
The intersection of risk management and human resources: an illustration using genetic mapping

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Abstract: This research examines the intersection of organisational risk management and human resource responsibilities using the case of genetic mapping. Traditionally, risk management and human resource functions have operated in organisational isolation. In other words, these functional areas were not aware of each other's activities and their relative impact on the organisation as well as each other. Both areas have begun to adopt more strategic and holistic approaches to their areas of responsibilities. By discussing how genetic mapping is going to impact organisational human resource and risk management responsibilities, we illustrate how these activities must work together to maximise employee productivity while simultaneously minimising overall firm risk using a typology of both employer, employee and other stakeholder interests.

Keywords: discrimination, genetic mapping, genetic testing, human resource management, risk management

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1 Introduction

Conventionally, corporate risk management has centered on conducting a financial assessment of some type of organisational change that may expose a company to increased liability or loss. Examples of such an assessment would be a bank assessing the profit/loss probabilities associated with a new service, a manufacturing organisation determining if a change in the pricing structure of a product would reduce market share, or an organisation considering the costs associated with the closing or relocation of a plant. In spite of this focus, Pyne and McDonald (2001), state that [financial] organisations' 'people risk' is the top risk facing enterprises. Pyne and McDonald's (2001) report identifies risk areas related to people such as poor decisions, poor leadership, outdated reward strategies and untrained staff. The type of risk associated with employees could be classified as 'operational' (Lam, 2003). Lam (2003) states, "every employee in an organisation must be considered a risk." (p.212). Erven (2004) further suggests that risk management has not paid sufficient attention to HRM risks. However, this is changing, and human resource risk has been receiving increased attention (Lam, 2003). The purpose of this paper is to discuss the interplay between risk management and traditional human resource responsibilities. Specifically, our discussion centres on how the issue of genetic mapping will impact this interplay. Through this discussion we will also illustrate how the legal context of human resources can introduce conflict into the risk management process. As an end result of this discussion, it is hoped that organisations will begin to consider a broader definition of risk management that takes into account the environment under which Human Resource Management (HRM) operates.

Much of the published literature on risk management focuses on employee safety, the organisational attempt to identify and control hazards. For example, Glendon and McKenna detail aspects of a safety risk management process that an organisation could follow. Steps include: identifying hazards, evaluating and controlling risk and monitoring controls. Examples of organisational hazards include employees not wearing protective gear, handling hazardous chemicals and the danger of clearing blockage from a jammed machine. In all of these examples, the risk manager would be trying to determine the probability of 'harm' occurring were the employee to engage in 'unsafe' behaviour. In order to control such risks, organisations often engage in safety training, job redesign, equipment redesign and clear communication of proper work procedure. The organisation is able to monitor the number of incidents and the rate of occurrence can be tracked from year-to-year.

An additional set of literature examines the risks of various compensation strategies (Wiseman, et al., 2000). Much of this literature is primarily directed at executive compensation. This area has received increased attention because of the variety of incentives given to upper level executives regardless of firm performance. In addition, until recently, employees below the most senior level were less likely to exist in a variable pay environment. The executive compensation literature primarily discusses the trade-offs between different forms of compensation (e.g. immediate vs deferred), performance targets and risk aversion of the employee. Thus, "*compensation risk* is viewed as the

potential variability of future compensation and is generally measured as the proportion of variable pay or performance-contingent pay within the total compensation scheme.” (Wiseman et al., 2000, p.314)

Further discussions of risk management focus on areas of HRM such as effective recruitment, management and employee training (Erven, 2004; Lam, 2003).

“A company seeking to extract the maximum value from its employees must carefully manage both the upside and downside risks throughout the duration of an employee’s tenure with the firm, beginning with recruiting and ending with the employee’s retirement, termination or resignation.” (Lam, 2003, p.134)

Although such risks occur because of inefficient or ineffective processes, the organisation must be clear on how it is operationalising employee value.

With each of the human resource activities identified above, organisations are faced with decisions based on subjective analyses, as well as the increasingly complex legal environment related to employment. For example, while performance appraisal could be a means to assess individuals, both to improve poor performance and reward effective performance, research has repeatedly demonstrated that employee performance evaluation systems, regardless of the type of organisation, suffer from bias. Evaluators engage in strictness and leniency errors as well as allowing non-performance factors to influence their ratings. Similarly, organisations have historically had difficulty demonstrating the return on investment for many training and development programmes (Blanchard and Thacker, 1999). Until recently, the evaluation of many training programmes was limited to the reactions of participants or some measurement of in-class learning. Although practitioners recommend the evaluation of training programme effectiveness, few organisations determine the actual return-on-investment of training.

Lastly, in the area of recruiting, some authors (e.g. Decker and Cornelius, 1979; Gannon, 1971; Reid, 1972) suggest the utility of certain ‘sources’ of candidates for jobs such as employee referrals. Such generalities, in the absence of an understanding of the legal environment as well as the specific environment of the organisation, do not necessarily provide the ‘best’ candidates (Swaroff et al., 1985). That is, an organisation wishing to minimise recruiting risk, defined as premature employee turnover, might recruit heavily through employee referrals. While this may seem a sound policy, it could also result in an employee population that is not only less productive, but one that does not reflect a diverse labour pool. For example, employee referrals may be useful for hiring seasonal retail help. The employees are needed for a brief time and any level of productivity assists with the seasonal demand. However, hiring a technical salesperson based on an employee referral may not secure an individual with appropriate technical skills. The person hired may wish to work at the organisation, but may not be as technologically sophisticated as an individual recruited through a college placement office. Additionally, if the current employee pool is not diverse, it is highly likely that many of the referrals will reflect this homogeneity. The organisation would then be at risk in terms of both profitability as well as exposure to risk through non-compliance with the Civil Rights Act of 1964 although they would have minimised the costs associated with increased recruiting efforts. Hence, in the field of HRM, one must be careful in how one approaches risk management.

In addition, aspects of the HRM function itself are either being decentralised to internal line managers or outsourced to other organisations such as Professional Employer Organisations (PEOs). This change is a result of Human Resources Management

refashioning itself as a strategic partner within the organisation (Ulrich, 1997). Line managers are increasingly the individuals 'primarily' responsible for HR within organisations. From the perspective of traditional risk management, dealing with delegated processes makes control more difficult. Any discussion of risk management and employees must take this into account.

The traditional risk management approach has been characterised as a highly disaggregated method of managing firm risks (Liebenberg and Hoyt, 2003). Under this approach, human resource or 'peoplerisk' would be managed within that functional area only. As HR responsibilities are being decentralised throughout organisations, their accompanying risk management activities also need to be disseminated. An enterprise- (organisation-) wide approach, often referred to as enterprise risk management (ERM), integrated risk management or holistic risk management, treats this HR risk as part of the overall risk portfolio and thus manages the process from an organisational, not functional perspective. ERM recognises risks on a multi-dimensional basis across the organisation and assesses the spectrum of functional risks relative to each other (Dickerson et al., in press). There is a trend toward the adoption of ERM and it is usually attributed to both external and internal factors, the same type of factors stimulating the adoption of strategic HRM.

The extant literature does not clearly speak to the complexities of 'people risk' (decision-making, leadership, etc.) raised in the previously mentioned risk management publications. Risk is treated as a functional responsibility. In order to illustrate how a more holistic approach to risk management is necessary to address HR risk, the balance of our paper will illustrate both the internal and external factors driving this change using the case of employee genetic testing; it involves a variety of aspects central to HRM. We will first briefly explain the Human Genome Project that is currently sequencing human DNA. We will then summarise the legal context associated with the use of genetic testing. Lastly we will discuss the associated human resource risk management issues (for both the organisation, its employees and other relevant stakeholders) and consider their ethical implications.

2 The Human Genome Project and genetic mapping

Genetic mapping is the ability to document an individual's genetic composition. Mapping can identify whether an individual is a carrier or possesses a gene for a specific disease. A working draft of the human genome sequence has already been completed (Human Genome Project Information, 2003). The proposed benefits for society of the HGP include the identification, treatment, and eradication of certain diseases as well as cleaner and more efficient manufacturing processes (Human Genome Project Information, 2003). While no one would disagree with such benefits, there is a growing body of literature, based on the impact of the HGP, which debates the dissemination and use of information gained through genetic testing. Some of this literature relates directly to the management of risk within organisations. For example, from a safety perspective, organisations may wish to monitor current employees or screen potential employees to avoid injury or harm from exposure to mutagens.

Genetic monitoring involves testing current at-risk employees for genetic changes that occur as a result of workplace exposure to chemicals or radiation. Monitoring is designed to find actual harm (Diamond, 1983). Employees working in a nuclear power facility

would be monitored to determine whether genetic mutations are occurring because of exposure to radiation. In genetic screening, on the other hand, individuals, regardless of job duties, are tested to identify any existing aberrations from the normal human genotype. Diamond described this as the “ascertainment of susceptibility to future harm” (p.232). Organisations could also perform genetic screening on incumbent employees and although the information may not be job-related it could lead to higher insurance costs by identifying the genetic risk profile of an organisation’s employees. Using the example of carpal tunnel syndrome, an employer could modify the work environment to reduce repetitive stress in order to reduce either the insurance or legal risk. Diamond (1983), however, is concerned that those predisposed to the condition would be screened out and transferred to another work area to reduce their risk, while other individuals would remain in the unchanged environment. These ‘less’ sensitive employees could still develop carpal tunnel even though they are not genetically predisposed to the condition. In such a scenario, risk exposure would be reduced, but not eliminated. In order to further reduce risk, an organisation might consider job redesign.

According to the American Civil Liberties Union (2000), genetic testing in workplaces is on the rise. In 1982, the results of a federal government survey reported that 1.6% of companies responding were using genetic testing for employment purposes. In a similar survey conducted by the US Management Association in 1997, 6–10% of employers were found to be conducting genetic testing (American Civil Liberties Union, 2000). As the reliability of genetic testing improves, it could become a new method of differentiating employees for a variety of organisational processes. However, such differentiation could be in violation of existing law.

3 Legal context in the USA

There are many legal areas that remain unresolved and ambiguous where genetic mapping/testing is concerned. Several existing federal agencies, legislation and case law will guide both human resource and risk management practitioners in the USA. Modern organisations have an obligation under the Occupational Safety and Health Act (1970) to “furnish each employee with conditions free from recognised hazards that may cause illness, injury, or death . . .” (Holley and Jennings, 1997, p.465); this could include genetic monitoring to provide a safe work environment. Organisations are likely to make the decision on whether to transfer employees or redesign the work by assessing the total cost and benefits to both the employees and organisation. The following examples illustrate some of the preliminary issues and relevant legislation.

Sickle Cell Anaemia (SCA) is a genetically transmitted disease. It primarily affects those of African descent; however, there are other groups that are also affected, e.g. Arabs, Greeks, Italians, Latin Americans, and those from India (Sickle Cell Information Center, 2003). An individual possessing two sickle cell genes, or one from each parent, has SCA. A person with SCA experiences episodes of severe pain, has organ damage related to circulation problems, and generally has a shorter life span. An individual who has one sickle cell gene (only one parent passed on the trait) is labelled as having Sickle-Cell Trait (SCT). These individuals do not have the disease and do not exhibit clinical symptoms (Hubbard and Henifin, 1985). Suzuki and Knudtson (1989) point out that there have been cases where employees have been screened for SCT even though there is no “reliable

evidence that blacks diagnosed with sickle-cell trait are more likely to suffer under hazardous work conditions than those without the trait” (p.162). The US Air Force Academy is a specific example of an organisation that tried to manage risk via genetic screening for SCT. The Academy prevented blacks with SCT from attending flight school for more than 10 years (*ibid.*). The belief was that the presence of even one copy of the gene could lead to problems with low-oxygen conditions such as those experienced at high altitudes. The Academy determined that the risk was too great to invest in flight school for black carriers of SCT. Therefore, the Academy selected candidates for the programme based on genetic information and perceived risk. In 1981, after legal action and no evidence that supported the Academy’s concerns, the policy was changed.

The Americans with Disabilities Act of 1990 (ADA) was established to prohibit discrimination against qualified individuals with a disability, those with a record of a disability and those perceived as having a disability. For example, employers must provide reasonable accommodation of the workplace to make their ability to work a smooth process (e.g. a magnifying glass on a computer monitor, accessibility to the building). Employers must also offer benefits to disabled workers on the same basis as those offered to non-disabled employees. Because the ADA is relatively new, its relevance to various employment issues is being tested in the judicial system; the use of genetic testing is one such example. For example, the Burlington Northern Santa Fe Corporation was found to have illegally tested employees for genetic defects. In an interim settlement reached with the Equal Employment Opportunity Commission through mediation, the company agreed to pay \$2.2 million to 36 workers. The company, which was found in violation of the Americans with Disabilities Act (USA Equal Employment Opportunity Commission, 1999), took blood samples from employees to ascertain whether they were genetically predisposed to carpal tunnel syndrome. The company did not use the information to move workers to different jobs. In this case, although Burlington Northern ascertained the risk exposure to the organisation of these employees, there was no organisational response to reallocate these workers based on this information (Porter, 2001). The violation was related to gathering of individual DNA information. The employees had not given consent for DNA analysis to be conducted.

The Health Insurance Portability and Accountability Act of 1996 (HIPAA) prohibits a group health insurance plan from using genetic information to establish rules for (continued) eligibility and goes on to stipulate that genetic information shall not be treated as a pre-existing condition in the absence of a diagnosis of the disease (Greengard, 1997). However, HIPAA does not prohibit, nor does any other regulation, an insurer from raising rates or excluding all coverage for a particular condition. HIPAA also does not restrict discrimination from those purchasing insurance in the individual market and does not prevent plans from charging more to all members of a group plan because of the genetic make-up of a specific member of the group. Moreover, HIPAA does not prohibit insurers from requesting or requiring genetic tests. Thus, the insurance industry may attempt to reduce risk exposure by increasing premiums to subscribing organisations.

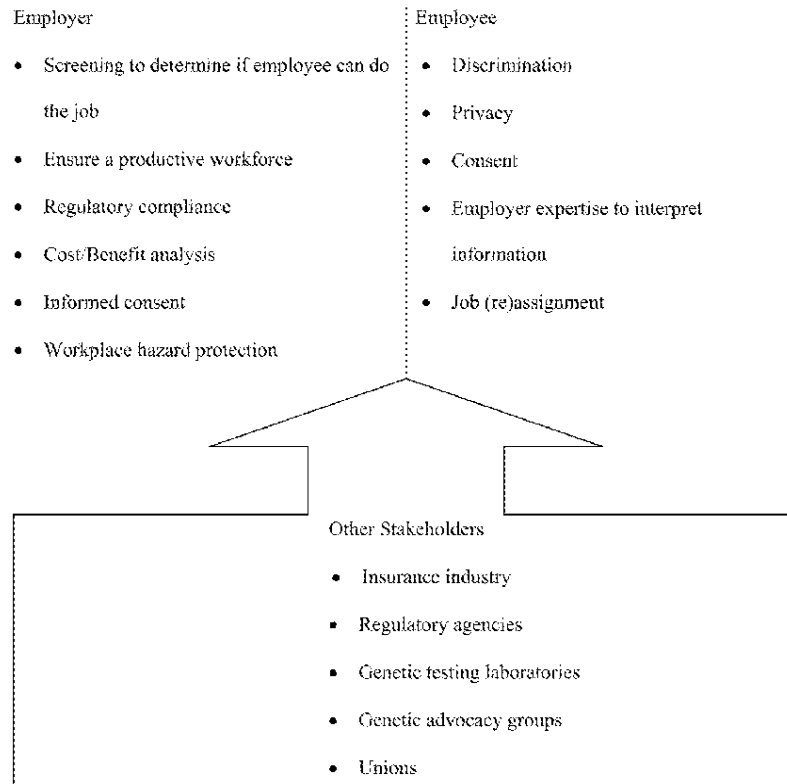
Lastly, Executive Order 13145, signed by President Clinton on February 8 2000, prohibits discrimination in federal employment based on genetic information. This order defines such discrimination as well as defines how genetic information shall be treated (e.g. confidentiality and disclosure standards) in the federal government. At least 24 states have adopted similar legislation for state government employees (Miller, 2000). The Genetic Non-Discrimination bill under review by the House of Representatives is the first attempt to clarify these issues and provide protection in this area in the private sector. Progress in examining the legal issues relevant to the use and dissemination of genetic mapping is likely going to be left to judicial and legislative work. As new issues are resolved in the court system, the precedent will begin to be set for how these cases will be handled. As with many other areas of organisational life, the handling of genetic information is likely to be imposed through legislation. For example, the government may wish to provide an incentive for organisations to offer genetic testing (e.g. tax incentives), if the results limit healthcare costs. This might occur in the case where an individual is screened and found to be a carrier of a disease that could be preventable through medication or early detection. Therefore, research is needed to assess the degree to which legal actions result in changes to organisational policies and procedures developed to manage such risk. The USA is not the only country passing regulations and legislation on this issue, both the European Union and Australia are also developing similar public policy.

These cases and existing legislation illustrate the conundrum organisations face in deciding whether to determine the genetic risks of their employees as well as what potential actions to take based on this information. There are no clear legal guidelines for either gathering genetic information or what human resource actions are appropriate. Diamond (1983) states that, "caution must be taken that genetic testing does not become a form of discrimination disguised as science" (p.242).

4 HRM risk management

As indicated earlier, HRM has traditionally been engaged in the recruitment, selection and evaluation of employees. Human capital is a key element in the success of many organisations. If human resource risk is not considered, the viability of many organisations, especially those in the service sector, will be compromised. However, genetic testing clearly demonstrates that employers, employees and other interested parties can have competing interests when defining risk related to human resources. A recent report from Australia (ALRC 96, 2003) outlines a variety of these competing interests. Using this report as a starting point, Figure 1 illustrates these competing interests and external pressures surrounding the human resource risk management of job candidate or current employee genetic testing.

Figure 1 The competing interests of genetic testing



4.1 Employer interests

One of the main HRM functions is to attract and maintain a productive workforce through its recruitment and retention practices. This may include screening for any type of restriction on employee capabilities, genetic imperfections included. Organisations have already begun to use genetic testing as part of their screening process; the cases mentioned earlier in this paper speak to the possible misuse of this testing. When organisations use any method to separate groups of individuals to qualify for an organisational reward, whether it is getting a job, a new assignment, or access to training programmes, issues of diversity and potential discrimination arise. The use of genetic screening is likely to be a diversity management issue because many genetic conditions appear to have protected class links, that is, many genetic conditions may be linked to gender, ethnicity or race. If screening is used, organisations and their Human Resource Managers will have to defend the use of genetic testing especially if protected classes are increasingly screened out of certain jobs as a result.

Workforce productivity depends not only on effective management, but ensuring employee safety and security. Organisational risk managers, human resource managers included, may need to assess whether employees are at undue risk of either injury or illness in the workplace. Much of this risk should be minimised through compliance with OSHA regulations, but OSHA has not addressed the role of genetic testing to date. For OSHA, genetic screening still falls under the guise of collecting relevant medical information pertinent to job duties, despite the unique nature of genetic as compared to general medical information. There may be specific regulatory guidelines appropriate to the organisation's own industry that may need to be addressed beforehand if considering genetic testing. Organisations will have to determine whether genetic screening is both appropriate and ethical for their workplaces. ALRC (2003) discusses these ethical concerns. For example, such screening could reveal a genetic problem that might not only affect the employee, but an offspring. What is discovered, and who is affected, transcends the organisation's boundary when genetic information is considered.

Lastly, employers are going to have to secure the potential or current employee's consent to procure this information. These individuals are likely to be reticent to share this information, especially if they are already aware that the perception of a genetic imperfection that may have a negative impact on their livelihood. Billings et al. (1992) discuss several cases of individuals with Charcot-Marie-Tooth (CMT), a neurodegenerative disease. The first individual was denied employment (after a job offer) because she had the disease even though her symptoms were not noticeable. The other individual was denied automobile insurance even though he had a stellar driving record.

4.2 Employee interests

Whenever an employee is requested to share personal information with their current or potential employer, concerns arise over the intent and appropriateness of gathering this data. For example, employers are prohibited from asking job applicants their age or marital status in a job interview. With this information, employers might be able to make certain inferences about the job applicant that are not relevant to their ability to do the job (e.g. a married applicant may be less willing to travel than an unmarried applicant). In this example, will the married job applicant be unfairly discriminated against and removed from the applicant pool. Medical information is of increasing concern to employees. A recent article in the *Wall Street Journal* (Lublin, 2004) indicated that job applicants were not disclosing chronic illnesses because they believed that they would be screened out of a job because the employer would perceive higher costs associated with such a hire. Similarly, genetic information could be used to discriminate against potential or current employees in several ways. If an organisation discovers that an employee, being groomed for a top management position, is a carrier of Huntington's disease, they may alter their promotion decision by engaging in subtle discrimination; despite the fact that they may or may not develop the disease while employed.

There are a variety of issues surrounding a job applicant or employee's ability to keep their genetic information private. Under what circumstances is it truly in the employer's best interest to have that information? In the example of the employee who is a carrier for Huntington's disease, does their employer have a right to that information even though their current ability to perform is not affected? After all, there is no guarantee that any employee, regardless of health, will remain with an organisation. Does privacy depend on

the impact this individual has on the organisation? For example, if an organisation is negotiating a large executive compensation package for a new member of top management, is knowledge of their genetic information more critical than for a lower-level employee? While organisational policies are supposed to be equally applied throughout the organisation, there is some evidence that one's organisational level can impact policy application. Stone and Colella (1996) suggest that when employees suffer from disabilities beyond their control, supervisors may act leniently toward them (p.363); however, would a person in an executive position receive such deferential treatment, especially in light of our earlier discussion of executive compensation risk? Human Resource practitioners will need to address this issue to mitigate any potentially discriminatory practices in obtaining this information.

Do employees have a right to refuse to provide genetic information or submit to this testing? It is still unclear where the legal environment stands on this issue, but many potential or current employees are likely to refuse to provide this information unless a clear connection to their jobs and possibly a rationale for its intended use and protection are provided. If employers are requesting their employees' genetic information, do they have the appropriate means to correctly interpret the findings? Genetic test results are likely to be relatively complex in their findings and organisations will need to ensure that their human resource staff has the capabilities to draw the appropriate conclusions as they are relevant to that organisation. The 1990 Report on Genetic Monitoring and Screening in the Workplace (US Congress, Office of Technology Assessment, 1990) contains an entire section discussing the ethical use of personal information within the workplace.

If we assume that employers have the capabilities to interpret genetic test results appropriately, what about the employee's willingness to make adjustments to either their work assignment or career path. For example, suppose an employee is working in a hazardous environment where their genetic make-up places them at a higher risk for developing a chronic disease. The employer requests that the employee be reassigned to a different job that does not increase the employee's exposure to the hazardous condition. This move would also limit the employer's exposure to increased liability. However, what if the employee does not want to take this job reassignment because of compensation level or probability of advancement? In the Supreme Court Case *UAW v Johnson Controls* (Healthcare Ethics, 2004), the court found that women of childbearing age could remain in a hazardous environment in spite of the risk to foetuses they may be carrying. Would genetic risk be considered differently by the courts? Additionally, since many genetic conditions are related to protected class status such as gender or ethnicity, this could become an issue.

4.3 Other stakeholders

The HGP has opened debate in the area of risk assessment and decision making in the insurance industry (Peters, 1998; Pokorski, 1997; Steinberg, 2000). This debate has focused on the ability of underwriters to accurately assess risk on the basis of medical data that includes genetic information. These underwriters are analysing if all insurers (regardless of genetic properties) have to pay higher premiums if genetic information is not considered. There is considerable debate about the use of this particular type of medical information. A survey of geneticists concerning the use of genetic information by insurance companies indicated a strong consensus for limited or no access without permission of the individual who had been tested (Wertz and Fletcher, 1989).

There has been some research about the use of genetic information in risk assessment or insurance underwriting (Peters, 1998; Pokorski, 1997; Steinberg, 2000). Pokorski has made cogent arguments for the use of genetic information in insurance underwriting. Stone (1996) indicates that from the health insurance perspective, adverse selection (people with identified genetic aberrations who know of them will be more likely to seek insurance than those who do not have genetic problems) will occur unless the company itself has access to this medical information.

Human resource managers will need to address the use of genetic screening with the employer's insurers. Although the insurance industry has already begun thinking about how to use genetic information in their industry, human resource managers have yet to address the potential increased exposure to higher insurance (e.g. healthcare) costs related to genetic imperfections may necessitate expensive treatment. Also, if employers' risks of genetic mutations are because of workplace conditions (e.g. chemical handling), organisations will have to determine the impact on both the employees and the organisation's rate of worker's compensation claims, which in turn may influence rates for this type of insurance.

Risk management publications have also entered the discussion (Deering, 2002). The use of genetic testing could also affect the organisation's interaction with other stakeholders, such as regulatory agencies, genetic testing laboratories, genetic advocacy groups, and labour unions. Depending on the industry, regulatory agencies, in the future, may support or even mandate the use of genetic testing to protect workers from undue harm from adverse work conditions. Labour unions are likely to object to an organisation's use of genetic testing to either recruit or allocate work for its membership. Future collective bargaining agreements are likely to outline what tests can be used for specific organisation purposes. For example, the European Trade Union Commission (Europe's leading Union agency) has called for a ban on the use of genetic testing in the workplace (Trade Union Congress, 2003).

5 Conclusion

Historically, many organisations have considered HRM a cost centre (Ulrich, 1997). According to Ulrich (1997), today's HR function must add value rather than 'reduce costs.' As stated earlier, Lam (2003) believes that operational risks exist because of inefficient or ineffective processes. By implication, these same risks can be controlled by eliminating inefficient or ineffective processes. The risk management literature cited earlier indicated that recruitment, management and leadership needed to be improved and monitored. Are HRM and Risk Management approaching operational problems from two different paradigms? The disconnect lies when both risk management and HR are treated as functional, not strategic partners within the organisation. As HR responsibilities are often disseminated in a strategic organisation, their accompanying risk management activities have to be addressed across the organisation in light of the overall risk management portfolio. Therefore a holistic approach to risk management is necessary.

Using the genetic screening focus developed earlier in this paper, we can see that there needs to be integration of the traditional HR, safety and risk management functions. Genetic screening may be able to identify employee risk exposure, but at the same time reducing this exposure could result in a discriminatory environment. The integration of the

areas implies a more integrative management approach within organisations. Ritzky has pointed out the need for HR to become more involved in safety and risk functions (Wojcik, 1997). However, while safety has been covered in many HRM classes and texts, the specific area of risk management is generally not covered using that term. Texts often discuss HR audits related to federal compliance; however, it may be beneficial to introduce risk management terms to HR managers. Therefore, part of the problem of approaching and dealing with operational risk may be related to the lack of cross-functional approaches to the issue.

Tapia (2003) has called for a systems approach to these types of risks. For example, when discussing recruitment, he suggests not only providing better training for those making the hiring decision, but post-decision assessment and feedback. He also calls for monitoring of unwanted behaviour, and oversight from the Internal Audit department. However, in spite of the attractiveness of a theoretical framework, there are some concerns with his specific suggestions from both an HR and an operational risk management perspective. First, approaches such as this will increase the costs attributed to the HR function. Just as organisations have become concerned with paying executives based on a short- versus a long-term perspective, a similar reorientation has to occur within corporations if we want to improve these operational risks. One cannot immediately reduce costs and address operational risks. Therefore, if organisations are serious about managing operational risk, they must be willing to invest in the processes needed to reduce it. Second, the specific behaviours that Tapia wants evaluated, such as character, may result in problems for the organisation. While testing employees for skills such as keyboarding are clear and objective, things become murkier for less structured jobs. By validating selection and promotional 'tests', we can improve our hit rates; however, even validated tests are not a sure thing. Organisations, like humans, are complex systems; validated tests may not account for the majority of variance of performance between individuals. Third, if we are dealing specifically with recruitment, we must remember organisations are dynamic systems. Just because someone meets criteria for an entry-level job, additional operational risks exist through the performance system, as well as the organisation's interaction with constituent groups in its environment. This was especially clear in our genetics examples. Individuals may not exhibit any symptoms at the time of hire, they may develop symptoms at some time in the future, and the government, insurance providers and advocacy groups may 'impinge' on the employment relationship based on screening decisions related to genetic make-up.

One area of HR that has been addressing operational risks to date is International HRM. In many ways, International HRM takes a more holistic approach to people risk. Within this field, often separate from domestic HR departments, risk exposure related to employees is seen as important because of the financial exposure to the organisation (Dowling et al., 1999). The cost of expatriate failure is perceived as a high-cost problem for organisations with a global presence. Extensive screening of the potential expatriate, as well as family members, in many organisations is done to control the direct costs of the move as well as indirect costs that could accrue because of expatriate failure. In addition, risk associated with terrorist activities or hardship locations are also figured in. Why might the risk approach be different for this sub-field? First, organisations generally do not have many expatriates because of the salary and relocation costs. Therefore when a decision is made to send someone overseas for an assignment, great care is taken. In addition, since the employee does not have to accept such an assignment, the organisation is careful to

elucidate risks for the person so they can make an informed decision. However, the same care is not taken in many organisations when an expatriate returns from assignment. The literature indicates that there is an extremely high turnover rate in this population. The same type of care is not taken when making domestic employment decisions. Just as with the genetics example as summarised in Figure 1, there are competing interests from a variety of factors.

The international HR field demonstrates that risk management processes can be applied and implemented for operational risks. Organisations can minimise risk exposure related to recruitment, selection and performance targets. We suggest the application of these control processes does not occur on a widespread basis because of competing interests, costs and possible discriminatory outcomes. As HRM becomes more of a strategic partner in the organisation, this may change. In order to facilitate this process, organisations must reconsider their investment in, and expectations of, the HR function.

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