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Research in Action!

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Research In Action!

- What will I get from this presentation?
 - Frame work for proper research/testing
 - Examples of proper testing/research techniques
 - Benchmark to compare how I research/test




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Research In Action!


- What I won't get from this presentation?





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Research In Action!


- LP Executive – “Real World” Dilemma
 - Major category shrink issue
 - Past decisions were not made using a research-based process resulting in highly credible, usable data and so it was not working
 - Business partners were looking towards me to be the expert (didn't have the knowledge/data to support recommendations)
 - Not an expert in research methodology
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Research In Action!

- Key messages
 - SARA process
 - Components
 - » Thorough diagnosis- who, what, when, where, why, how
 - » Treatment innovation
 - Rational choice theory- overload
 - Use of Situational Crime Prevention toolset
 - *StoreLab* innovation
 - » Good/best evidence: RTC treatment(s) evaluation
 - » Action report
 - Case study 1- problem, process, results- learning's
 - Case study 2- problem, process, results- learning's

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Crime Prevention Process (SARA)


(Eck and Spelman, 1987)

Diagnosis:


- Scanning
- Analysis

Treatment:

- Response
- Assessment:




Source- POP Center

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Crime Prevention Process (SARA)

(Eck and Spelman, 1987)



Scanning:
Identifying, defining, prioritizing problems

Analysis:
Understanding causes (who, what, etc.), hypothesizing and testing precision responses- innovating and adjusting treatments

Response:
Specifying, resourcing and implementing treatments


Assessment:
Determining whether the plan was implemented, impactful, acceptable, cost-effective- suggest adjustments


Source- POP Center

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Treatments are driven by:
Environmental Criminology

- Crime is *always* a choice
- Crime is highly *specific* by categories/ targets/ methods
- There are purposeful temporal and geographical crime *patterns*
- *Situational factors* result in crime causation




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Important EC Theories

Causes to Enable Protective Action

- Routine Activity Theory (Macro-level; can be micro)
 - What are the proximate conditions leading to crime?
 - How can we alter them?
- Rational Choice Theory (Micro-level)
 - How do offenders make decisions?
 - How can we influence them?

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Rational Choice Theory

(Clarke and Cornish, 1983)

- Offenders make choices like everyone else, but also:
 - With varying experience constraints
 - Under stress constraints
 - With situational time constraints
 - While emotional or in varying mood constraints
 - With varying cognitive capacity and pathological constraints
 - Under the influence constraints
- Rationality is bounded- not perfect (i.e. not just financial)
 - Balance of pain/gain, risk/reward, effort/ease
- Mostly proximate decision-making
- Fast “guesstimates” are common

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Situational Crime Prevention

Crime Prevention Toolset

INCREASE RISK

- Extend guardianship
- Assist natural surveillance
- Reduce anonymity
- Use place managers
- Strengthen formal surveillance

INCREASE THE EFFORT

- Harden targets
- Control access to facilities
- Screen exits
- Deflect offenders
- Control tools/ weapons

REDUCE REWARDS

- Conceal targets
- Remove targets
- Identify property
- Disrupt markets
- Deny benefits

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Effects of Situational Measures

Plan Ahead

- *Deter attempt(s)- cause offenders to desist or otherwise alter behavior*
- *Displace or move attempt(s), or diffuse benefits- ~~more behavior~~*
 - Target
 - Location
 - Time
 - Tactics
 - Offense

**Deterrence input- (Stafford And Warr, 1993)*

- Personal experience(s)
- Vicarious source(s)

**Displacement dynamics- (Barnes, 1995)*

- Can be very beneficial
- Cues should be arrayed for maximum effect

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Mechanism of Action (MOA)

Think Through How Countermeasures Work

- Appendix
- The term mechanism of action (MOA) refers to the specific interaction through which a countermeasure produces its deterrent or disruptive effect

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Overload Offender Response Concept

(Hayes, 2009)

Protective Cues


- Multiple
- Proximate
- Obvious
- Credible

“Overload”

- Concern
- Doubt
- Fear


Effects

- Displace
- Desist


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Needed to Create “Overload”



In order to deter offenders, they must first know they are supposed to be deterred!


- They must see or know about our deployed cues (*See it*)-
- They must understand how the cues can “bite” them (*Get it*)-
- They must believe the cues are a clear and present danger (*Fear it*)


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Case Study 1: Product Protection Process




1. Set objectives, process, timing, team
2. Adjust usability, durability, shopper and stealer effects in *StoreLab*
3. Conduct experiment (RCT) to estimate in-store effects and cost-benefit



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Product Protection: Research Process

- Example
 - Keepers or “safers” refined in *StoreLab*
 - Overload Mechanisms of action:
 - Increase effort
 - Increase perceived risk
 - Decrease reward/benefits

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Strength of Evidence



Source- POP Center

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Case Study 1: Methods

- Measurements collected for pretest period O_1 for both groups
 - Weekly or 4 times for 6-26 weeks
- Interventions installed (X1-3)
- Measurements collected for test period O_2 for both groups
 - Weekly or 4 times for 6-26 weeks

Treatment Stores:	R	O_1	X	O_2
Control Stores:	R	O_1		O_2

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Case Study 1: Project Background

- Randomly select and assign 5 test stores and & 5 control stores in Atlanta area
- Keepers installed on 69 different blade & razor products
- Sales & shrink measured in pretest & two posttest periods over 12 weeks each

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Case Study 1 Findings: Reduced Shrink

- Test & control stores had similar shrink levels for blade & razor products in the pretest period
- Shrink was lower in test stores (those with Keepers) than control stores in posttest periods


Group	Pretest	Posttest 1	Posttest 2
Test	- 22%	- 11%	- 0.3%
Control	- 23%	- 14%	- 20%

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Case Study 1 Findings: Increased Sales


- Sales of blade & razor products increased in 4 of 5 test stores (those with Keepers)
- Sales decreased in all 5 control stores (those without Keepers)



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Case Study 1 Findings: Financial Benefits (ROI)

- Keepers result in a financial benefit of nearly \$8,000 over the three-year life span of the Keepers products
- Internal Rate of Return was 139.46%
- Payback in years was 8 months

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Case Study 1 Findings: Consumer Perceptions

- All 43 interviewed consumers reacted positively to plastic Keepers
- Most consumers were unaware of Keepers and their purpose
- Most consumers said Keepers would have no influence on their purchase of blade products
- Consumer quotes:
 - *“Product has done wonders”*
 - *“Extremely improved from before”*
 - *“Use on more products”*
 - *“Make sure trained at registers”*

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Case Study 2: Project Background

- High-theft in several category areas in a large home improvement chain
- EAS and traditional CCTV were not providing needed protection
- Innovate highly targeted product protection in Gainesville and Los Angeles *StoreLab* locations

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- Offender insights:
 - Video (CCTV) deterrents do create concern
 - But this concern is readily discounted by active offenders
 - Many don't spot domes during quick, emotional visits
 - Many that do spot domes don't believe they're actually being monitored by anyone

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- Offender insights:
 - Offenders report they perceive PVMs are more threatening to them than domes or cameras
 - They can see themselves- and more readily imagine how they look live or on stored video
 - High-resolution monitors help them see how easily their faces can be recognized
 - They point out others behind them can see their behavior, as well as remote viewers

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- Offender insights:
 - PVMs can be further enhanced with lighting and audio that is activated by offender movement
 - They report bright strobe-effect LEDs help them rapidly spot PVMs
 - Their triggering PVM LEDs and sounds also creates more concern about live monitoring by nearby employees and shoppers
 - Some offenders report reactive LED s and sounds also make them worry about remote (back room or offsite) monitoring

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Case Study 2: The Evolution of ePVMs

- PVMs can be further enhanced with lighting and audio that is activated by offender movement (hence ePVMs)
 - They report bright strobe-effect LEDs help them rapidly spot PVMs
 - Their triggering PVM LEDs and sounds also creates more concern about live monitoring by nearby employees and shoppers
 - Some offenders report reactive LED s and sounds also make them worry about remote monitoring

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Case Study 2: The Evolution of ePVMs

- The Stages:
 - Domes → including entrance PVMs → placing ePVM in-aisle → positioned lower → added lighting → added noises → added messaging → correcting angles.
- The influence behind the evolution: Offenders!
 - High-resolution monitors help offenders see how easily their faces can be recognized
 - Movement-activated LEDs on the ePVM also get surrounding customers to watch them, which can be alarming.



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Customer Reactions to PVM & ePVM

- The majority of customers:
 - Noticed the Monitors (83% PVM; 100% ePVM)
 - Offered neutral to positive comments about the PVM and ePVM
 - Did not find the PVMs intrusive to their shopping
 - Some customers were bothered by the flashing lights on the ePVM
 - Prefer PVMs to having items in locked cases (83%)
 - Are equally or more likely to purchase with PVMs (88%)

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Count Data

- Store #270 lost 3.03 fewer units per week with the PVM than during the baseline period
- Store #270 lost 2.23 fewer units per week with the PVM than the control store during the same time period
- Store #270 lost 4.72 fewer units per week with the ePVM than during the baseline period
- Store #270 lost 0.125 fewer units per week with the ePVM than the control store during the same time period

Shrink (Units per Week) in Intervention & Control Stores


Store	Baseline 10/12/09 to 11/08/09	PVM 12/07/09 to 1/17/10	ePVM 2/16/10 to 3/15/10
Gainesville #270 (test)	- 3.06 units	- 0.57 units	- 0.75 units
Gainesville #1854 (control)	0 units	- 2.8 units	- 0.125 units

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Table Exercise

- Think about the last time you tested/researched something within your company
- Each table will be assigned a question to discuss
- We will ask for a shared learning from each table






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Table Exercise

- When was the last time that you tested a solution?
- Why did you decide on that solution to test?
- Did you test one solution/multiple solutions?
- How long did you gather data prior to the test?
- How long did you run the test?
- Did you use a control group?
- What factors of success did you use for the test?
 - Financial results
 - Impact to customers
 - Impact to employees
 - Ease of execution across organization
- How did you account for external factors impacting the test?



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Conclusion

- Frame work for proper research/testing
- Examples of proper testing/research techniques
- Benchmark to compare how I research/test
- Increased awareness of LPRC benefits

