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NATIONAL STRENGTH AND CONDITIONING ASSOCIATION

2019 NSCA HOCKEY STRENGTH & CONDITIONING CLINIC & LIVE STREAM

#NSCAHockey19

Conflict of Interest Statement

I currently have, or I have had in the past 2 years an affiliation or financial interest with [StrongbyScience, LLC and Exsurgo Technologies, LLC around this presentation, including:

- Consulting
- Employment
- Ownership

Background

Thinking Like a Sport Scientist: Developing your edge

Agenda

The problem

- Intervention and innovation fall short

Who is doing it better?

- Stealing from the business world
- The Framework

Examples

- Making the most out of one metric

"Efficiency is doing things right; effectiveness is doing the right thing"

– Peter Drucker

The Lab

Not The Lab

What are you trying to accomplish?


How do I know what works best?

Evidence: Building your case

Who does this well?

Businesses fight to develop their edge

70%

Agility and fluidity

Out innovate your competition

Problems are bad, but solutions are worth money

What tends to happen

Problem → You need a solution → Develop an idea… Now what?

"Ideas aren't worth a ****. Everybody has ideas, right? I could give a holy hoot about ideas. You know, I got people who throw ideas at me all the time. I don't really give a ****. **I WANT ACTIONS.** Show my how I am going to turn something into an action. **HOW ARE WE GOING TO MAKE SOMETHING BETTER?"**

Bill "The Dean of Big Data" Schmarzo, CTO of IoT and Data Analytics at Hitachi Vantara

Ideas don’t come with a legs

“You’re going to need a bigger boat”

Jaws


“Validated solutions”

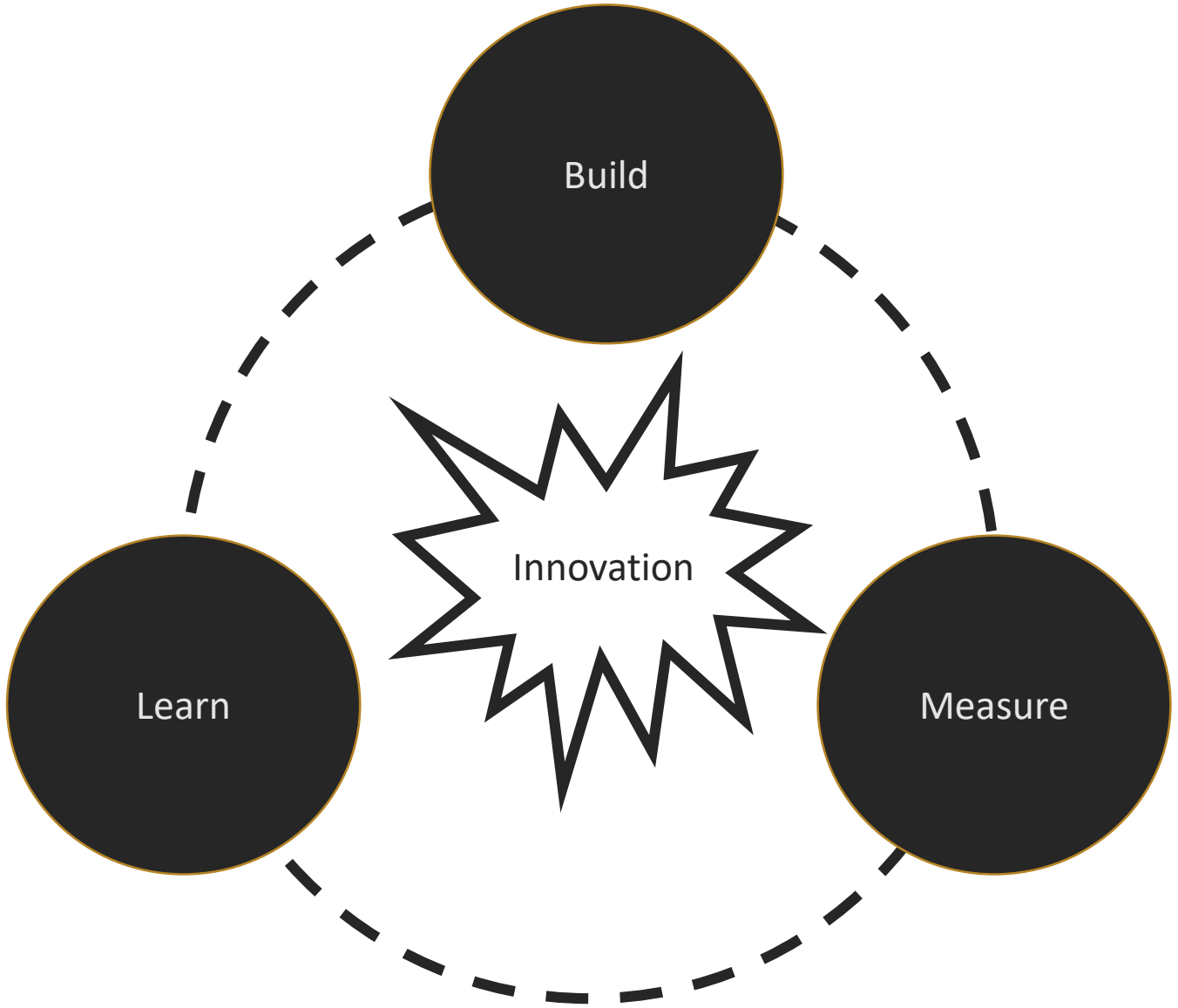
Without data you are just another person with an opinion

W. Edwards Deming
Data Scientist

You have done this before… but you didn’t know it

The loop

Eric Ries – The Lean Startup



Develop a learning environment

Common pitfalls

Know why you are doing it

Make it simple

“Technology is not disruptive… how you use technology makes it disruptive”

Ideas are typically solutions to a problem

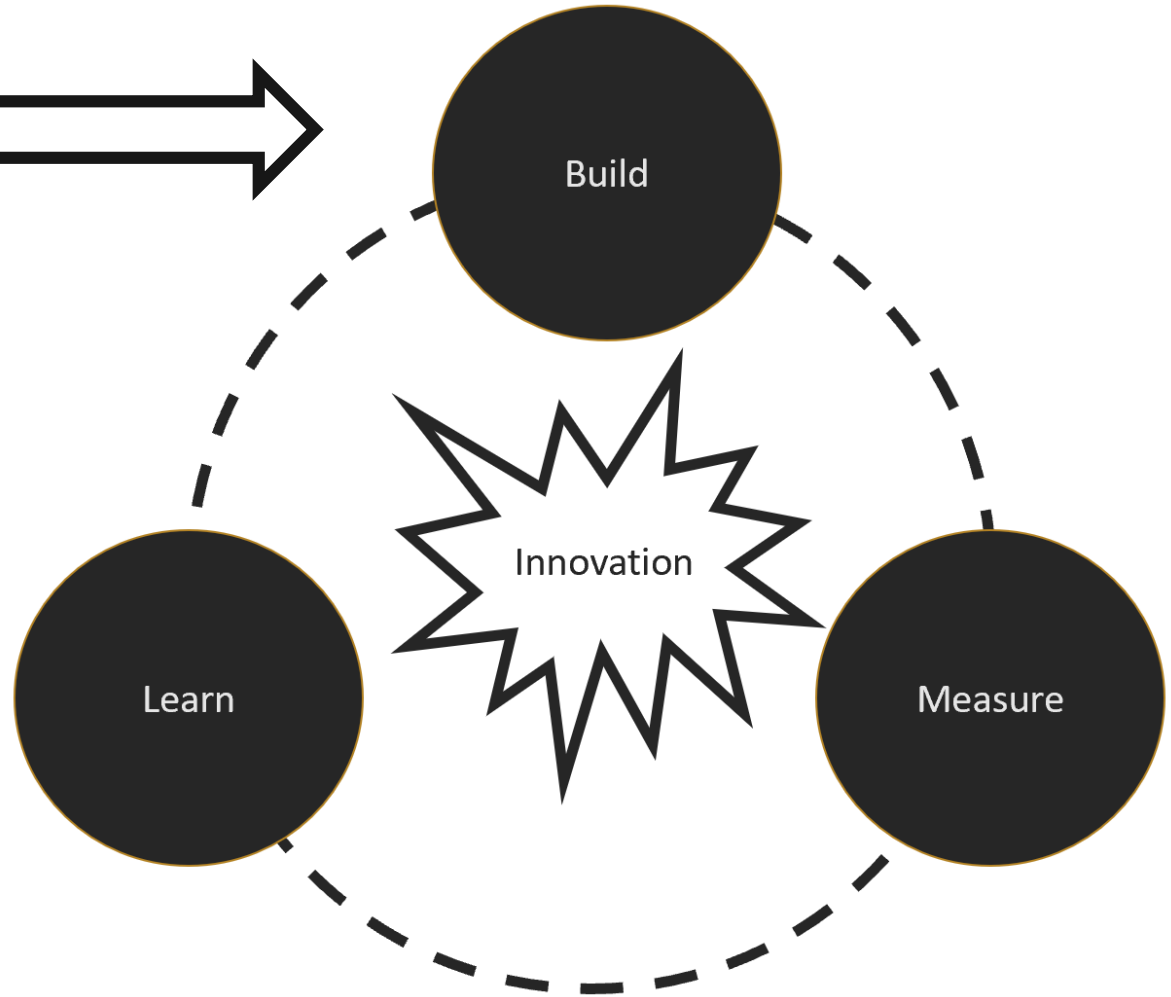
Build your hypothesis to assess your solution

Produce a Plan

Measure your results

Analyze your Data

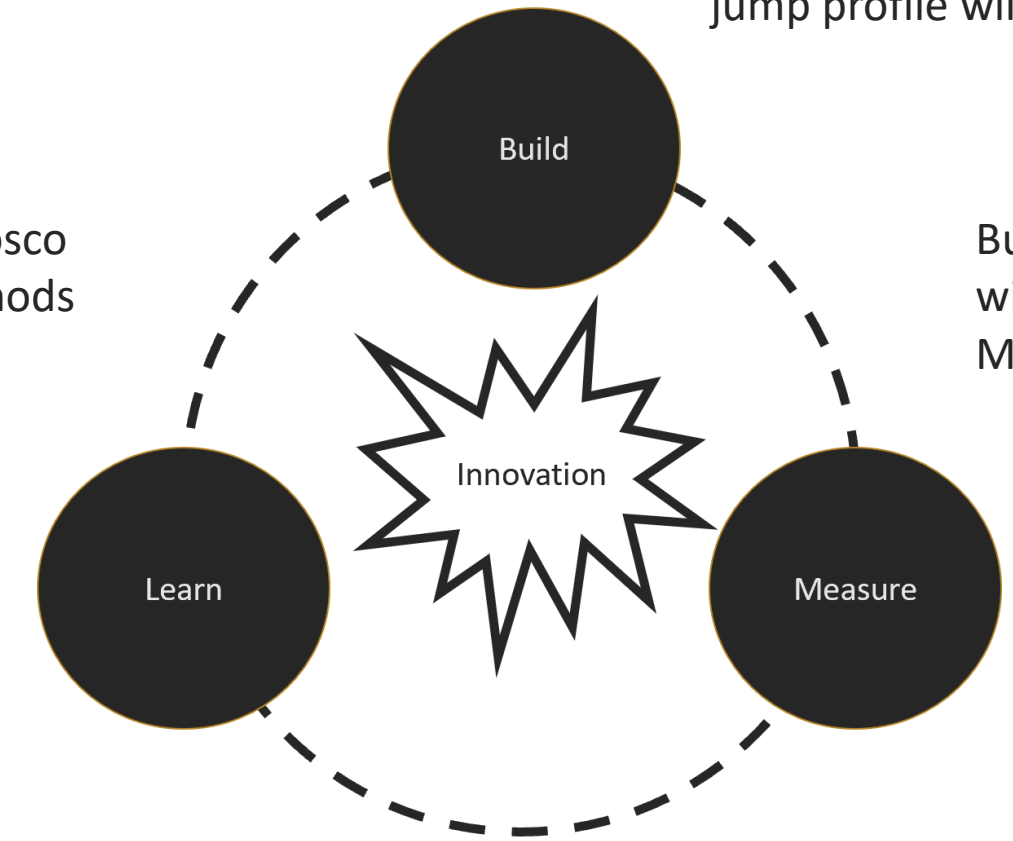
Learn from the outcomes



Examples

Problem: How do I better measure adaptation

Idea: Modified Bosco jump profile will work



Integrate: Use Bosco assessment methods

Build: Hypothesis Bosco method will be similar to that of JB Morin's in terms of actionability

Learn: Do I feel comfortable using Bosco's method?

Plan: Test JB morin's profile in comparison to Bosco method

Review: Analyze the results

Measure: Tests some athletes

Carmelo Bosco Method

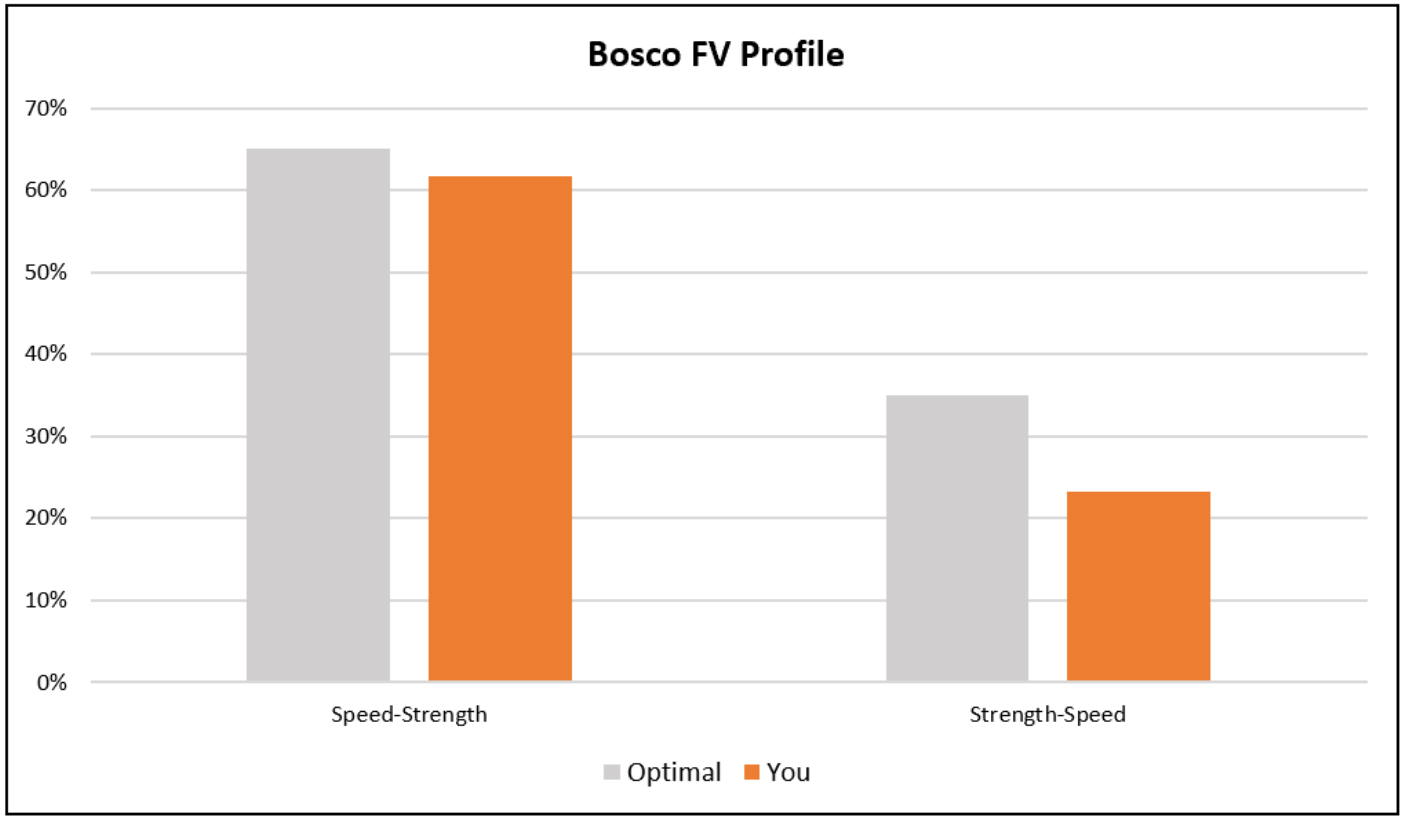
- Same basic FVP methods
- Based on jump height at BW and loads relative to BW
- Speed-Strength and Strength-Speed indicators
- Values to use

Bosco Calculator

	Speed-Strength	Strength-Speed
Optimal	65%	35%
You	61.66%	23.32%

Interpretation

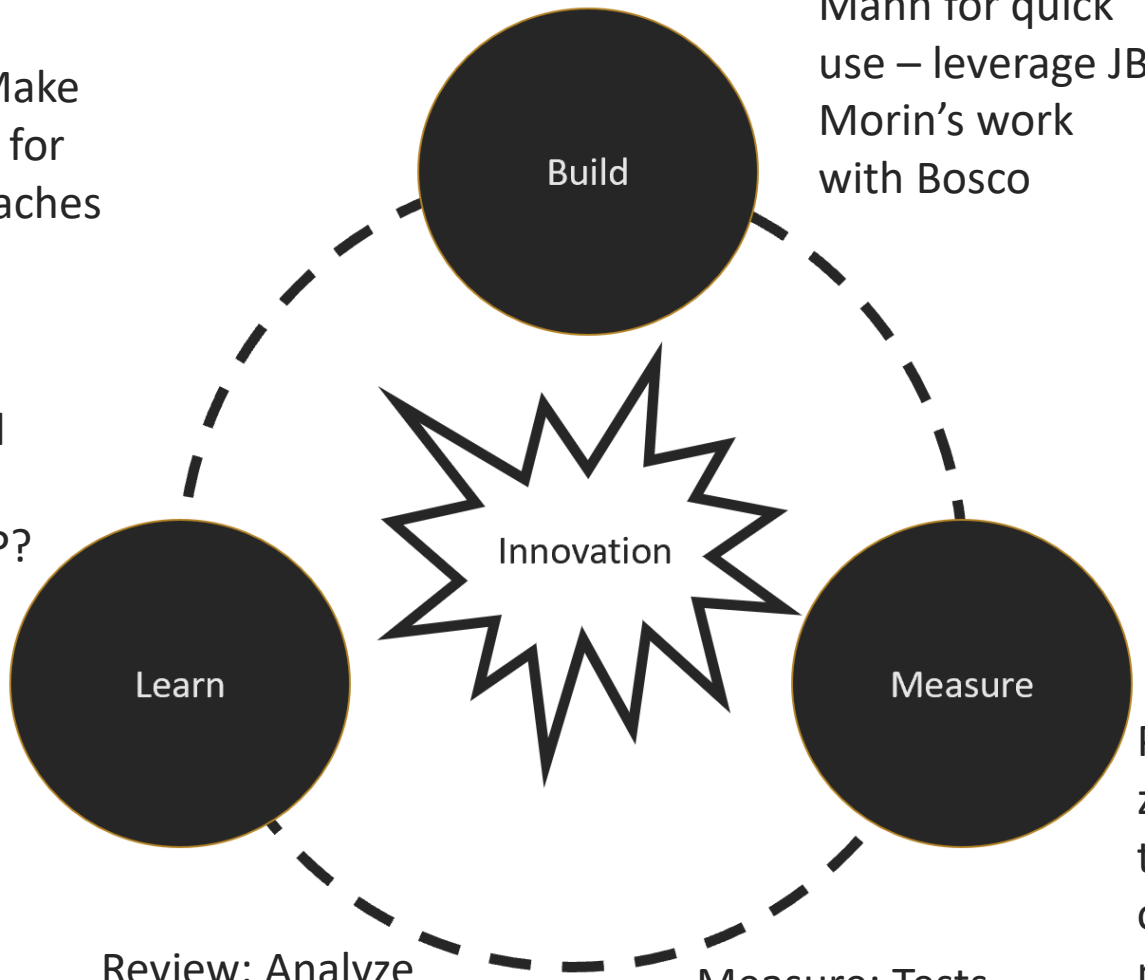
The closer your values are to the Bosco "optimal" values the more prepared you are for competition.



Problem: How do I use VBT with jumping

Idea: Build VBT sheet similar to Mann for quick use – leverage JB Morin's work with Bosco

Integrate: Make cheat sheet for athletes/coaches



Build: Hypothesis that jump FVP will easy to use training tool

Learn: Do I feel comfortable using jump FVP?

Plan: Test VBT zone based training derived off of Bosco method

Review: Analyze the results

Measure: Tests some athletes

% CHANGE IN JUMP HEIGHT
MAX VELOCITY
10%
0%
-10%
SPEED-STRENGTH
-20%
-30%
-40%
STRENGTH-SPEED
-50%
-60%
-70%
MAX STRENGTH
-80%
-90%
-100%

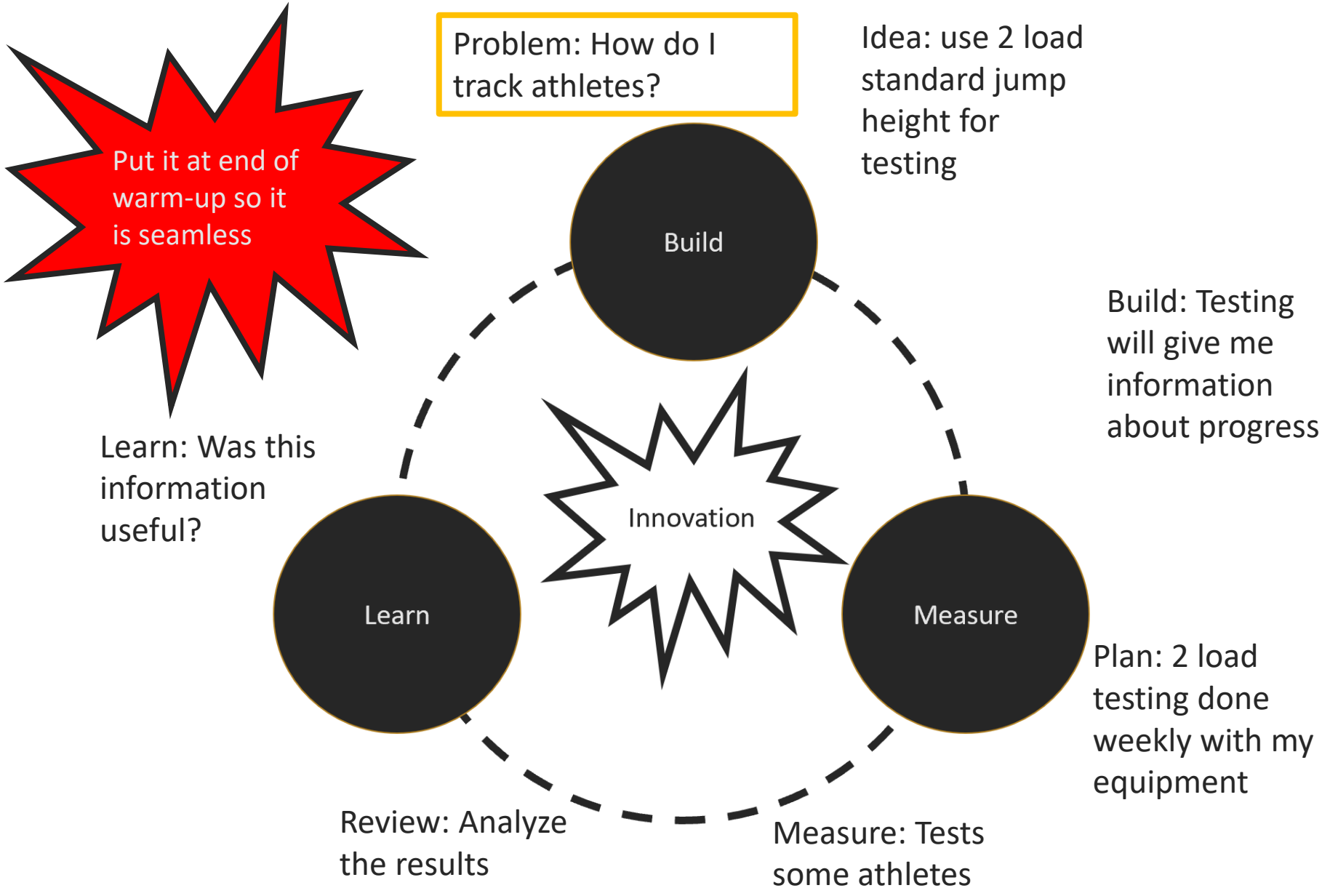
Jump qualities

Change of max jump height %

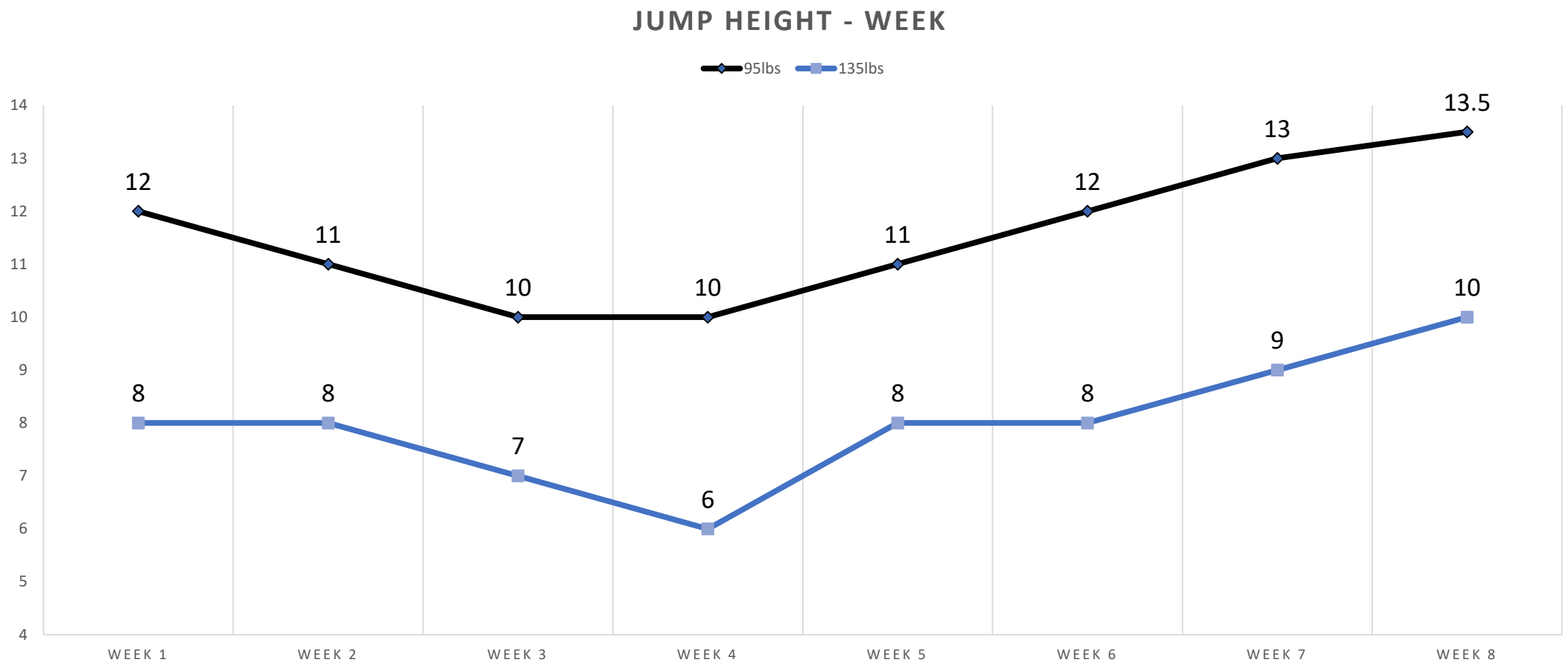
Auto-regulatory

Target qualities

Athlete motivation


Problem: How do I track athletes?
Idea: use 2 load standard jump height for testing
Put it at end of warm-up so it is seamless
Build
Build: Testing will give me information about progress
Learn: Was this information useful?
Innovation
Learn
Measure
Plan: 2 load testing done weekly with my equipment
Review: Analyze the results
Measure: Tests some athletes

2-load Jump Height Tracking



Providing vertical value

Acute Intervention

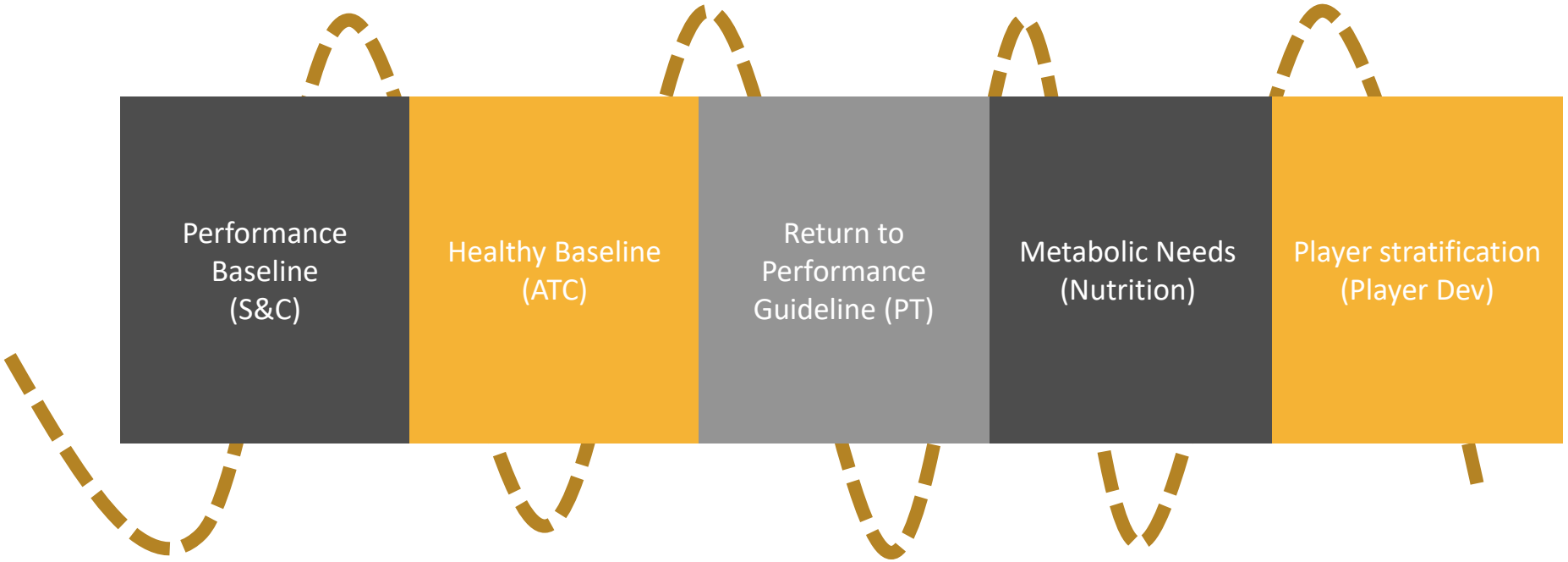
Contextual Analysis

Adaptive Progression

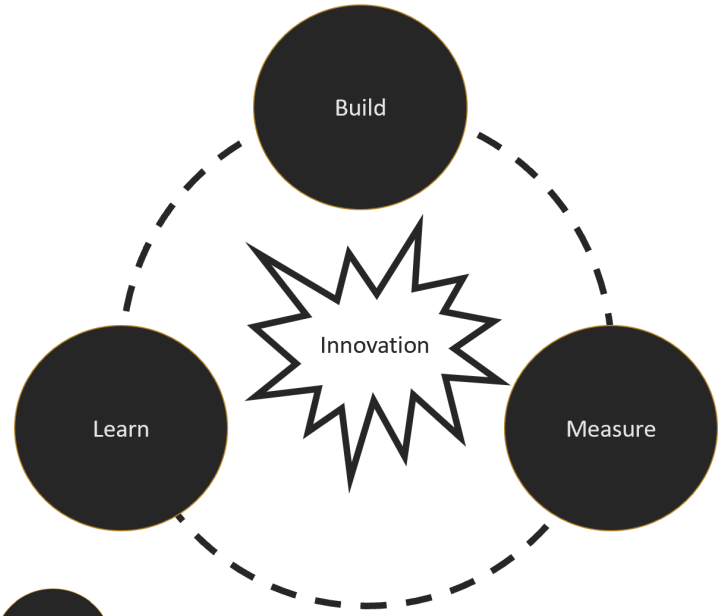
Intervention Efficacy

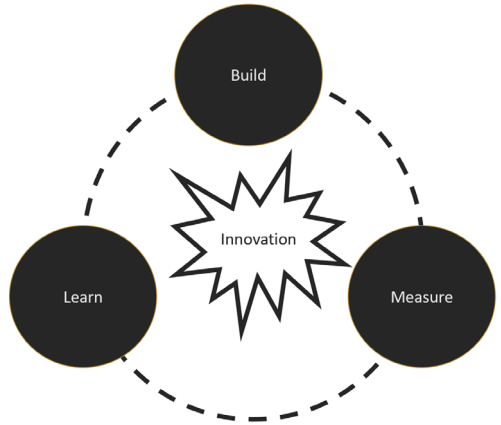
Performance Baseline

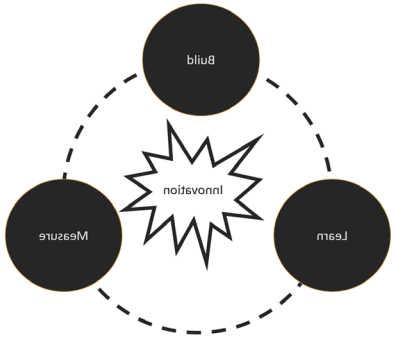
Providing horizontal value

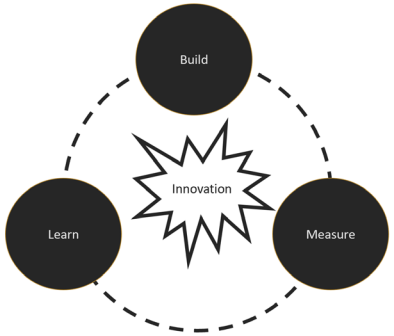


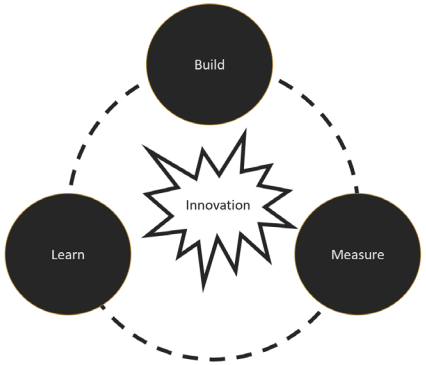
Nodes in a network

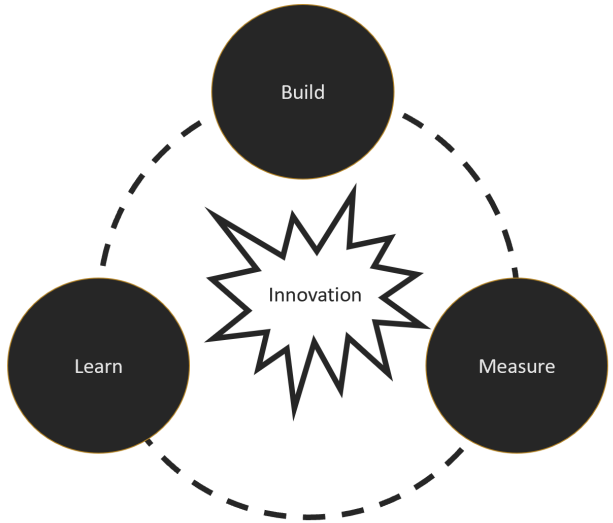












Empowerment

Developed assessment tool for profiling needs

Took assessment tool derived FVP cheat sheet

Took FVP cheat sheet and derived multi-load tracking

Apply this across domains – PT, ATC, Med staff and sport coaches

Made jump height, a single metric vertically and horizontally rich

Have an idea – execute

Learning loops

Develop IP

Evidence with data

DEVELOP YOUR EDGE

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Assessment sheets: https://exsurgo.zendesk.com/hc/en-us/categories/360000897671-gFlight