COMMUNICATING THE VALUE OF ERGONOMICS TO STAKEHOLDERS

BLAKE MCGOWAN CPE
February 28, 2019 | Indianapolis, IN

VALUE OF ERGONOMICS

• Reminder: Ergonomics Optimizes Human Performance
• Benefactors & Benefits
• Social & Financial Cost of Poor Ergonomics
• Why Should Health & Safety Care?
• Why Human Resources Should Care?
• Why Should Operations Care?
• Why the C-Suite Should Care?
FUNDAMENTALS - DEFINITION OF ERGONOMICS

Ergonomics (or human factors) is the scientific discipline concerned with the understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data and methods to design in order to optimize human well-being and overall system performance.

International Ergonomics Association (IEA) and Human Factors & Ergonomics Society (HFES).
IS THIS PART OF THE PROBLEM?

The goal of ergonomics is to **prevent soft tissue injuries and musculoskeletal disorders** (MSDs) caused by sudden or sustained exposure to force, vibration, repetitive motion, and awkward posture.
IS THIS PART OF THE PROBLEM?

An ergonomics program is a systematic approach and a management system that is designed to reduce risk from ergonomic hazards in the workplace.

Canadian Centre for Occupational Health & Safety (CCOHS).

BENEFACTORS & BENEFITS
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Benefit (or Value) of Ergonomics

<table>
<thead>
<tr>
<th>Traditional - Perceived</th>
<th>Actual - Potential</th>
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<tbody>
<tr>
<td>Well-being</td>
<td>Business Performance</td>
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SOCIAL & FINANCIAL COST OF POOR ERGONOMICS

GLOBAL BURDEN OF DISEASE - MSDS


OCCURRENCE OF MSDS

% 31 50 39


Schneider E, Irastorza X. OSH in figures: work-related musculoskeletal disorders in the EU—facts and figures. Luxembourg: European Agency for Safety and Health at Work (EU-OSHA), 2010

COST OF MSDS - USA

$ B % GDP
510 4.6
339 3.1
849 7.7

COST OF LEADING TYPES OF MSDS

$29,000 – $33,000

$22,500 – $76,000

OSHA’s “Safety Pays.

LEADING CAUSE OF WORKPLACE INJURIES

2017 Liberty Mutual Workplace Safety Index
LEADING CAUSE OF WORKPLACE INJURIES

Top 10 Causes and Direct Costs of the Most Disabling U.S. Workplace Injuries

- Overexertion involving outside sources: 23.0% ($13.79 billion)
- Falls on same level: 17.7% ($10.62 billion)
- Falls to lower level: 9.2% ($5.50 billion)
- Struck by object or equipment: 7.4% ($4.43 billion)
- Slip or trip without fall: 6.5% ($3.89 billion)
- Struck against object or equipment: 6.2% ($3.70 billion)
- Caught in or compressed by equipment or objects: 3.8% ($2.30 billion)
- Roadway incidents involving motorized land vehicle: 3.3% ($1.95 billion)
- Overexertions other than lifting: 3.2% ($1.94 billion)
- Repetitive motions involving micro-tasks: 3.0% ($1.81 billion)

2017 Liberty Mutual Workplace Safety Index

% INJURIES CAUSED BY OVEREXERTION

2007 - 2017 Liberty Mutual Workplace Safety Index
WHY SHOULD HEALTH & SAFETY CARE?
SITE INITIATIVE

↓ 35%  first aid cases

↓ 50%  modified duty cases

↓ 75%  long-term sickness absences

↓ 23%  Casual absenteeism

↓ 93%  duration long-term sickness absences

PARTICIPATORY CORPORATE INITIATIVE

70% reduction in ergonomics recordable injuries

50% reduction in lost-time cases

50% reduction in workers compensation claims

25% reduction in lost-time claims cost


MACRO CORPORATE INITIATIVE

7% relative risk reduction

5 injuries per 100 person-years

MACRO CORPORATE INITIATIVE

73% high risk job exposures were eliminated through engineering and administrative controls

55% reduction in ergonomics case incident rate

74% reduction in restricted-time case rate

40% reduction in lost-time case incident rate

IMPROVED EMPLOYEE WELL-BEING

- musculoskeletal disorders
- incidence rates
- lost workdays
- restricted workdays
- workers' compensation costs
- turnover
- absenteeism
- productivity
- quality

Why Should Human Resources Care?

VALUE OF ERGONOMICS PROCESS

Turnover:  
\[ \downarrow 23-49\% \]

Absenteeism:  
\[ \downarrow 42-116\% \]
VALUE OF ERGONOMICS PROCESS

The ergonomic condition of the workplace reflects stakeholder’s respect for employees.

• To engage employees, business leaders need to simply connect one-on-one with them to establish a foundation of trust and respect.

• If the workplace is designed to meet people’s needs, it demonstrates the employer's commitment and enables employees to be fully engaged in the workplace.
IMPROVED MANUFACTURING PERFORMANCE

Participatory ergonomic intervention shows statistically significant improvements in performance outcomes:

- **1%** Increase first-time quality production
- **5%** Increase productivity efficiency

WHY SHOULD THE C-SUITE CARE?
IMPROVED HUMAN CAPITAL MANAGEMENT

Human Capital management is material to company financial performance.

- Term understood by Senior Management Teams and Financial Investors.
- Skills, knowledge, and abilities employees bring to their work - viewed in terms of their value or cost to the company.

IMPACT ON STOCK PERFORMANCE

Cumulative stock performance (in %) of Koop Award Winners compared with the S&P 500 Index (2001-2014).

Figure 1. Portfolio starting at five winners versus S&P 500.


IMPORTANCE OF (HUMAN) SUSTAINABILITY

IMPACT ON CORPORATE CREDIT RATING

4% of all credit changes are influenced by social factors

human capital management and safety management are the most important social factors impacting credit quality

75% of these changes were negative or downgrades in credit rating. A downgrade typically results in a 10% to 20% drop in stock price.

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