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OPTIMISING HEALTH AND SAFETY (H&S) MANAGEMENT BY ALIGNING JOB TASK TO RISK BEHAVIOUR PROFILE MATCHING

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Introduction

- **Ultimate aim of H&S management is zero harm**
- **Human resource (HR) management aims for the correct recruitment and maintaining of the most suitable candidate**
- **Various evaluation methods, with a psychological base used**
- **Psychometrics ('to measure the brain'), is used to assess a candidate's ability or personality (Dean, 2008)**
- **Such tests (Lepper, 2009):**
 - **Psychological profile of a job candidate**
 - **Examine their personality and reactions in different situations (Lepper, 2009)**
 - **Aim of which is to limit risks that candidates may pose to an organisation**
- **Most accidents recorded are related to human failure (Navare, 2003)**

Risk-taking behaviour

- Human risk-taking behaviour is dependent on various parameters:
 - Differences in the behaviour of genders - women have been found to show a greater difference between personal and general risk than men
 - View of risk to oneself and to others people - more concerned about the risks to others than to themselves (Sjöberg, 2002)
 - Optimum amount of risk a person is prepared to take depends not only on uncertainty, but also on the person's risk preferences
 - Cultural values affect the way in which people think and behave when faced with H&S related issues
 - Risk perception is a condition of an individual that is self-aware

Knowledge of risk-taking behaviour

- Detailed knowledge of specific risks being faced affords people information on how to mitigate, avoid or manage such risk when exposed to it:
 - Humans inherently do not want to avoid hazards
 - They regard hazards to be in need of being mitigated - more interested in hazards from a sense of spontaneous stimulation of emotions negatively correlated with perceived risk

Experience and risk-taking behaviour

- **Heuristic learning - process of learning by experience**
- **Heuristic availability involves the ease with which a person can remember a hazard occurring in the past as the basis for determining the likelihood of it occurring again in the future (Maule, 2004)**
- **Impact of such experience depends on the:**
 - **Intensity of the experience**
 - **Time lapse since the experience**
 - **Individual capabilities and the decisions made during such experience**
- **Impact of such an experience will influence correct or incorrect decision making when the person is exposed to a similar scenario again**

HR interventions

- **Most important activity of HR management is the staff recruitment and selection process**
- **Improving and sustaining job performance involves well planned employee evaluation criteria performance assessments (Cheng and Li, 2006)**
- **Incorporation of individual risk-taking behaviour profiling in candidate selection for specific job task matching should be standard during routine job appraisals**
- **Psychometric testing and a detailed history of the individual's incorrect behaviour**
- **Involves looking closely at the psychological profile of a job candidate and examining their personality, their reactions in different situations and their specific skills (Lepper, 2009)**
- **Achieve a cultural match between an applicant and a job position**

Research method

- **Sample stratum – 37 Human Resources (HR) managers**
- **Objectives:**
 - **Need for intervention on profiling individual risk-taking behaviour**
 - **Need for matching such profile to specific job tasks**
- **Self-administered questionnaire**
- **22% Response rate**
- **Descriptive statistics – frequencies and a measure of central tendency (MS)**

Research findings (1)

Statement	Strongly disagree (%)	Strongly agree (%)
Human behaviour risk analysis should form an important part of a job applicant's evaluation	0.0	100.0
History of risk-taking behaviour can be analysed to form part of a job applicant's interview analysis	12.5	87.5
Job task - employee profile matching should be standard for high risk engineering tasks	0.0	100.0
It is possible to match a candidate's risk profile to a specific job task	25.0	75.0
There is definitely a difference in each individual's risk taking behaviour profile	0.0	100.0
Competency, knowledge and skills should not be the only criteria for job task matching, but also the individual's risk-taking behaviour profile	12.5	87.5
Psychometric testing during job interviews should incorporate values that can identify risk behaviour tendencies of individuals	0.0	100.0
A model that can be incorporated and used in job interviews for the correct selection of employees that will lower H&S incidents due to risk-taking behaviour would be ideal	0.0	100.0
Continuous employee evaluations need to be made according to incident profiles for adjustments in job task allocations	0.0	100.0

Table 1: Degree of concurrence with HR intervention related statements

Discussion (1)

- **Incidents occur despite compliance with legislated H&S standards and the creation of environmental control methods**
- **Aspects indicating the need for further H&S interventions, such as evaluating specific job tasks in order to match them with a candidate's risk-taking behaviour profile, are:**
 - **High individual decision making required**
 - **Complexity of the job task**
 - **Competency required for the job task**
 - **Once-off projects or non-repetitive job tasks**
 - **Maintenance and emergency repairs environment**
 - **Tasks that require less than 5 people to perform**
 - **Tasks not performed during normal working hours such as after-hours, at night or on weekends**
 - **Pressure on time constraints for completion of the task(s)**
 - **Extraneous environmental conditions such as working outside in inclement weather**

Discussion (2)

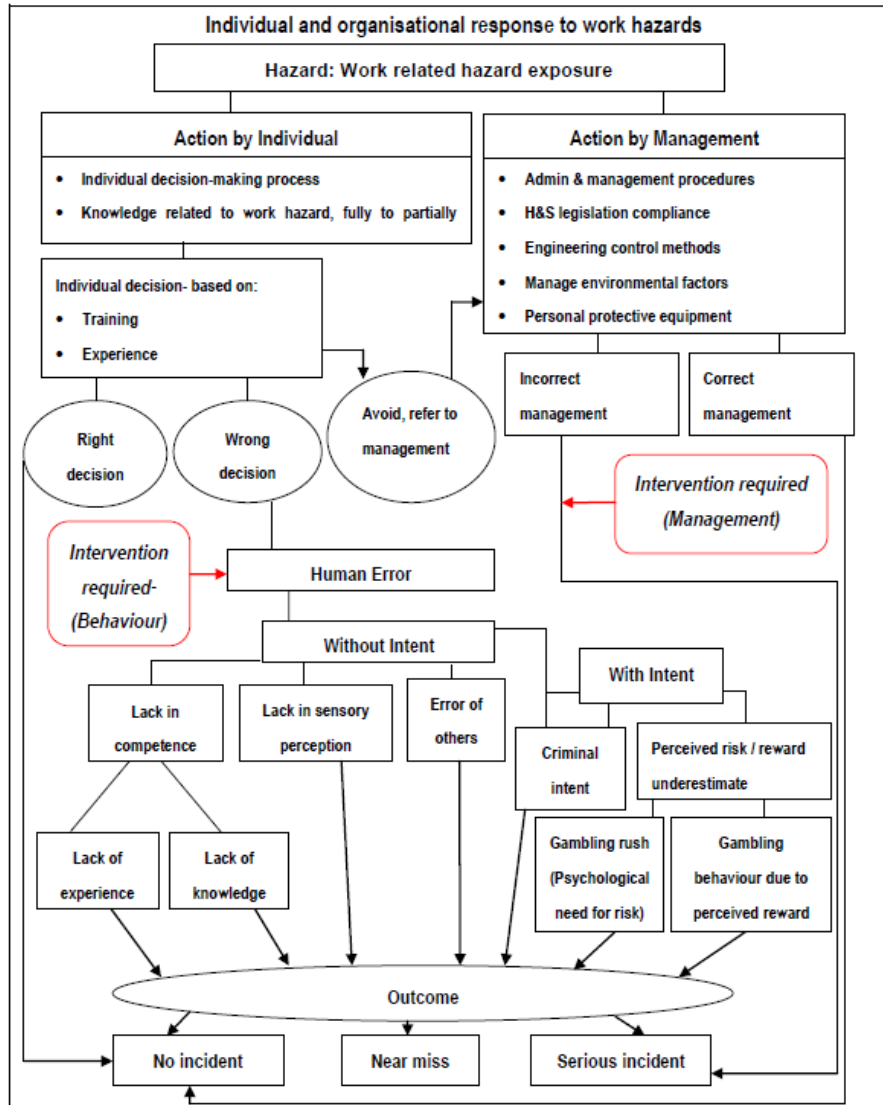


Figure 1:
**Point of management intervention
 required to prevent possible
 incidents**

Discussion (3)

- **Variables that need to be addressed to develop a profile of risk related to a specific job task are:**
 - Frequency of the task
 - Engineering equipment required
 - Personal protective equipment (PPE) and clothing required
 - Environment in which the task will be performed
- **Thereafter, the personnel requirements need to be recorded:**
 - Physical capabilities required to perform the task such as vision, hearing, and strength
 - Qualifications required
 - Type of worker required
 - Amount of personnel required
- **History of job task performance will provide further insight:**
 - Incidents experienced
 - Severity of incidents
 - Interval of occurrence
 - Mitigating procedures required

Discussion (4)

- **The decision-making required includes:**
 - Decisions to be made by the individual in the form of the level of judgment required
 - Management decisions
 - Engineering systems automatic control
 - Decisions by supervisors and others
- **Variables that need to be evaluated in order to determine an individual's tendency for high risk-taking behaviour include:**
 - Competency of the individual
 - Historic profile of risk-taking behaviour
 - Specifically designed psychometric test evaluations
- **Competence, knowledge and experience includes:**
 - Experience related to the job task
 - Knowledge and formal qualifications
 - How often job tasks have been successfully completed
 - Ability to control and manage job task

Discussion (5)

- **History of risk-taking behaviour includes:**
 - Involvement in incidents related to the job task
 - Severity of such incidents
 - Interval of occurrence
 - Disciplinary action due to non-compliance with H&S standards
- **Psychometric tests include:**
 - View on risk-taking behaviour
 - Need for organisational policies and procedures
 - View of individual decision-making related to hazards
 - View on management input
- **Most advantageous outcome of HR management is the recruitment and placement of candidates with a perfect profile 'fit' to a specific job category**
- **Reduce risk - match correct risk-taking behaviour profiles to high risk tasks**

Discussion (6)

- **Individual tendency for risk-taking behaviour is complex and includes:**
 - Various aspects related to the impact of personal and the working environment's cultural influences
 - The unique psychological make-up of such individual
 - Their emotional state
 - Their sensory perception aptitude
- **Total index quantification requires specific psychometric testing and in-depth, individual psychological profiling:**
 - Not always available to small business entities
 - If HR systems lack capacity in terms of psychological evaluations - evaluate historical behaviour patterns

Discussion (7)

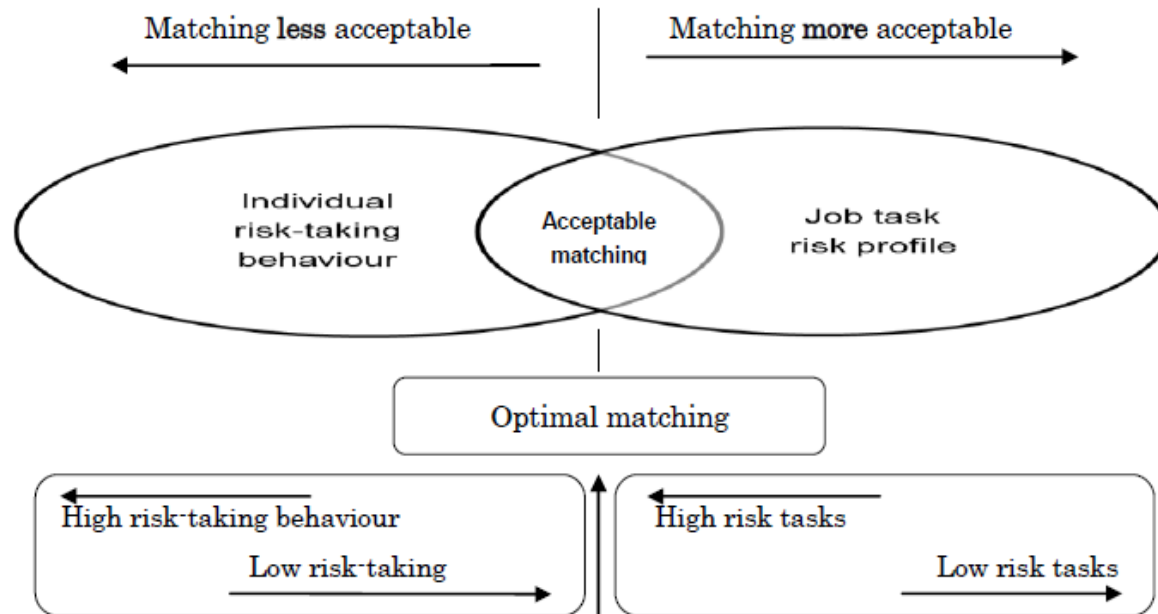


Figure 2: Matching job task to risk behaviour profile

Conclusions (1)

- Risk is a part of life - inter-grained concept in our subconscious mind
- Every action humans take has a subconscious calculation on the risk involved and the possibility for gain or loss
- Actions taken are based on the individual belief that such actions will be to the person's advantage - influenced by the individual's psychological and cultural background
- By understanding such parameters of the individual, better planning can be embarked on to reduce the future risk individual behaviour poses to an organisation
- Variability of risk that human behaviour poses to organisations needs to be taken into account and managed
- H&S management must not only manage environmental factors, but take into account the critical component of individual behaviour

Conclusions (2)

- Differences in individual perceptions of risk are influenced by a variety of environmental, psychological, personality traits and cultural factors
- Each individual's risk-taking behaviour profile differs and poses unique risks to organisations

Recommendations

- **Human behaviour as a risk factor cannot be eliminated and will always have an impact on optimal H&S system performance - organisations need to acknowledge the threat and rather invest in systems and procedures that will manage this difficulty in their H&S chain**
- **HR recruitment and HR maintenance systems should incorporate individual risk-taking behaviour profile to job task matching in the correct selection of candidates for high risk job tasks. The model proposed in Figure 2 provides an ideal opportunity of limiting the impact individual risk behaviour could have on H&S management system performance**