempt by the employer to contest the diagnosis of tendinitis or bursitis would have a very slim chance of being taken seriously.

The simultaneous absence of four employees with personal ties gave rise to resentment among the other workers, who had to shoulder the workload of their absent colleagues on top of their own exhausting daily load. The absence of seasoned workers also prevented *task rotation*, since the few remaining experienced workers had to remain at the most demanding tasks, including evisceration. The employees saw themselves as exploited, and their discontent grew. They complained about the bosses for stepping up production volume without ensuring the presence of enough qualified personnel, and they also complained about employees who stay away from work with a total disregard for worker solidarity.

Task rotation

Task rotation means periodically changing an employee’s task assignment, with each assignment lasting anywhere from a few hours or days to several weeks. The objective is to provide relief from repetitive movements, vary the muscle loads and allow the different muscle groups to rest. The known risk factors for MSDs include repetitive movements, a fast work pace, application of significant force, awkward postures and too few short breaks. (Falardeau & Vézina, 2002) (our translation)

<http://pettnt/pistes/v4n2/articles/v4n2a9.htm>

Ripple effect

The four employees were absent for several months. The HR managers were concerned about the effect on the rest of the workforce and also about the potential impact on the cost of compensation. They were aware of the risk of injury due to repetitive tasks and to the long working hours systematically demanded of the remaining workers.

Management was also aware that the chronic overtime demanded of employees was having negative effects and was not a sustainable solution to the labour shortage. An ergonomist was called in from the company's prevention mutual group and was given a mandate to study the various jobs in the three departments: slaughtering, evisceration and packaging. One month after the four employees sent in their medical certificates, the ergonomist delivered a report identifying the tasks where workers were at high risk of occupational injury due to repetitive movements: handling, evisceration and meat cutting. The report gave a precise description of the movements requiring extra effort because of an inadequate setup—e.g., work tables that are too high—or inadequate tools such as poorly sharpened knives. In this regard, the HR director remarked:

“The company needs to invest in training in proper meat-cutting and knife-sharpening methods.” (our translation)

The report also raised several other MSD-related problems in the plant. Management investigated the tasks to which the four absent employees had been assigned, and questioned the employees to find out why they had consulted a physician.

Evisceration tasks are the most difficult, since they require both skill and physical strength. Workers with more experience (and hence more skill) are quickly returned to these tasks in the rotation cycle. They are key tasks in the production chain; product output and product quality hinge on them. Because the more experienced workers were forced to compensate for absences and higher production requirements, they were busy performing evisceration tasks instead of training new hires to do these tasks. And yet management was aware of the importance of training. Evisceration tasks required several months of training before a new hire could perform them properly, in accordance with hygiene rules and without slowing down production.

CSST claims

During the month preceding the four medical certificates, the company had submitted 12 claims to the CSST. Two workers had been off work for more than a year, and the company had requested second medical opinions. The other 10 had returned to work with temporary assignments for periods ranging from three to ten months.

In a slaughterhouse, jobs available for temporary assignment are rare, often consisting in mere visual inspection of products. Such a visual inspection job was created as a result of several occupational injury claims. It is excluded from task rotation and is not essential to production.

Following the ergonomic study, the company looked further into the problem. It examined the causes underlying the OHS problems in each claim, including the last four indefinite sick leaves for MSDs. Of these, two were compensated by the CSST while second opinions from a physician referred by the prevention mutual have been requested in the case of the other two. Management is now awaiting the results of these second opinions. It argues:

“MSDs are too readily presumed in poultry slaughtering facilities. We have observed in many of our claims that workers have only to complain of pain in the back or upper limbs and to say that they work in a poultry slaughterhouse, and their physician will immediately sign a release from work. The workers can then take sick leave without having to undergo a full medical.” (our translation)

Management considers that occupational injuries are over declared in the meat-packing industry. However, although it believes that physicians are too quick to presume occupational injuries in the case of poultry slaughterhouses, it does admit its part in the problem. The extent of occupational injuries in its plants is closely linked to the labour shortage, which means employees are assigned to repetitive tasks more often or for longer within a shift. Management had to push its analysis beyond the ergonomic aspect and start looking at the structural causes, in particular those related to work organization. It was aware that workers were unhappy with the lack of break time and the inadequate rotation of repetitive tasks.

Problem-solving process

Normally, the health and safety committee would have taken charge of the matter and would have participated in the studies and discussions, but such was not the case here. One of the four absent employees was a member of the OHS committee. In light of this conflict of interest, management (the plant manager, the quality control manager and the HR advisor) enlisted two employees (one of whom was the union OHS representative) to help analyze the situation and discuss possible solutions. The company also called in an ergonomist from its prevention mutual group and asked him to assess the various jobs and make recommendations. Another professional from the prevention mutual group also joined the committee. The resulting task force spearheaded the entire problem-solving process.

The ergonomist's report recommended two measures that required some capital outlay: purchasing manual handling aids and expanding the plant. The first measure was rejected because there was not enough room to rearrange the workstations. But the expansion project was approved by the two owners and was scheduled for the following summer. Expanding the plant would make it possible to modernize the production line by installing equipment to facilitate handling and certain other tasks, especially evisceration. In the meantime, a solution to the problems of fatigue and MSDs had to be found. It was decided to add an evening work shift. Management also proceeded to hire about 60 regular employees. There was still a labour shortage in the meat-packing industry; however, the events took place during the economic crisis, and hundreds of workers were being laid off in the region. The company took advantage of the situation to recruit in the region, where the unemployment rate was high.

“Contrary to other plants in the region, we’ve found the economic crisis to be a real boon for us. Layoffs in other plants have given us access to workers who normally occupy more attractive jobs. With the help of the local employment centre, we are soliciting workers who have lost their jobs. In addition, because we’ve set up a regular work shift, some of the foreign workers from the agency have moved to the region. We just hope this will last a while and that we won’t have to start all over once the other plants start reopening.” (our translation)

The economic crisis led to the closing of many businesses in the region. *Poules-poules* received 500 resumés from people living in the area. Of those hired, about 40 are still with the company. The large number of resumés received suggested that once the economy was back to normal, the workers would return to wherever they had worked before the recession. The situation was exceptional. Normally the company receives very few job applications despite advertising in the local newspaper and on the Emploi-Québec bulletin boards. For years, it had been hiring anyone who applied, with no selection process, interview or even criminal record check. With retirements and a probable economic upturn, *Poules-poules* will once again face a labour shortage in the medium term. Management is looking at other solutions, including hiring temporary foreign workers to meet its staffing needs.

Over the short term, adding an evening shift has made it possible to eliminate overtime. Previously, the workweek ranged from 50 to 55 hours, i.e., a 10-hour workday, four days a week, with a few hours of overtime. On Friday afternoons, when some 30 people left the production line and had to be replaced at all costs so that the orders could be filled, it was very difficult to find volunteers. After the evening shift was added, all employees had a workweek of five eight-hour days and enjoyed more break time. The new arrangement also made it possible to reduce potentially injurious repetitive movements.

Impact of the solution: Quality of working life

The new work schedule has led to better work/life balance, since workers are no longer forced to do frequent overtime. They can now manage their time better and go to pick up their children from school or the day-care centre. Once the evening shift was added and the 10-hour day abolished, a normal work rhythm was established, injuries dropped and the jobs became more attractive.

Over the medium and long term, the plant expansion and the purchase of more sophisticated equipment will make it possible to increase productivity, reorganize the workstations and rearrange the other work areas (for offices, lockers, cafeteria, etc.), thus improving the various handling tasks. The expansion plans must be approved by the Canadian Food Inspection Agency (CFIA), as the arrangement of workstations and work areas as well any change in meat-cutting tools must comply with environmental regulations and industrial hygiene standards.

Human resources management

At the time of the events, the shortage of personnel on the production line revealed a first HRM problem: recruiting for unattractive jobs when the food-processing industry was facing a general labour shortage. Subsequently, other problems revealed the existence of troubled labour relations in the company. The familial work climate had disappeared, leaving bitterness and conflict in its place. In this context, the company and the union had to strive to re-create a work environment where worker know-how was backed by training and recognized through measures that demonstrate an understanding of the efforts and requirements of the jobs.

Principles of law applicable to this case

1. Temporary assignments (maintaining the employment relationship): AIAOD, s.179-180
2. Employer's responsibility: AOHS, s. 51-53
3. OHS committee: AOHS, s. 68-86

Pedagogical objectives of this case study

A.1. Investigate OHS and HRM problems

A.1.1 What data does the company have on MSDs and absences?

- *Factual data, no periodic monitoring data.*

A.1.2 What data would be useful for analyzing the situation?

- Statistical data: logs of *incidents, accidents, occupational diseases, prolonged and cyclical absences, monthly and annual data.*
- *Other: risk analysis, job analysis, accident investigation and analysis log, and questionnaire on employee satisfaction*

A.2. Analyze the problem and make a diagnosis

A.2.1 What are the OHS issues?

- *Analyze the impact of decisions on the compressed workweek.*
- *Analyze the company's ability to recognize and accord value to unattractive jobs, including evisceration.*
- *Identify other potential OHS risks not named by the company (thermal risk of working in the cold and physical risk of cuts).*

A.2.2 What are the HRM issues?

- *Analyze the impact and complexity of using an immigrant worker placement agency to solve the labour shortage.*
- *Analyze the methods used to recruit and train personnel.*

A.2.3 What are the interactions between the OHS and HRM problems?

- *Compressed workweek, overtime, MSDs*
- *Overtime, work/life balance*
- *Labour shortage, agency recruitment, worker fatigue*

A.2.4 What are the causes of these problems?

- *Labour shortage*
- *Increased production /change in work method (regular to halal)*
- *Inadequate job rotation (repetitive movements)*
- *Inadequate training for specific jobs*

A.2.5 Who participated in identifying the problems?

- *Plant manager*
- *Company owners*
- *Quality control manager*
- *HR advisor*

A.3. Analyze the decisions

A.3.1 What solutions were contemplated?

- *Take advantage of the economic crisis to recruit locally, use recruiting organizations, lower the hiring criteria, add an evening shift, return to eight-hour work days*

A.3.2 What other solutions could have been explored?

- *Draw up a training and skill development plan for all jobs*
- *Set up a task force to examine the various worker-related problems within the company*
- *Analyze new risk factors (change in work method)*
- *Improve the selection process*
- *Invest in employee attraction and retention*

A.3.3 What were the criteria in the choice of solutions?

- *Workforce stability and employee retention*

A.3.4 What solutions were chosen in the end?

- *Evening shift, return to eight-hour days*

A.3.5 Who participated in the choice of solutions?

- *The same people who analyzed the problem*

A.4. Analyze the decision-making process

A.4.1 What were the windows of opportunity (events, circumstances) that made the solutions possible?

- *Economic crisis in the region, unemployment in other manufacturing industries, opportunity to recruit locally*

A.4.2 Who and what contributed to the final decision?

- *Owners, HR advisor, union, ASP advisor, local employment advisor*

A.4.3 Would the analyses and solutions have been the same if there had been no triggering event?

- *No, if it had not been for the four simultaneous medical certificates for MSDs, the various actors would probably not have been forced to study the company's OHS and HRM problems.*

A.5. Analyze the implementation

A.5.1 What human and material resources were available?

- *Human resources: plant manager, company owners, quality control manager, HR advisor, local employment advisor, unions and employees*
- *Material resources: break areas, change rooms, machinery and personal protection equipment*

A.5.2 Does the company have the capacity to assess the implementation of the proposed solutions?

A.5.3 What feedback and follow-up activities are being conducted on the measures

implemented?

A.5.4 Who participated in the assessment of the implementation?

A.6. Analyze the actors' ability to anticipate the problems

A.6.1 What were the circumstances and conditions leading up to the problems?

- *Threats of medical consultation for MSD, group absences, dysfunctional work organization*

A.6.2 What were the advance signs?

- *Expressions of dissatisfaction from many production line employees*
- *Labour shortages on the production line, leading to shorter breaks and inadequate job rotation*

A.6.3 What could have been the consequences of these problems if left unaddressed?

- *Decreased production, increased losses (perishable product), aggravation of recruitment problems*

A.6.4 Who could have foreseen some of the problems?

- *HR advisor, plant manager, union and CSST inspector*

A.7. Summarize the actors' roles and contributions

A.7.1 Who were the key actors and what were their roles in the problem-solving process?

A.7.2 Which actors did not take part in the process?

A.7.3 Would the solutions have been the same with the contribution of other actors?

A. Apply the analysis model (see Appendix 1)

A.1 Apply the analysis model, looking at the following:

- ☐ Context
- ☐ Triggering events
- ☐ Impacts and analyses
- ☐ Solutions

B. Watch the film *La jungle des agences de placement*

B.1 ENQUÊTE program on Radio Canada, broadcast on October 21, 2010:

<http://www.radio-canada.ca/emissions/enquete/2010-2011/Reportage.asp?idDoc=122495#commenter>.

C. Complete the investigation from the expert reports (see task analysis)

C.1 Identify the points in the ergonomic study that are useful for case investigation.

D. Use the principles of law (AOHS and AIAOD) to further complete the case analysis

D.1 Identify the principles of OHS law that could be specifically cited in the collective agreement of the workers at this slaughterhouse.

E. As a conclusion to the case study, answer the following questions:

- E.1 Are the chosen solutions a sustainable way of solving the problems related to MSDs, work output and recruitment?
- E.2 Did the company properly analyze all the causes?
- E.3 What problem will the company have to face in the first year? In the second year?
- E.4 Who could have participated in the problem-solving process? When and on what aspects?
- E.5 How should the employer apply the right to control workers' movements and work schedules? (see reference texts)
- E.6 What are the pros and cons—short-, medium- and long-term—of using an agency?

F. Topics of reference texts

- F.1 Musculoskeletal disorders (MSDs) in the poultry industry
- F.2 Atypical work schedules and their impacts on worker health
- F.3 How a personnel agency works

Mandatory readings

Désormeau, Richard, *Former au métier et à la prévention dans les abattoirs de volailles*,
Revue Prévention au travail, IRSST, Spring 2007, p. 17 to 20.

Patry, Louis et al, *Problèmes musculo-squelettiques et mouvements répétitifs dans les abattoirs de volailles (R-074)*, October 1993, IRSST, 49 pages.

Bourhis, Anne and Thierry Wils (2001), *L'éclatement de l'emploi traditionnel : les défis posés par la diversité des emplois typiques et atypiques*, Revue Relation industrielle, vol. 56, n° 1, p. 66-91.

Laflamme, Roch and Dany Carrier, *Droits et conditions de travail des employés des agences de location de main d'œuvre*, Revue Relation industrielle, vol. 52, n°1, 1997, p. 162-184.

Poules-poules: Analysis of task execution pace (example)

Evisceration

| Job | Height | Pace small/min | Pace large/min | Movement |
|---------------------------|-----------------------------|---------------------------|---------------------------|--|
| Transfer (2) | Chest | 23/min | 18/min | Grasp, 2 hands ↑ |
| Jarvis (2) | Hip | 23/min | 18/min | Right-handed, 1 hand ↓ |
| Opening (2) | Hip | 23/min | 18/min | Knife upward + 1 hand on chicken |
| Emptying (5) | Hip | 5/min | 3/min | Insert hand ↓ while pulling on viscera + 1 hand on chicken. Weight transfer effect |
| Inspection (2) | Chest | ~20/min | ~15/min | Cut off wings ↓, mark legs ↔, remove glands ↑, unhook chicken ↑ ~1.5 to 4 kg, 2 hands |
| Deboning (1) | Chest | ~1-3/min Variable | ~1/min Variable | Cut off wings, legs, breast ↑, ↔, 2 hands |
| Remove viscera (1) | Shoulder | 46/min | 36/min | 2 hands ↓ |
| Lung pump (2) | Hip | ~30/min | 18/min | 1 hand on pump, other hand on chicken |
| Final (1) | Chest | ~10/min Variable | ~10/min Variable | Trim wings, legs, breast ↑, ↔, 2 hands |
| Refrigerator (2) | Waist to head, long hook | 23/min | 18/min | Hang up carcasses ↓, 2 hands |
| Defeathering | Shoulder | ~5/min | ~2/min | Can be done with one hand. ↓↔. Pull on feathers. |

***Small chicken, 1.5 to 2.7 kg

***Large chicken, 2.7 to 4.5 kg (12-13% of production)

APPENDIX 3

VALIDATION CHECKLIST

Date:

Case study:

Instructor:

Course title:

Student Comments and Class Facilitation

| |
|--|
| 1. Comments on the case description and proposed activities |
| 2. Difficulties encountered |
| 3. Knowledge acquired by students from this case study |
| 4. Classroom facilitation <ul style="list-style-type: none">○ Be clear○ Allow all students to express themselves○ Moderate discussions○ Never get involved○ Do not be overly judgmental of errors○ Quickly bring the discussion back to the question at hand when it rambles○ Keep discussions within time limits |
| 5. Debate on positions and analysis factors (in teams or individually) <ul style="list-style-type: none">○ Present the company's socioeconomic context○ Present all alternatives/solutions○ Make sure everyone understands the main problem○ Obtain group participation○ Encourage students to speak up○ Keep the debate going○ Obtain consensus on the main problem |

Date:

Case study:

Instructor:

Course title:

Work Procedure and Instructor's Evaluation System

| |
|---|
| 7. Debate on positions and analysis factors (in teams or individually) <ul style="list-style-type: none">a. Present the company's socioeconomic contextb. Present all alternatives/solutionsc. Make sure everyone understands the main problemd. Obtain group participatione. Encourage students to speak upf. Keep the debate going |
| 8. Consensus on the main problem |
| 9. Choice of pedagogical objectives |
| 10. Choice of exercises and questions |
| 11. Choice of topics and texts studied (concepts and issues discussed in class) |
| 12. Choice of evaluation method (written and oral) – Evaluation form for individual or team participation (Croué, p. 75) |
| 13. Presentation of case to students <ul style="list-style-type: none">o How was the case presented?o How will you advise the students to prepare the case?o How much time did you allow the students to prepare the evaluations? |
| 14. Case enrichment (use of other texts or documents, videos, etc.) |
| 15. Instructor's comments on the case description and its teaching |
| 16. Difficulties encountered by instructor |