

How to: Return on investment calculator

Data and Evaluation Services

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ROI – What is it?

$$\text{ROI} = \frac{\text{benefits}}{\text{costs}}$$

You can also use ROI information to perform a cost benefit analysis



A performance measure that evaluates the efficiency and cost effectiveness of an intervention, which is often used to compare multiple options.



Help answer the perennial questions – “Is it worth it?” or “Which gives the greatest productivity gains”

Information required

Direct
costs

Costs of WHS
solution

- Upfront costs of WHS solution
- Ongoing costs of WHS solution

Indirect /
hidden costs

Avoided costs
of incident

- Avoided immediate incident costs
- Avoided investigation costs
- Avoided damages
- Avoided replacement costs
- Avoided loss of productivity

Benefits of WHS
solution

- Benefits of WHS intervention

Example information to input

\$

Capital expenditure

- Ex1. Spent \$8000 to purchase new elevated work platform
- Ex2. Cost \$100 to replace damaged grinder

\$

Wages

- Ex1. Paying \$80/hr for an ergonomics consultant
- Ex2. Paying \$30/hr for replacement labourer

Hours

Time

- Ex1. It took 8 hours total for health and safety officer to investigate incident and write reports
- Ex2. 6 workers had 2 hours of training to get up to date with new policies and procedures (12 total hours)

Return on investment calculator



Work Health and Safety eTools

The work health and safety eTools should be used by businesses and organisations to assess the risks for various hazards and determine the return on investment for their health and safety initiatives.

You can access them on any device or browser, anywhere and anytime. You can also save partially completed forms for up to 30 days and complete them at a later time. Your information will be stored on a secure database to ensure its confidentiality and privacy.

Results are reliant on the data entered by the user. The Office of Industrial Relations is not responsible for interpreting assessment results or suitable controls.

Heat Stress (Basic) Calculator

A basic tool to identify risk factors of heat-related illness.

[View eTool](#)

ManTRA

A hazardous manual tasks (HMT) risk assessment tool. ManTRA determines the risk value for the assessed task. Knowledge of the HMT risk factors is required.

[View eTool](#)

Noise Exposure Calculator

A basic tool to help calculate a worker's daily exposure to noise and give guidance on appropriate controls.

[View eTool](#)

PERforM

A simple risk assessment tool for hazardous manual tasks that is suitable for workers to use. The tool should be used as part of the PERforM program.

[View eTool](#)

Return on Investment Calculator

A calculator tool designed to help you determine the return on investment (ROI) of workplace health and safety (WHS) interventions used in your business.

[View eTool](#)

Case study – BP Wild Bean Café



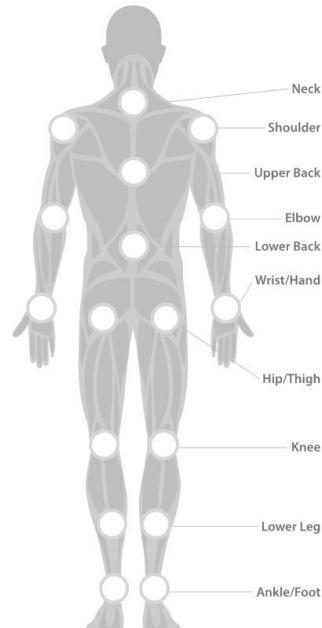
BP Wild Bean Café at BP travel centres can service up to 140 coffees per hour. They experienced consistent injury claims for the upper limbs (wrist, elbows, shoulders).

Switched from 2L to 1L milk jugs



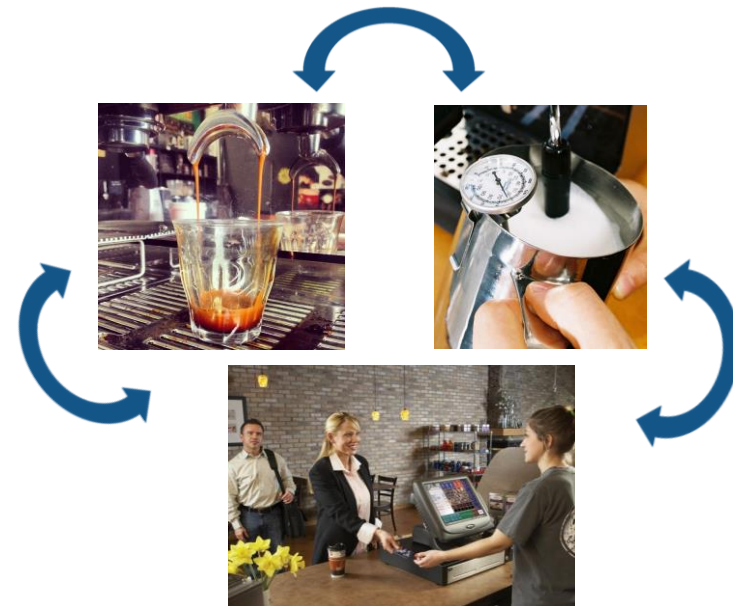
*NB: not actual company equipment

PERforM program



Search "OIR PERforM eTools program"

Task variety



*NB: not actual company images

Find this case study on the OIR [website](#).

Disclaimer: Any figures supplied in this presentation are either supplied by the business or are estimations/calculations. These figures may not necessarily be relevant to the business' current state of operations.

Office of Industrial Relations

BP Retail Wild Bean Cafes



Over five years, it is estimated the return on investment for the rotation of manual task roles and smaller milk jugs is \$2.74 of benefit for every \$1 of cost.

Background

BP is engaged in the exploration for and production of oil, natural gas and liquefied natural gas, and the refining, transportation and marketing of petroleum products. BP is also responsible for a number of coffee making facilities as part of retail activities at its travel centres. Some of these travel centres experience high volumes of coffee production, with approximately 140 coffees produced per hour during peak periods. These high volume sites include Wild Bean Cafes based at travel centres across South-East Queensland.

The main work health and safety issues for Wild Bean Cafes involved the repetition of each task and the duration of time spent on making coffee. Injuries to the upper limbs (wrist, elbows and shoulders) were experienced by some baristas as a result of repetitive movements, which included handling milk jugs to texture milk.

The company addressed these issues by:

- replacing two litre milk jugs with one litre milk jugs for texturing milk, to reduce the strain from repetitive handling by baristas
- implementing a rotation system requiring workers to rotate manual task roles every 30 minutes. These tasks included producing coffee shots, texturing milk and operating the registers.

The intervention was implemented over three months as part of Workplace Health and Safety Queensland's Participative Ergonomics for Manual Tasks (PErform) program. The consultation phase involved BP's health, safety, security and environment (HSSE) committee and the retail national safety manager. BP plans to formalise the rotation of tasks by putting in place a policy with written guidelines.

Benefits

The benefits of the intervention included the following:

- A reduction in upper limb injuries from body stressing (repetitive movements) by approximately 56 per cent. This intervention assisted in mitigating upper limb injuries before the injury became quite severe and costly to the employer.
- The number of accepted body stressing workers' compensation claims involving the upper limbs (shoulder, wrist and elbow) decreased by 43 per cent from 2012-13 to 2013-14 (Figure 1). The significant reduction in the second year is likely the result of the intervention becoming more embedded in the work practices. It is expected that approximately 80 to 90 per cent of the reduction in injuries is attributed to the intervention.



Return on Investment Calculator

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Preliminaries

WHSQ is currently developing case studies demonstrating the ROI of WHS interventions. If you would like to potentially be contacted to discuss your results, please complete your details below.

What type of WHS intervention did you undertake?* 

Case study-BP


Have you experienced any reductions in injuries attributable to intervention?

Yes

No

Unsure

What industry is your business in?*

Accommodation and Food Services 

How many employees does your business have?*

10

Business name

Contact person

Contact address

Contact phone number

Contact email address

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1 of 8 Immediate costs associated with a typical WHS incident at your workplace

Please fill in the following using your best estimates. Skip any items that are not applicable.

Time to provide first aid ?

Time spent*

 hours

Labour costs*

 per hour

Total costs

\$66

Time for transportation to hospital/clinic/home ?

Time spent*

 hours

Labour costs*

 per hour

Total costs

\$176

Lost productivity of all affected workers ?

Time spent*

 hours

Labour costs*

 per hour

Total costs

\$176

MSD injury to upper limb

Round trip to and from doctor/hospital. Total time of worker and supervisor

Workers are immediately affected and stop work

Time to make area safe ?

Time spent

 hours

Labour costs

 per hour

Total costs

\$0

Cost of first aid supplies and equipment used

Replacing used first aid supplies

Uninsured medical costs

Cost of ambulance or taxi

Other costs

Incident costs subtotal

\$439

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2 of 8 Investigation costs associated with a typical WHS incident at your workplace

Please fill in the following using your best estimates. Skip any items that are not applicable.

Time to investigate injury ?

Time spent*

 hours

Labour costs*

 per hour

Total costs

\$88

Average wage across whole BP Wild Beans Café

Time to complete an incident investigation report

Time spent*

 hours

Labour costs*

 per hour

Total costs

\$176

Time to complete related paperwork for your company ?

Time spent*

 hours

Labour costs*

 per hour

Total costs

\$352

E.g. reports to the Board, incident alerts

Time to complete related paperwork for WorkCover Queensland

Time spent*

 hours

Labour costs*

 per hour

Total costs

\$176

For serious incidents and injuries ?

Time spent

 hours

Labour costs

 per hour

Total costs

\$0

Follow up meetings ?

Time spent*

 hours

Labour costs*

 per hour

Total costs

\$308

Other costs

Investigation costs subtotal

\$1,100

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3 of 8 Damage costs associated with a typical WHS incident at your workplace

Please fill in the following using your best estimates. Skip any items that are not applicable.

Time to assess damage—was there property, equipment or material damage?

Time spent*

 hours

Labour costs*

 per hour

Total costs

\$88

Time to repair or replace equipment

Time spent*

 hours

Labour costs*

 per hour

Total costs

\$88

Time to coordinate repair work

Time spent

 hours

Labour costs

 per hour

Total costs

\$0

Clean up time

Time spent*

 hours

Labour costs*

 per hour

Total costs

\$44

Approx. 1 hr to clean any damaged equipment

Costs of actual property or equipment damage or product loss

Costs of replacement parts, equipment or material

E.g. damaged milk jugs

Costs of outside contractors and materials for the cleanup

Costs of clean up/salvage

Rental costs of equipment to cover interim period

Other costs

Damage costs subtotal

\$270

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Including time to find and purchase product

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4 of 8 Replacement costs associated with a typical WHS incident at your workplace

Please fill in the following using your best estimates. Skip any items that are not applicable.

Time to hire or relocate replacement worker ?

Time spent

 hours

Labour costs

 per hour

Total costs

\$0

Relocation or rescheduling of another worker ?

Time spent*

 hours

Labour costs*

 per hour

Total costs

\$1,056

Average time off for business' 'typical' MSD claim

Trainee time for new or relocated worker ?

Time spent

 hours

Labour costs

 per hour

Total costs

\$0

Cost to hire a replacement worker ?

Time spent

 hours

Labour costs

 per hour

Total costs

\$0

Other costs

Replacement costs subtotal

\$1,056

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5 of 8 Productivity costs associated with a typical WHS incident at your workplace

Please fill in the following using your best estimates. Skip any items that are not applicable.

Lost productivity or work time due to incident disruption ?

Time spent*

 hours

Workers impacted by injured worker

Labour costs*

 per hour

Total costs

\$88

Time spent managing the injury claim ?

Time spent*

 hours

Labour costs*

 per hour

Total costs

\$176

Capacity of worker upon return to work ?

Time spent*

 hours

Worker getting back up to speed

Labour costs*

 per hour

Total costs

\$176

Other costs

Productivity costs subtotal

\$440

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6 of 8 Upfront costs of the WHS intervention

Please fill in the following using your best estimates. Skip any items that are not applicable.

Initial implementation costs ?

Time spent

hours

Labour costs

\$ per hour

Other costs

Total costs

\$200

Cost of 1L milk jugs

Problem identification and intervention development costs ?

Time spent*

hours

Labour costs*

per hour

Other costs

Total costs

\$200

Consulting with workers

Training costs ?

Time spent*

hours

PERforM training

Labour costs*

per hour

Other costs

Total costs

\$120

Other upfront costs

Intervention Lifecycle ?

years

Upfront costs subtotal

\$1,180

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Return on Investment Calculator

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7 of 8 Ongoing costs (per annum) of the intervention

Please fill in the following using your best estimates. Skip any items that are not applicable.

Maintenance, repairs, general upkeep ?

Time spent

hours

Labour costs

per hour

Other costs ?

Total costs

\$600

Estimation of time and wages required to monitor program

Ongoing training ?

Time spent*

hours

Constant cross-skilling of employees

Labour costs*

per hour

Other costs ?

Total costs

\$3,600

Other ongoing costs

Upgrade to new equipment

Ongoing costs subtotal

\$6,700

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8 of 8 Benefits of the WHS intervention

Please fill in the following using your best estimates. Skip any items that are not applicable.

Productivity (efficiency) improvements ?

Time saved*

 hours per year

Labour costs*

 per hour

Other savings

Total savings

\$4,752

84hr saved by using 1L jugs + 24hr saved by cross-skilling workers

Reduction in staff turnover, absenteeism ?

Time saved*

 hours per year

Labour costs*

 per hour

Other savings

Total savings

\$4,224

Workers' compensation savings ?

 per year

Other benefits (please quantify) ?

 per year

If any, how many incidents are avoided each year due to the intervention? ?

Benefits subtotal

\$9,120

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Return on investment of WHS intervention - Case study - BP

Over 10 years, it is estimated the ROI for Case study - BP is \$2.79 of benefits for \$1 of costs.

The payback period for the upfront costs associated with this intervention is around 1.1 months.

Total value of costs

\$68,181

Total value of benefits

\$190,350

ROI: \$ of benefits per \$ of costs

\$2.79

Payback period years

0.1

ROI different to case study as it was estimated for over 5 years, not 10 years as in this case.

Costs of a typical workplace incident

Incident costs

\$439

Investigation costs

\$1,100

Damage costs

\$270

Replacement costs

\$1,056

Productivity costs

\$440

Total cost of injury (additional to workers' compensation cost)

\$3,305

Disclaimer: Data is not verified by the Office of Industrial Relations, Queensland Government. Estimates provided are meant to be indicative only. The ROI calculator makes a number of simplifying assumptions that may not be applicable to your business. It is recommended that you obtain advice from a qualified professional prior to making significant business decisions.

If you have any queries regarding the ROI calculator, please contact ROIenquiries@justice.qld.gov.au

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Tips

It's OK to leave fields blank!

Only enter information that is relevant to your business

Your internet browser automatically saves your progress

Complete within 30 days before your computer forgets your data

Save your results as a PDF

Enquiries?

Data and Evaluation Services

OIRdata@oir.qld.gov.au

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