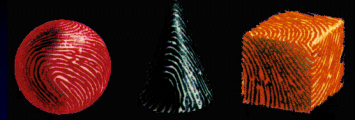


The Economics of Ergonomics: Ergonomics Solutions Cost Justification

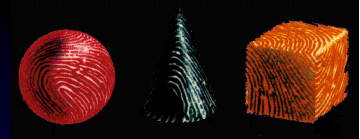
Presented by:
Cindy Roth

Ergonomic Technologies Corporation
Syosset, NY



Overview of Cost Justification

- Application of quantitative analysis techniques
- Methods used are borrowed from the business and science worlds
- Applied during various phases of the Ergo Process
- Used by anyone involved in the development, management or evaluation process



Why When How

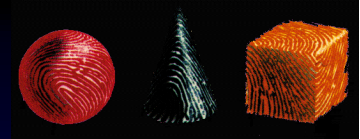
Using Ergonomic Justification

**Gaining Management Support
and Program Approval**

Forecasting Future Costs

Document Historical Costs

Estimating Potential Savings



Where to Start

Using Ergo Justification

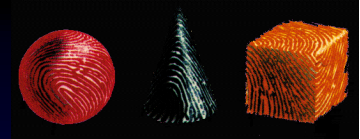
Managing the Ergo Process

**Identifying
Prioritizing
Ergo Risk**

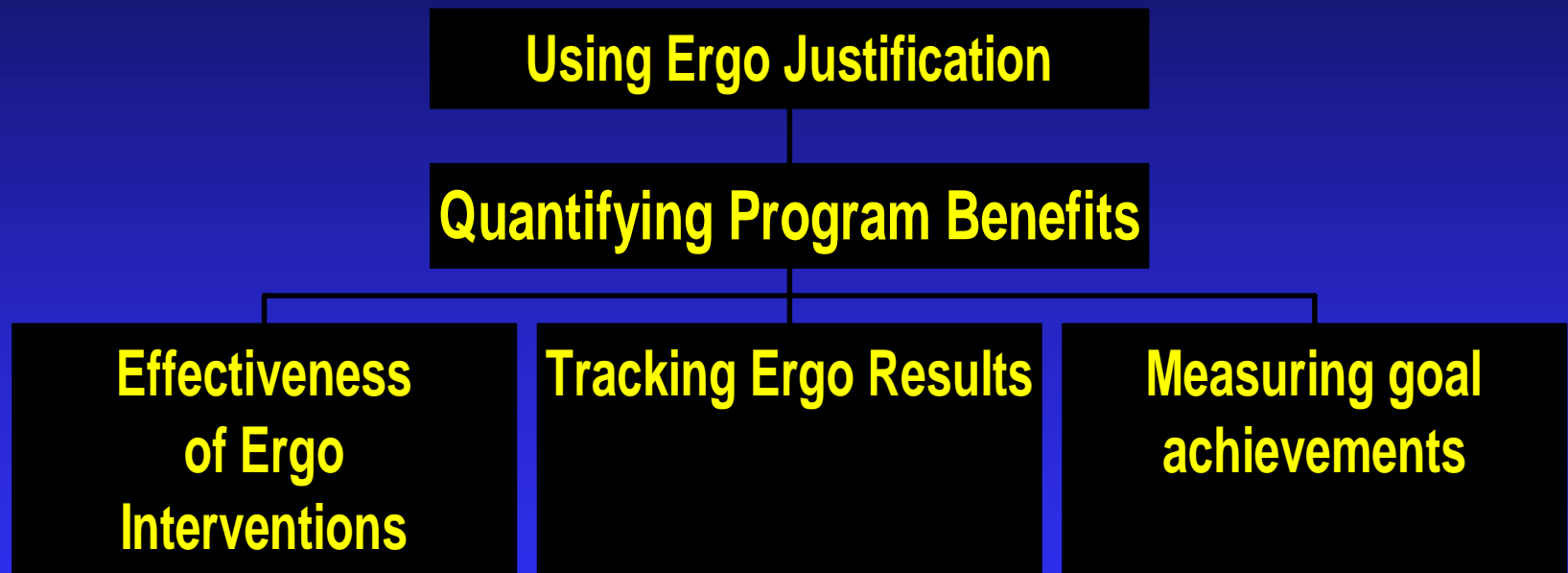
**Setting
short, medium
long term
Goals**

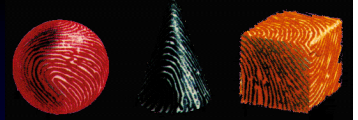
**Estimate
budget requirements**

**Evaluating solution
alternatives**



What to Measure



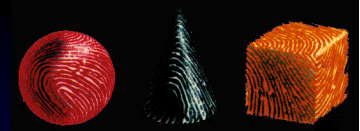


Types of Costs

■ Cost Accounting Terms

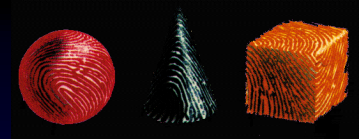
- ◆ Capital Costs
- ◆ Production Costs
- ◆ Overhead Costs





Capital Costs

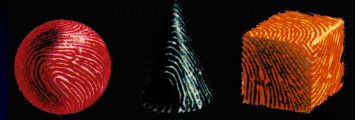
- Associated with purchases of assets
- Depreciated over the life of the assets
- Examples:
 - ◆ Furniture
 - ◆ Equipment



Production Costs

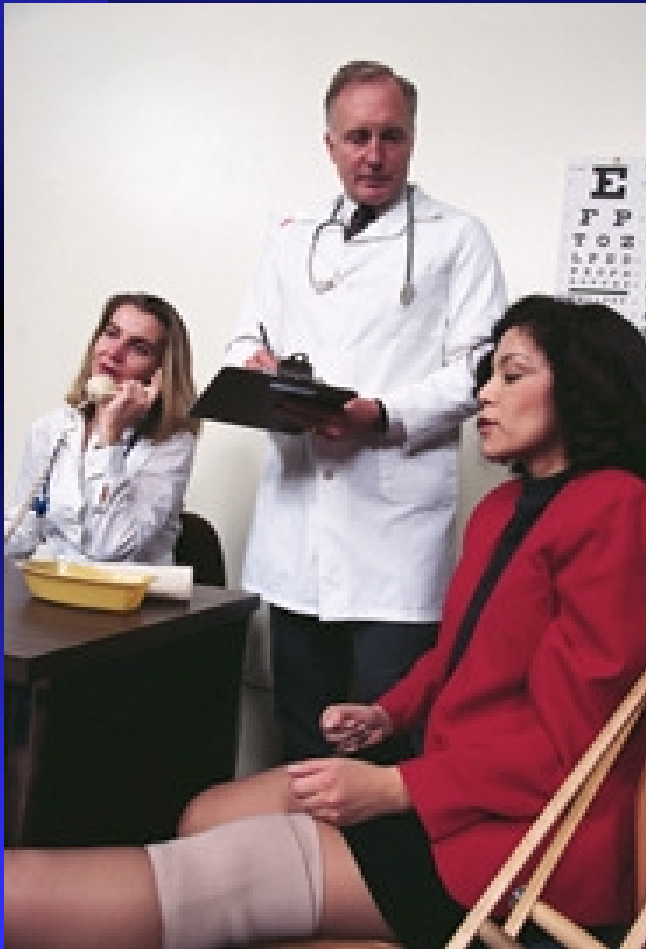
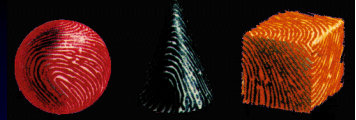
- Costs that are easily identified with the production of a finished product
- Example:
 - ◆ Direct labor costs
 - ◆ Cost of materials

Overhead Costs



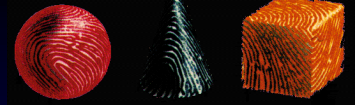
- All other costs incurred during the course of “doing business”
- Allocated as a percentage and added to the production costs
- Examples:
 - ◆ Cost of sales
 - ◆ Cost of marketing
 - ◆ Cost of insurances
 - ◆ Cost of lawyers, consultants

Injury/Illness Survey

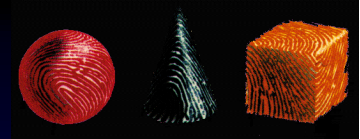


- ◆ red-flag potential problems in specific departments and jobs
- ◆ understanding of the historical costs
- ◆ indication of the potential future costs of ergonomics illness and injuries

Ergo Cost Justification



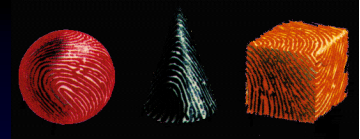
- We attempt to understand the total financial benefit
- Use a specific intervention or group of interventions as a beginning
- Must consider:
 - ◆ Capital costs
 - ◆ Production costs
 - ◆ Overhead costs



Ergo Cost Justification

- It is important to understand that the overhead costs are **not NECESSARILY** the “cost of doing business”
- Can be directly related and identified to situations which exist in the production process

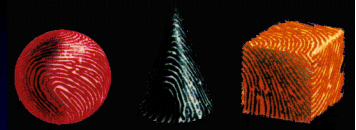
Ergo Cost Justification



■ Examples:

- ◆ **Cost of customer service is directly related to production quality which is directly related to the production process**
- ◆ **Cost of insurance is directly related to the number of worker injuries and illnesses which is directly related to the design of the workplace**

Ergo Cost Justification



■ Fixed vs. Variable Costs

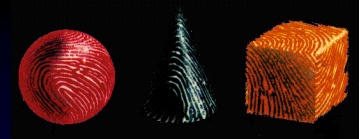
■ Fixed Costs are:

- ◆ Ones which are not easy to change based on need

■ Variable Costs are:

- ◆ Ones which can immediately be altered based on need

Ergo Cost Justification



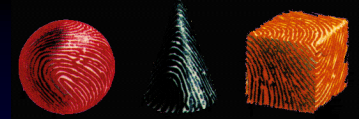
■ Example of Fixed costs:

- ◆ **Rent of a facility**
- ◆ If square footage needed for a production process is reduced, it may not be possible to reduce the rental cost of facility

■ Example of Variable costs:

- ◆ **Cost of amount of raw materials** needed to be purchased for production process
- ◆ If the volume of good produced is reduced, the amount of raw materials can be reduced proportionately

Ergo Cost Justification

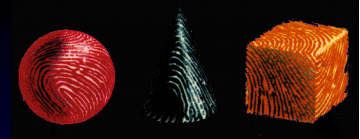


■ Costs to Calculate

- ◆ **Historical Costs:** Those incurred due to unattended Ergo problems
- ◆ Important to establish a baseline
- ◆ Provides a “case” to present to management to gain support for an overall ergo effort



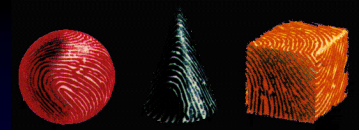
Ergo Cost Justification



■ Costs to Calculate

- ◆ **Projected Savings:** Estimated based on the historical costs and a set of defined assumptions. Projecting savings is often used during the decision making process in conjunction with traditional financial analysis techniques.
- ◆ It is also common to estimate the time frame during which savings can be expected to accrue

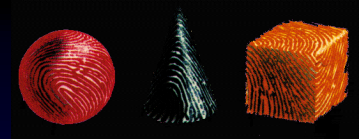
Ergo Cost Justification



■ Costs to Calculate

- ◆ **Actual Cost Savings:** Based on Historical costs compared to the reduced costs following ergo interventions with consideration for the costs associated with implementation
- ◆ Most important, calculate **ACTUAL** financial savings due to intervention
- ◆ Now you can **validate** and/or refine assumptions, **contribute** to benefit of ergo, **produce** tangible results

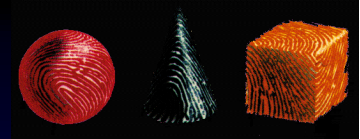
Ergo Cost Justification



■ Levels of Analysis

- ◆ **Individual jobs:** easiest to do when job is well defined. Measure productivity and internal quality deficiencies and I/I stats
- ◆ **Group of jobs:** Bottom up adding together all of the jobs that comprise the process, or top down, analysis only at the process level with a breakdown of all of the jobs
- ◆ **Corporate level:** For company specific costs such as customer satisfaction, morale and labor relations, I/I, absenteeism and turnover. Difficult to summarize production/quality costs unless bottom up used

Ergo Cost Justification



■ Model

- ◆ Productivity/Efficiency Benefits +
- ◆ Quality Benefits +
- ◆ Savings Due to Turnover Reduction +
- ◆ Savings Due to Absenteeism Reduction +
- ◆ Savings Due to Health/Safety +
- ◆ Savings Due to Improved Morale/Labor Relations +
- ◆ Savings Due to Reduced Lawsuits +
- ◆ Savings Due to Decreased Risk of Citations/Fines
- ◆ **Financial Benefit of Ergonomics Programs**