Using ROI to Promote Simulation

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Overview

• ROI
• ROE
• Educational Principles & Kirkpatrick
• Data in simulation courses
• Link simulation to ROI
• Calculations and examples
• Where can ROI be calculate from?
• ROE or ROI?
Objectives

• Define Return of Investment (ROI).
• Describe how to calculate Return of Investment.
• Discuss how to link simulation and ROI.
• Demonstrate an ROI calculation utilizing information provided through audience feedback.
• Determine 5 key areas ROI can be calculated from.
Questions?

- How do we utilize existing technology to integrate a multi-disciplinary group?
- How do we utilize “simulation” to teach multiple disciplines?
- What are these opportunities?
A simple understanding of history
Path.
You are standing on a path which leads off a road to the north, to a cottage south of you. To the west and east are separate gardens.

Flower garden.
You are in a well-kept garden. There is an unexpectedly sweet smell here and you notice lots of flowers. To the east across a path there is more garden.

Cliff.
You are standing on the edge of a cliff surrounded by forest to the north and a river to the south. A chill wind blows up the unclimbable and unscaled heights. At the base of the cliff you can just make out the shapes of jagged rocks.

As you approach the edge of the cliff the rock starts to crumble. Hurriedly you retreat as you feel the ground begin to give way under your feet!

leap
You are splattered over a very large area, or at least most of you is. The rest of your remains are, even now, being eaten by the seagulls (especially your eyes). If you’d have looked properly before you leaped you might have decided not to jump!

Persona updated.
Would you like to play again?
Link trainer taken at Warhawk Air Museum in Nampa, Idaho by Tony Speer.
Average Age

37

Growing Issues

- “Medical procedures are becoming more numerous and more complex – medical knowledge has ‘hypertrophied.’” (Cooke, et al, 2006)

- Clinical rotations are becoming more difficult to schedule.

- Clinical setting is not the place to “practice” skills.

What does simulation offer?

• Repetition which leads to proficiency
• Understanding of the cognitive and the practical
• Training opportunities
• Established objectives
• Clear expectations
• Quality & Quantity
• Immediate application
Funding

• How do you secure funding?
• What does that mean?
• For what period of time?
• Can a simulation program be self-sufficient?
• What do investors want?
• Reporting on funding?
Consider these costs...
Developing a “sim” center

• Are you looking to develop a new building or use an existing building?
• A cost is based on...
  – program objectives?
  – short & long term goals?
  – your target audience?
• Why does it matter?
Investments

• Program investment = $1 million
• Student count = 1,000 people/year

• Cost per student = $1,000.00


What are the true financial needs?
Intangibles

- Community Outreach
- Donations
- High visibility – show you mean business!
- Does there need to be a business model?
- What is “free” and what “costs money?”
Is simulation profitable?
Is it?
Powerful Motivators

Motive 1: Lower Cost
Motive 2: Better Access to Symptoms/Cases
Motive 3: Reduced Training Time
Motive 4: Reduced Errors

Business Plan
Defined as:

“A written document which describes the business, its objectives, its strategies, the market in which it operates and its financial forecasts.” (Markow, 2011)
Consists of:

- Business Plan Executive Summary*
- Market Analysis
- Company Description
- Organization & Management
- Marketing & Sales Management
- Service or Product Line
- Funding Request
- Financials
- Appendix

Remember this:

“…hospitals typically measure ROI from a business perspective—cost, revenues or operating efficiencies—but many benefits of clinical applications fall into quality and safety realms that do not easily translate into dollars.” (Page, 2010)
A business plan **will only** make you stronger...
The reality is:

"We should measure clinical ROI in terms of measurable impact on patient care.”  (Page, 2010)

A Return on Investment
Traditional ROI is:

“...performance measure used to evaluate the efficiency of an investment or to compare the efficiency of a number of different investments.” (“Investopedia,” n.d.)

“...if an investment does not have a positive ROI, or if there are other opportunities with a higher ROI, then the investment should be not be undertaken.” (“Investopedia,” n.d.)

With ROI, decision makers compare the timing and magnitude of expected gains to investment costs.
Traditional ROI

• “ROI evaluates an investment’s potential by comparing the magnitude and timing of expected gains to the investments costs.” (“Best,” 2002)

\[
\text{ROI} = \frac{\text{gains} - \text{investments costs}}{\text{Investments costs}}
\]

\[
\frac{\$700,000 \text{ (saved)} - \$500,000 \text{ sim center}}{\$500,000} = 40\%
\]

Healthcare ROI is:

“the amount of improvement in care brought about by a certain investment. ROI can also refer to the theory that if you invest in health care quality now, then the quality of care for patients will improve in the future.” (‘Robert Wood,’ 2011)
Healthcare ROI

1. Examines impact to system processes.
2. Determines a cost to each process related change and if the cost was favorable.
3. That cost is consider the “return on investment.”

\[
((\# \text{ Process errors found} \times \text{Estimated cost per error}) - \text{SIM COSTS}) \times (\% \text{ $ Paid Out for errors})
\]

SIM COSTS
Healthcare ROI

ROI Total: **5.93%**
Number of Process Errors Found: **14**
Estimated Cost per Error: **$35,000.00**
% Hospital $Paid Out: **0.25%**
SIM Costs: **$19,821.00**

$490,000
Healthcare ROI Issues

• Who is actually providing the training that is resulting in the ROI being created?
• How are you determining process issues?
• Are there clear “program” objectives?
• How are you being funded?
• Who benefits from the ROI?
• Who are your stakeholders?
Return on Investment

“Defensive isolation approach that separates functions.”

“Defines training as an end in itself.”

“Value defined by predetermined formula.”

“Focus on single metric of numeric proof.”

“Complex, rigid, and expensive.”

Let’s try a few calculations...
To create ROI, we must develop a “value measuring methodology.” ("Best," 2002)
“Value Measuring Methodology”

1. Develop a decision framework
   • Customers
   • Social
   • Government Operational/Foundational
   • Strategic/Political
   • Government Financial

2. Perform an alternative analysis

3. Gather all the information

4. Communicate and document

What does all this mean?

• There has been this ongoing debate in medical simulation about the ability to prove ones worth - then been able to utilize that proof to secure additional funding from donors.

• Does simulation make an impact in education?

• Does it make an impact in healthcare, in patient safety, in changes in human behavior or system processes?

• There are numerous issues that result from trying to justify that simulation was the sole reason a system benefited.
  – Was it the single cause or was there other educational programs that helped shaped changes?
  – What happens if the data shows decline? Was simulation to blame?
The motivation...

• The want and desire to include simulation. It’s the “in” thing to do...

• The data shows improvement in cognitive learning.

• The data shows improvement in practical application and retention.
The Learning Pyramid*

Average Retention Rates

5%  Lecture
10% Reading
20% Audio-Visual
30% Demonstration
50% Group Discussion
75% Practice
90% Teaching Others

Passive Teaching Methods
Participatory Teaching Methods

*Adapted from National Training Laboratories. Bethel, Maine
But...
You have to think through it!
Business side

• Who are your “key stakeholders”?  
  – Internal  
  – External

• Have you considered developing a business plan?

• Do you have operational & strategic goals?

• Who is managing your program data & finances?
When can I see a return?
Making the case

• Understand the program requirements
• Establish a “board of directors” or “steering committee”
• Involve key stakeholders in important decisions
• Provide updates
• Show evidence that simulation works
• Show other people’s ROI, if allowed
• BE PATIENT!
People

• Who are the experts?
• Where do you find experts?
• How many people do you need to succeed?
Kirkpatrick Model
‘Four’ Level Model

• Level 1: Participant Reaction

• Level 2: Learning

• Level 3: Job Impact

• Level 4: Business Impact

Level 1

REACTION:

“how the learners react to the learning process”
Level 2

LEARNING:

“the extent to which the learners gain knowledge and skills”

Level 3

BEHAVIOR:

“capability to perform the learned skills while on the job”

Level 4

RESULTS:

“includes such items as monetary, efficiency, moral, safety, etc.”

The heart of any model is understanding the basic principles...
Return on Expectation
Main principles

• “Business/[organizational] objectives are seen as a starting point.” (“Trainingcheck.com,” n.d.)

• “’Return on Expectation’ (ROE) is key” (“Trainingcheck.com,” n.d.)

• “Collective efforts are needed throughout an [organization] to achieve success.” (“Trainingcheck.com,” n.d.)

Return on Expectation

“Proactive, business partnership approach that unified teams.”

“Defines training as a contributor to key business results.”

“Value defined by business stakeholders in cooperation with training.”

“Focus on comprehensive evidence and a compelling story of value.”

“Easy to understand, flexible, and cost-effective.”

The key is...
Numeric data

Testimonials

Stories

“The combination of evidence shapes a story that appeals to and is understood by everyone.”

You must still:

1. Identify key stakeholders.
2. Create a cross-functional advisory board.
3. Develop a strategic initiative, and use an ROE process.

Collect Data!
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<tr>
<td>Productive Hours/Month</td>
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<td>Non-Productive Hours/Month</td>
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<td>Expenses FY2008</td>
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Target Utilization

• How much simulation is enough?
Can I make money?
Generating Revenue

- Is it possible?
- Can I sell programs?
- How do I justify selling simulation, creating ROI or ROE, and keeping up with my internal customers?
- What programs do I sell?
- What is required? Contracts? Legal concerns?
Getting the word out...

- Take home items (trinkets?)
  - Pins
  - Pens
  - Folders
- Journal articles, news stories
- Demonstrations
- Discussions
- Presentations

“a Return”
A Return = Outcomes + Simulation
The Link

- Clinical outcomes
- Variability of outcomes
- Transition to practice
- Patient safety
- Change in behavior as a result of education
- Identifying cognitive and practical gaps
Where can I calculate “a return” from?

1. System-wide process changes
2. Changes in programs as a result of simulation
3. Increase in program demand
4. Identification of gaps
5. The stories....
What is the difference between ROI & ROE?
## ROE verse ROI

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Sample RFP
ANY QUESTIONS??
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