MANAGEMENT AS AN EXPERIMENTAL DISCIPLINE

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WHY IS MANAGEMENT NOT AN EXPERIMENTAL DISCIPLINE?

- Wrong Question
 - Management is an experimental discipline. However,
 - · Most scholars do not know that their research structures are experiments, AND
 - These designs are very poor either because of this or simply because they are limited structurally
- Right Question
 - How do we get management scholars to think experimentally when structuring their research programmes and their research design?
 - This will improve the quality of the research programme while also broadening the perspective of researchers as to what is possible with respect to research design

WHAT DO MOST SCHOLARS THINK ABOUT WHEN THEY TALK ABOUT EXPERIMENTAL APPROACHS?

- Experiments vs Quasi Experiments
- Control Experiments or AB Designs
- Manipulations or Treatments
- Laboratory vs Non-Laboratory
- Natural vs 'Unnatural' Experiments
- Between vs Within Subject
- Etc

- Much of this limits the logic of what is an 'experiment' and what is not
 - For example, if I investigate the choice of strategic orientation by managers (measured via survey) is this 'experimental'?
 - If I look at the performance difference of firms possessing different combinations of 'resources' (via panel data) is this experimental?







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Take our earlier example but view Z as a moderator, $Y = \alpha + \beta X + \chi Z + \delta X^*Z$

- 1. The model assumes a uniform set of effects
- The model samples the interaction ONLY on the observed information, not the full design; i.e. the 'domain' of X*Z is weighted away from empty cells. Some interactions will be empty sets (or near empty sets)

How might you resolve this?

- 1. #1 can be solved via effects coding. For example, with the above 5x5 design, you could create 25 variables (one for each cell) $W_{ij} = [-1,1]$ with $W_{ij} = 1$ if cell i is occupied by firm j. You then estimate $Y = \alpha + \Sigma \gamma_i W_i$, which gives you an estimate for each cell. You can then construct the direct effects of X and Z plus each interaction. This allows you to look at the full form of the model.
- 2. This can really only be solved via sampling. If the balance is not off by much you can reweight each observation to generate better estimation.











HOW DID INVESTMENTS VARY?

• 11 Different Investment Portfolios Described based on Performance, Strategy, Payoff and Risk

- Investment Strategy: The logic of the investment mix, how it is determined and what it includes.
- Performance Objective: The minimum return target on a per annum (p.a.) basis for the investment. This return is defined as the percentage return above inflation (consumer price index). It is based on the historic average return for the underlying investment instruments.
- Risk Profile: The riskiness of the investment. It is defined as the likelihood that the
 investment will show a negative inflation-adjusted return. It is expressed as a
 probability (percent) of years in which the investment return was negative.
- Investment Payoff: The investment payoff profile characterizes the time period that is best for that class of investment.

Investment Options	Investment strategy	Performance objective	Risk profile	Investment payoff profile
Fixed Interest	A diversified portfolio of money market instruments, government and corporate bonds, and other instruments with fixed rates of return	1.5% p.a.	1%	Short/ Moderate: 3 to 6 years
Stable Portfolio	A diversified portfolio of shares and fixed interest assets that generates a more stable pattern of returns but with more emphasis on returns (e.g., 40% shares, 60% fixed interest)	2.5% p.a.	6%	Short: 2 to 4 years
Balanced Portfolio	A diversified portfolio of assets with a 50:50 mix between shares (local and global) and fixed interest assets (bonds)	3% p.a.	10%	Moderate: 4 to 8 years

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Given the 5 investment options shown below, please indicate how you would distribute your pension fund investment. Note that your allocation must add up to $\underline{100\%}$.

Wove your mouse over each Investment Grouping to see its definition.

Investment Grouping Performance Risk Investment Payoff You objective Profile Profile Allocat
Very Short: 1 to 2
Cash 1% p.a. None years 107
Fixed Interest 1.5% p.a. 1% Short/ Moderate: 3 to 30%
Capital Preservation 2% p.a. 3% Long: 6 to 8 years 407
Stable Portfolio 2.5% p.a. 6% Short: 2 to 4 years 0%
Emerging Markets 5% p.a. 36% Very Long: 10 years + 209
Total 100

