Making the Business Case for Ergonomics

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Overview

- Concepts in cost-benefit analysis.
- Review of the business case for ergonomics.
- Resources to learn more.
Concepts
Ergonomics

Really expensive! Good investment!
Costs

- Equipment
- Training

Benefits

- Fewer injuries
- Less turnover
- Higher productivity
Payback Period

- Time required for accrued benefits to equal cost of initial investment
Payback Period

- $60 more for LED bulbs
- Saves $2 per month on electric bill
- What’s your payback period?

Cost of bulbs = $60

Savings @ $2/mo.

Payback

15 mos. 30 mos. 45 mos.
Business Case
Reviews of effectiveness


- Economists and ergonomists reviewed 63 published reports of effectiveness of ergonomics interventions
- Most studies were peer reviewed

<table>
<thead>
<tr>
<th></th>
<th>WMSDs</th>
<th>Costs</th>
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<tbody>
<tr>
<td></td>
<td>50%</td>
<td>64%</td>
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Reviews of effectiveness


- Review of 250 case studies, mostly anecdotal
- Most savings from reducing injuries, increasing productivity
## Results from the case studies

<table>
<thead>
<tr>
<th>Metric</th>
<th>Number of examples</th>
<th>Mean</th>
<th>Median</th>
<th>Range</th>
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</thead>
<tbody>
<tr>
<td>WMSDs</td>
<td>90</td>
<td>59% ↓</td>
<td>56% ↓</td>
<td>8%-100%</td>
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<tr>
<td>Lost workdays</td>
<td>78</td>
<td>75% ↓</td>
<td>80% ↓</td>
<td>3%-100%</td>
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<tr>
<td>Workers’ comp costs</td>
<td>52</td>
<td>68% ↓</td>
<td>70% ↓</td>
<td>15%-100%</td>
</tr>
<tr>
<td>Productivity</td>
<td>61</td>
<td>25% ↑</td>
<td>20% ↑</td>
<td>-0.2%-80%</td>
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Results from the case studies

- **Average payback periods:**
  - Comprehensive programs - 2½ months
  - Office ergonomics programs – 5 months
  - Individual solutions – 5 months

- **Most payback periods less than 1 year**
Review of cost-effectiveness


- **Insufficient evidence** for cost-effectiveness of ergonomics in most industry sectors

- **Moderate evidence of cost-effectiveness** – Offices (8 studies), Healthcare (11 studies), Transportation (3 studies)

- **Strong evidence of cost effectiveness** - Manufacturing and Warehousing (9 studies)
Review of cost-effectiveness


- 26 reported cases, 19 related to ergonomics
Verbeek, et al. (2009), findings

- Median net value of benefits in first year = €214 per worker
Stock market performance


- Stock portfolio of Corporate Health Achievement Award (CHAA) winners compared to market index.
Fabius, et al. (2013), results

CHAA vs. S&P 500 Performance Comparison 1999-2012

American College of Occupational and Environmental Medicine – acoem.org
Resources


- Good Ergonomics is Good Economics, Hal Hendrick, 1996: hifes.org

- Washington State CBA model: www.pshfes.org

- Health & Safety Smart Planner - http://www.iwh.on.ca/smart-planner

- Visualize ROI - https://www.visualize-roi.com

Thank You

- Any questions?

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