

Beyond Scoring: Using Controlled Experimentation for Continuous Portfolio Learning

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Risk Management Practice

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Agenda

- Interactive and Competitive game! (45 min)
- Key Learnings and Discussion (30 min)

Feel free to ask questions!

The Koosh Ball Game

1. Each group of 5-6 individuals is given a set of small “koosh” balls (a soft rubber ball about the size of a golf ball).
2. Each ball represents one “widget.”
3. The group’s job is to “process” widgets. A widget is considered “processed” when each of the group’s members has physically touched it (the ball).
4. A group member can touch more than one ball at a time, but more than one member cannot touch the same ball at the same time (except for “incidental” contact).
5. You cannot use artificial/mechanical aids, such as cups.

The Koosh Ball Game

6. The groups' goals are threefold:
 - a. Design a "widget-making" process that will maximize the number of widgets processed in a 3 minute production cycle.
 - b. Accurately forecast what the total number of widgets processed will be.
 - c. Report the total number of widgets processed.
7. Each group must establish a method of forecasting (accurately!) and reporting the total number of widgets you think you'll process in a 3 minute production cycle.
8. If a widget is dropped, it must be re-touched by each group member to be considered "processed."
9. There will be two production cycles run, with a brief discussion between the two.
10. For each production cycle, there will be an official timer calling out times.

The Koosh Ball Game

Round Two

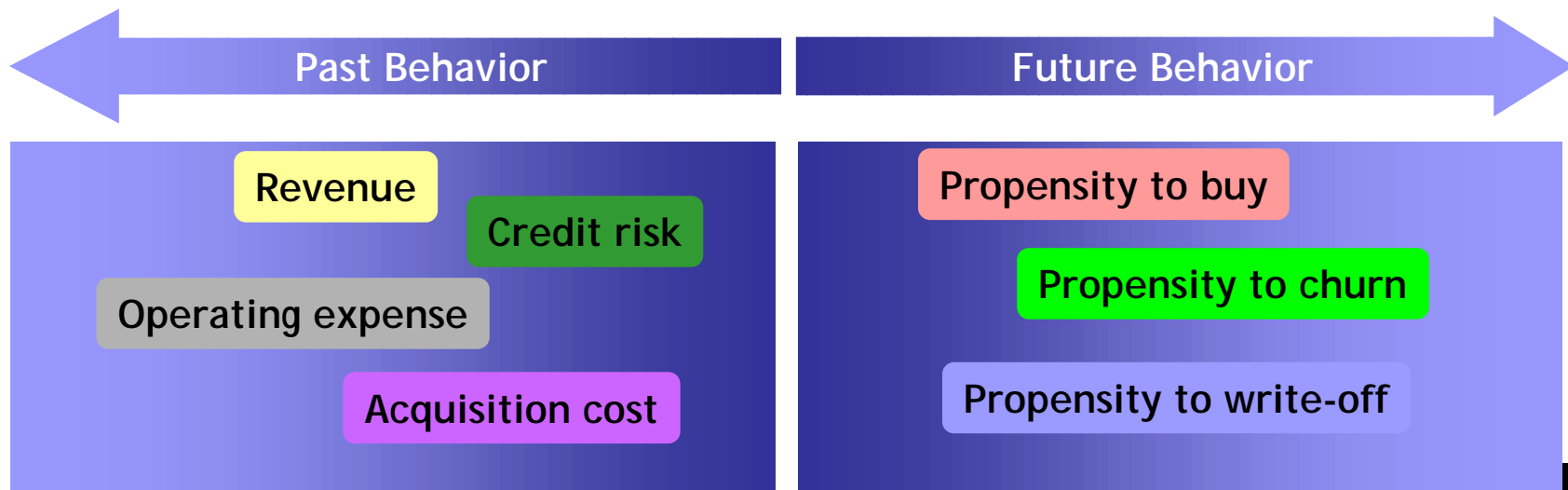
- Increase the number of widgets processed
- Improve forecast accuracy
- Improve reporting accuracy

Key Learnings

- Process **design** and **execution** can be continuously improved
- Look to past performance to **predict** future results
- You can't improve what you don't **measure**

What Scores Tell Us

A numerical value that equates to a set of odds about the likelihood of a certain type of event occurring within some future timeframe.



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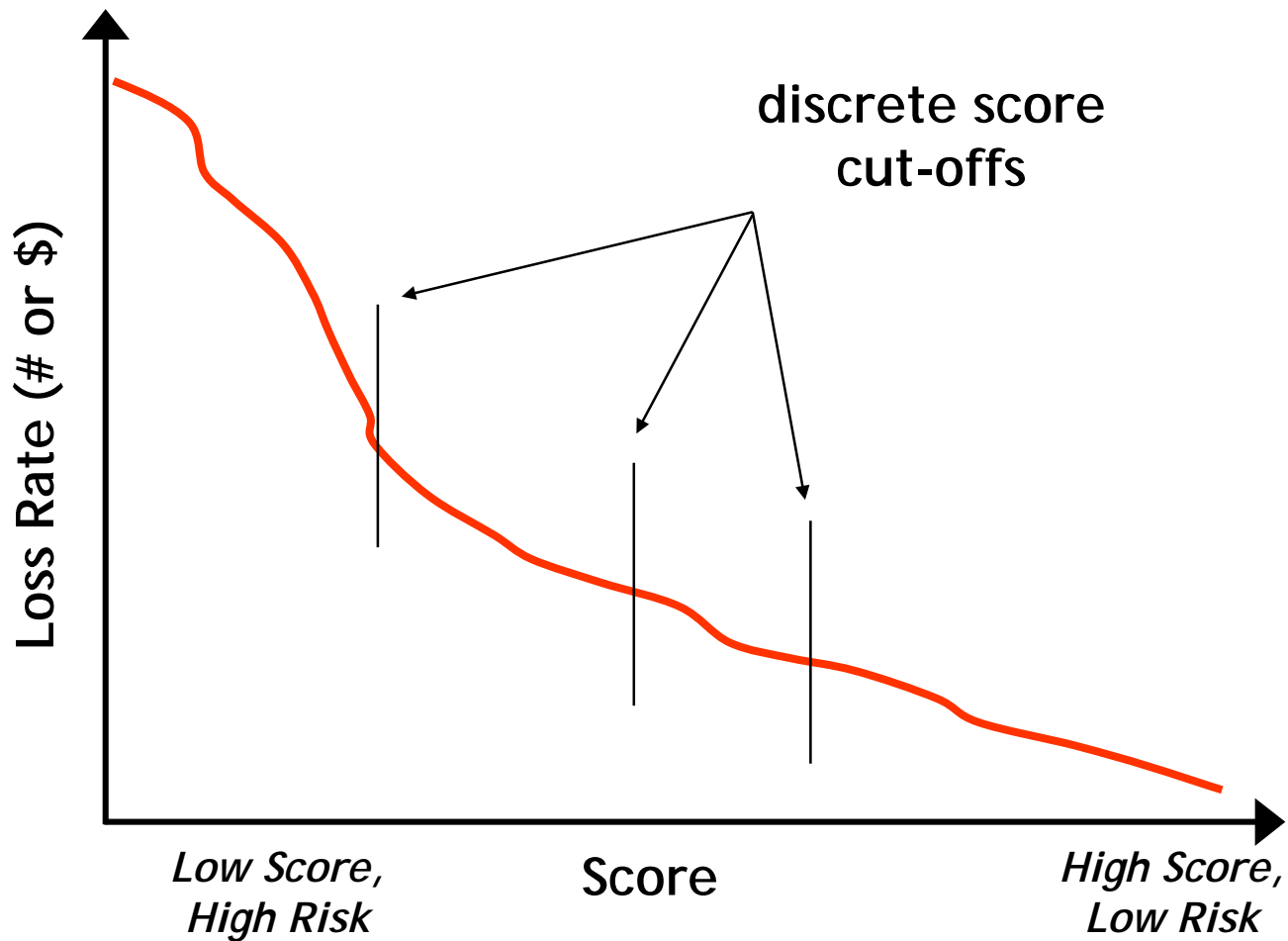
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Examples

The **likelihood** of:

- An applicant becoming 60+ days delinquent anytime within their first year of being a customer
- A newly-delinquent customer writing off anytime in the next 12 months
- A current, non-delinquent customer becoming 90+ days delinquent anytime in the next six months

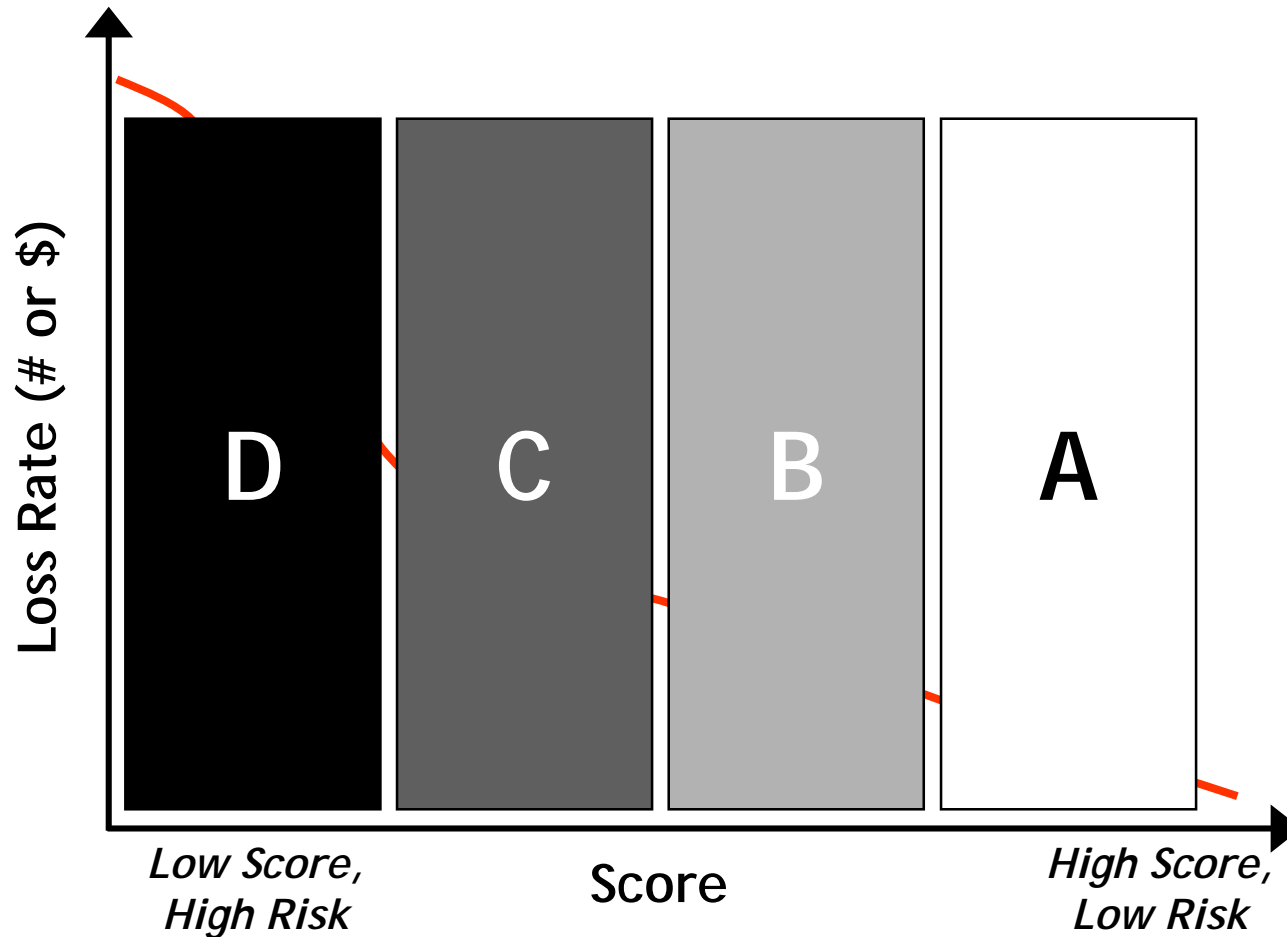
Score Distributions



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Obscuring Critical Detail using “Credit Class”



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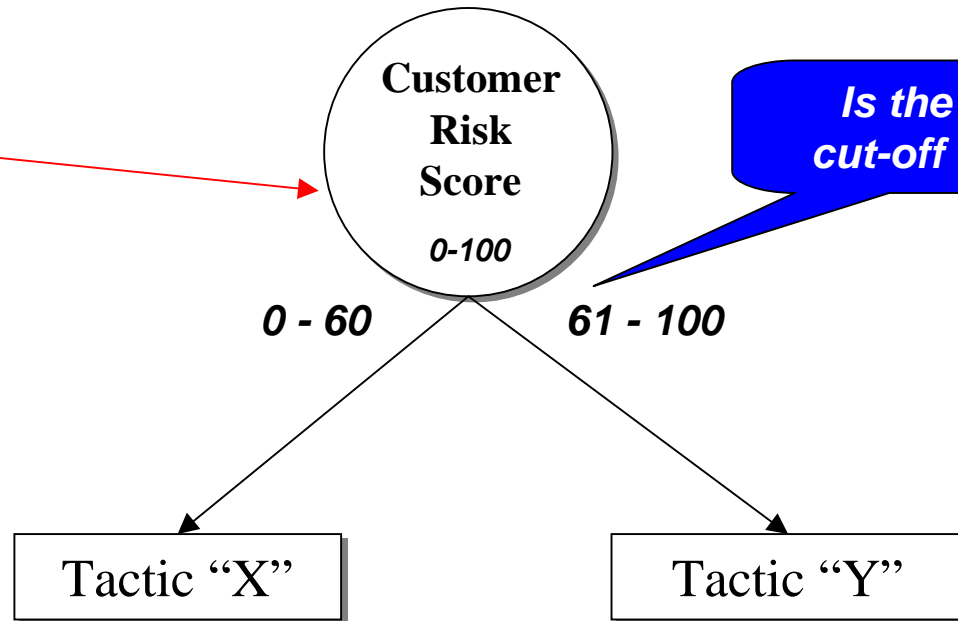
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The Decision Management Framework

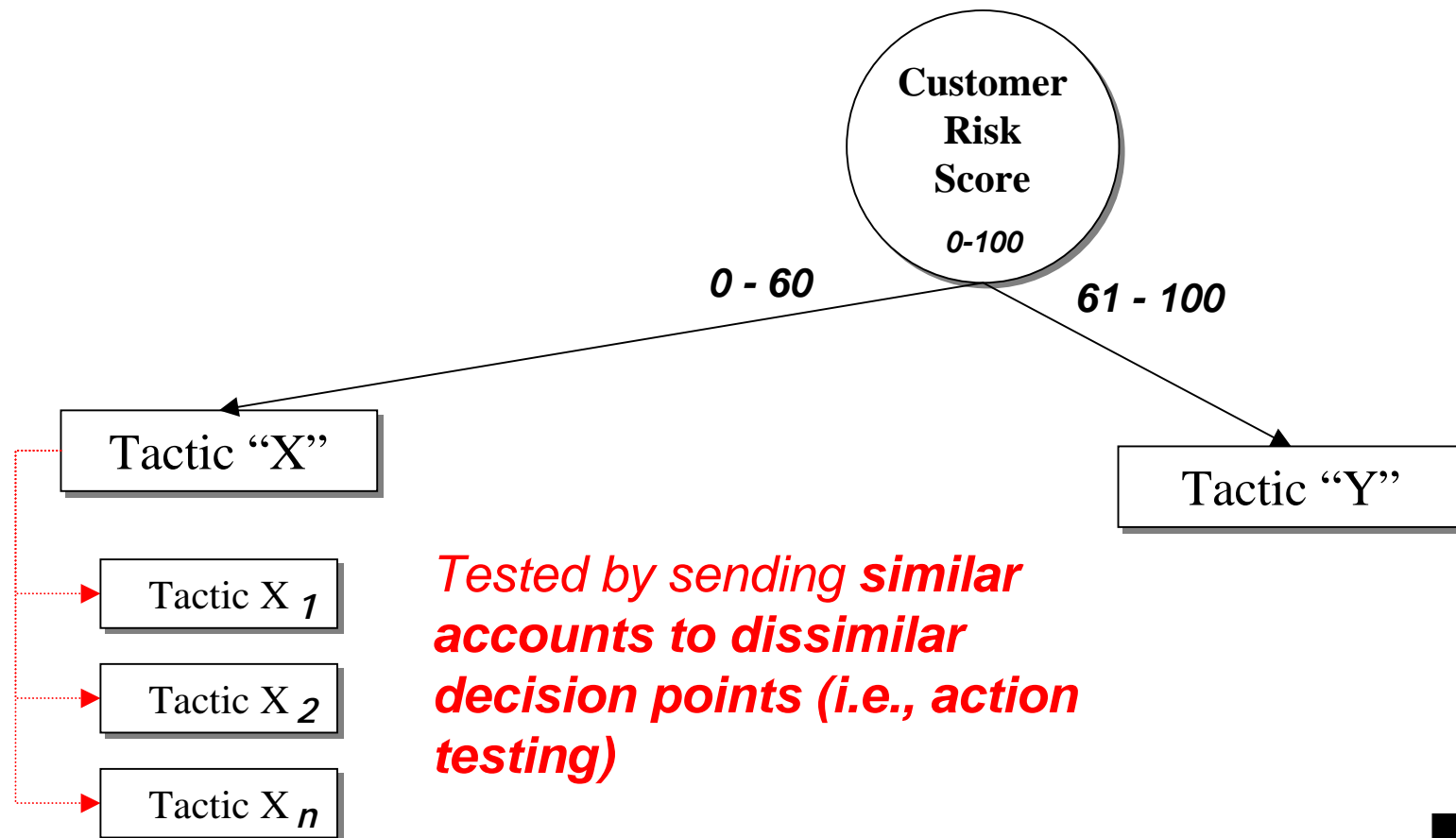
Assessments are often done by using some type of predictive model (either statistically derived or judgmental)...

Is this tactic the most cost-efficient and cost-effective?

- ...that determine the tactical actions*
- *Collection treatments*
 - *Deposits*
 - *Pre-pay*

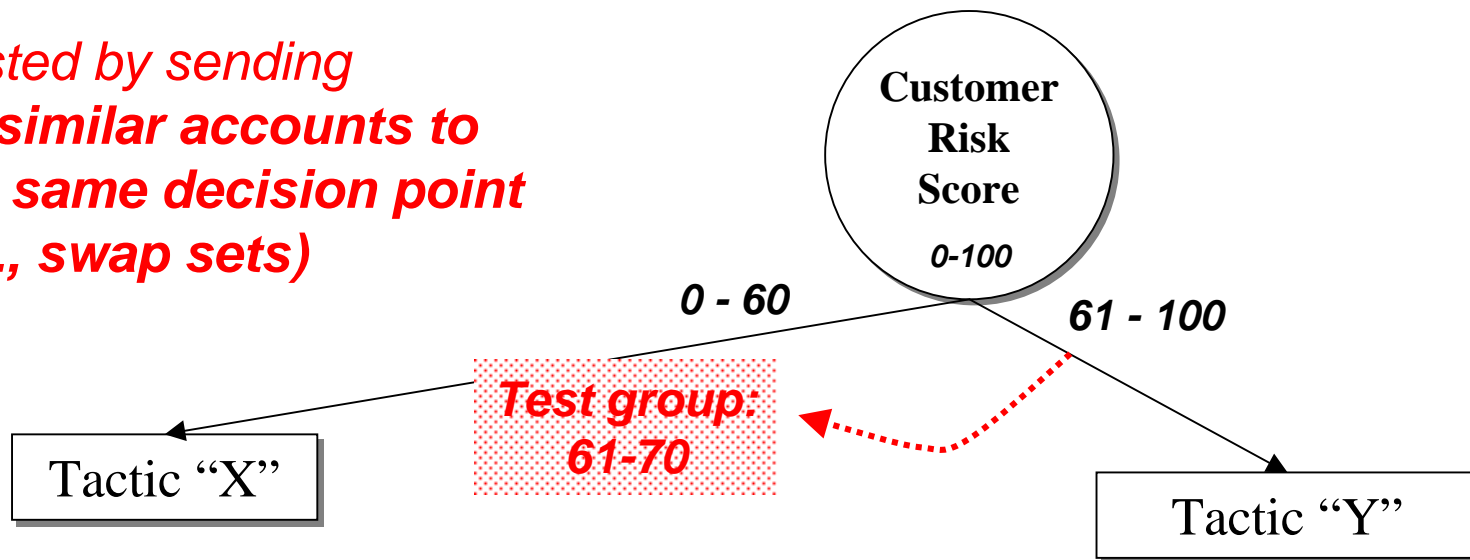


Testing Tactical Decisions

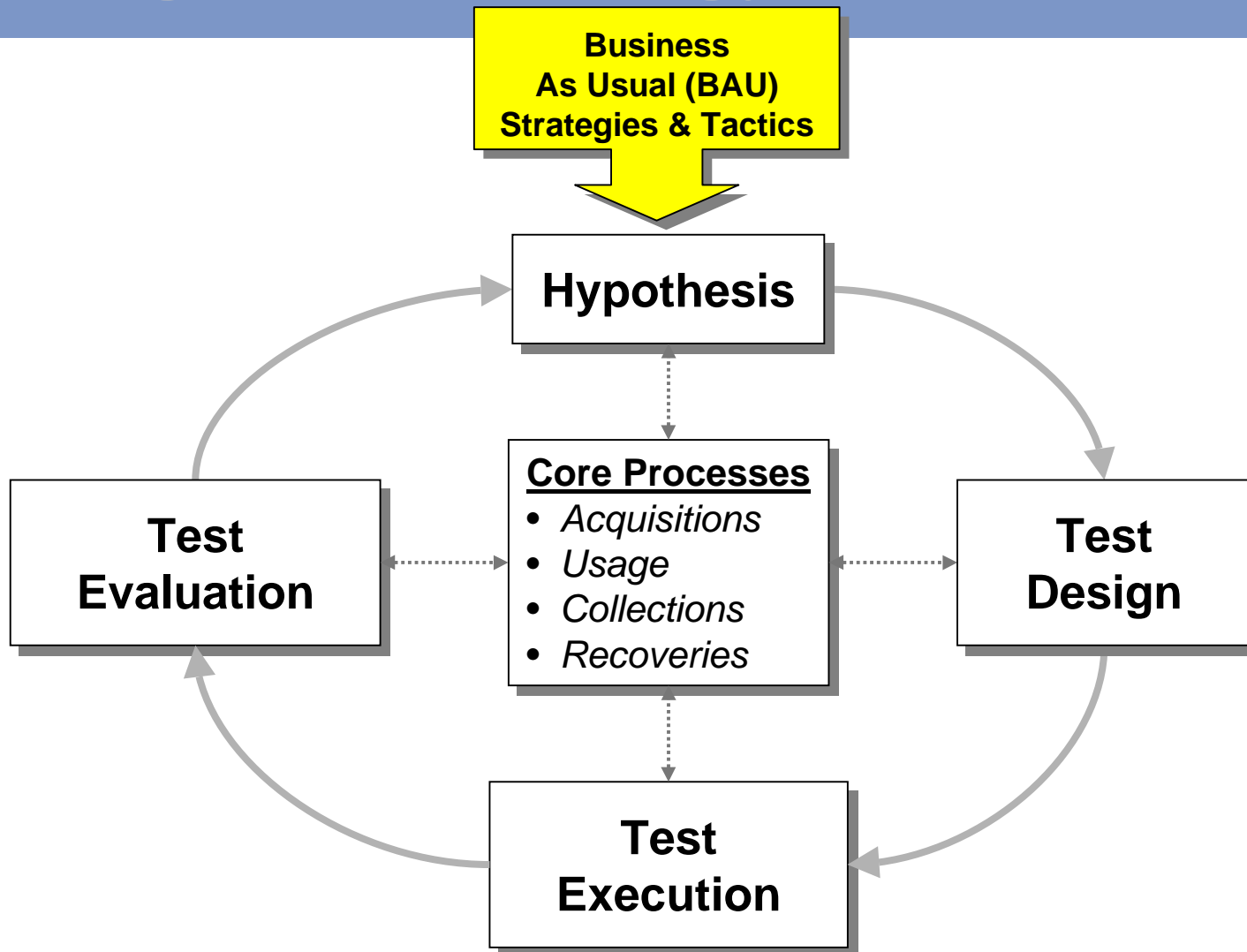


Testing Strategic Decisions

*Tested by sending
dissimilar accounts to
the same decision point
(i.e., swap sets)*



Continuous Learning: Testing Methodology



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Critical Success Factors

- Constantly challenge the assumptions of how various segments of your portfolio are performing.
- Continuously evaluate the effectiveness of both strategic and tactical decisions.
- Apply “test-and-learn” or “champion-challenger” methodologies to all phases of the credit life cycle.
- Create a “hold-out” or “do nothing” strategy: making an investment to learn (control group).
- Use tests to quantitatively measure performance.
- Multiple tests yield multiple learnings.

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Differences Between Scoring and Testing

SCORING

- Tells the likelihood of a specific behavior
- Provides an understanding of what your customers look like
- Gives the means for segmenting customers based on forecasted behavior

TESTING

- Allows scoring data to be put into action
- Determines if your segmenting and actions are correct
- Allows you to prove optimization of cost efficiency and cost effectiveness

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