

Computing Cost Effective Solutions for the Supermarket

Intended for *Progressive Grocer*

Illustration of a pallet lifter



If the total cost of a workplace injury is \$5,000, you will need an additional \$250,000 in sales to break even with a 2 percent profit margin (See footnote 8).

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If you oversee multiple supermarkets—or even a single establishment—you are well informed about some lingering facts: our workforce is aging, musculoskeletal injuries continue to increase, complaints of overexertion are common and lifting, pushing, reaching and carrying are responsible for a greater percent of your employees' time.

The bottom line is that each of these factors contributes to increasing costs, and retailers are looking for solutions. More training and new administrative guidelines have been tried; such as, worker rotation and personnel shifting, i.e., moving younger staff to the high-risk lifting jobs. Despite these efforts the cost of material handling continues to increase as well as the associated lost-time injuries and growing workers' compensation payouts¹.

Unfortunately, it's been difficult to find practical solutions that have made real differences. All supermarkets have experienced material handling problems and the attendant costs. Perhaps it might be comforting to realize that no single company or establishment has the optimal long-term solution, at least as of 2013.

However, if you are able to manage and control costs, you can put yourself in a better position to handle these tough issues and potentially separate yourself from your

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<http://www.libertymutualgroup.com/omapps/ContentServer?pagename=LMDGroup/Views/LMG&ft=2&fid=1138356633468&ln=en> WSI 2012.pdf

competitors. Here is a quick [five-step guide](#) to help evaluate cost effective solutions. (At the end of this article, you will find software tools to assist with those calculations².)

1. Calculate, assign and understand how to keep track of injuries and their costs. Your purpose here is to compute the direct costs for each injury. Each type of injury has an average cost, and your company should have this information in their database or in the insurer’s database. If self-insured or if you have a high deductible, your company’s “direct cost” includes all medical expenses and any payouts for partial wage replacement from lost time injuries, as shown in the table below. Table 1 was compiled from Workers’ Compensation files of Washington State³.

Type of Musculoskeletal Injury	Direct Cost
Back strain	\$ 8,700
Back injury with surgery	\$ 57,700
Shoulder strain	\$ 11,600
Carpel tunnel syndrome	\$ 18,200
Epicondylitis	\$ 9,750
All other soft tissue injuries	\$ 9,200

2. Calculate Salary data. You should have access to the employees’ pay rates per hour and the number of employees who perform similar work in which the injury occurred.

3. Calculate the “total cost of the injuries.” You will need an estimate of the “indirect” cost which will be added to the direct costs. Indirect costs can vary but include the following expenses: training of replacement employees, an assessment of lost productivity and any damage to equipment and property⁴.

4. Estimate the benefits from your solution. For example, to reduce the cases of back strain, you might decide to purchase a mechanical assist device. This could include devices such as a pallet lifter (at an average cost \$5,000⁵). The pallet lifter can be beneficial because it is designed to reduce exposure to bending motions and also to reduce wasted motions from repetitive bending—a productivity plus. To get the “total

² <http://www.pshfes.org/cost-calculator> See instructions and assumptions for software application

³ *Injured at Work, What workers’ compensation reveals about musculoskeletal disorders*, SHARP

⁴ Information on computing indirect cost ratios <https://www.osha.gov/dcsp/smallbusiness/safetypays/background.html>

⁵ For costs of mechanical assist devices, access the Material Handling Industry trade association at <http://www.mhi.org/>

cost of a solution,” you’ll also need to add any costs associated with training in using the new equipment and the annual maintenance required.

5. Compute your annual savings. After one year, you will be able to compute the reduction in workers’ compensation claims, indirect costs, plus any increase in productivity. With this information, you will also be able to estimate the annual benefits, and the estimated “payback period,” along with an estimated net benefit after one, three, and five years⁶.

Another way of viewing the cost of workplace injuries is to ask the question: How much revenue is required to offset a loss from an injury? Start with your total cost, both direct and indirect and then factor in your profit margin, which may be as low as 2 - 3 percent, as in the grocer businesses. With your data and software provided by the Safety Management Group⁷, you will have a good estimate of the amount of sales required to offset the cost of the incident. As an example, if your profit averages 2 percent and direct/indirect costs total \$5,000 then you need an additional \$250,000 dollars in sales to break even⁸.

In summary, it has been said that you cannot manage what you cannot measure, but what gets measured gets done. The point is that each establishment at every level should be keeping track of injuries no matter how small while understanding all of the costs associated with managing injuries. This is a necessity if you plan to cut costs.

Additional information on the economics of safety is available at the NIOSH and OSHA websites <http://www.cdc.gov/niosh/programs/econ/> and

https://www.osha.gov/dcsp/smallbusiness/safetypays/estimator_text.html.

Various material handling solutions also are displayed at the Ergonomic Assist Systems and Equipment (EASE) and the Material Handling Industries websites

<http://www.mhi.org/ease> and <http://www.mhi.org>.

For more information and copies of the software and instructions, you may contact the author at vanderson@cdc.gov

⁶ <http://www.pshfes.org/cost-calculator> Software courtesy of Washington State and the Puget Sound Chapter of the Human Factors and Ergonomics Society, as coded by Rick Goggins.

⁷ <http://www.safetymanagementgroup.com/injury-cost-calculator.aspx>. Software courtesy of Safety Management Group

⁸ https://www.osha.gov/dcsp/success_stories/compliance_assistance/abbott/abbott_casestudies/index.html Slide 12

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