Granular Metrics, Feedback and Experimentation

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Contributions of the Delta Model

The Triangle	**Opening the mindset to new strategic position**	**The Best Product does not always win**	**Three Strategic Options:** ● **Best Product** ● **Total Customer Solutions** ● **System Lock-in**
Adaptive Processes	**Linking Strategy with Execution**	**Execution is not the problem, linking to strategy is**	**Execution is captured through Three Adaptive Processes:** ● **Operational Effectiveness** ● **Customer Targeting** ● **Innovation** **whose roles need to change to achieve different Strategic Positions**
Aggregate Metrics	**Measuring success**	**Good financials do not always lead to good results**	**Aggregate performance metrics need to reflect each of the Adaptive Processes and their role based upon the strategic position** ● **Product performance** ● **Customer performance** ● **Complementor performance**
Granular Metrics and Feedback	**Discovering performance drivers**	**Managing by averages leads to below average performance**	**Business is non-linear. Performance, particularly bonding, is concentrated. Granular metrics allow us to focus on underlying performance drivers, to detect variability, to explain, to learn, and to act.**

The Delta Model and Granular Metrics

Select Performance Indicators
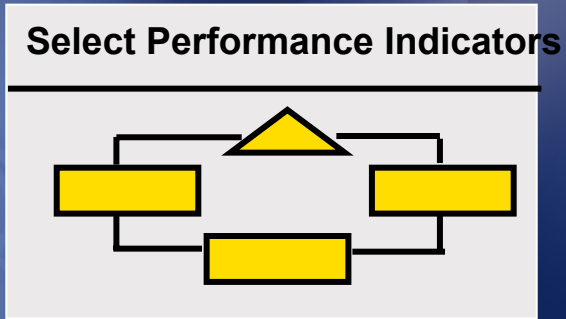
Act from Variability

- Define program
- Define structured tests
- Rollout

Detect Variability

- Drill down to detailed segmentation
- Isolate variability

Learn from Variability

- Hypothesize cause and effect
- Evaluation

Explain Variability

- Identify performance drivers
- Correlate drivers with variability

Drivers of variability for selected performance indicators

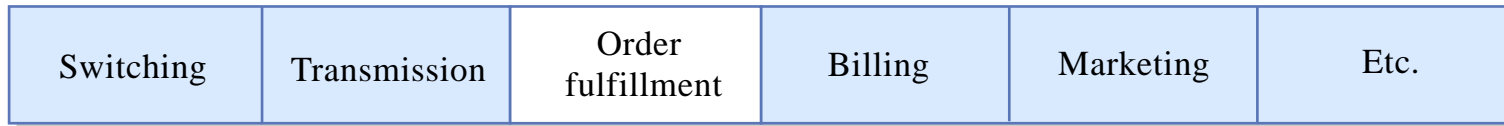| Performance indicators	Drivers of variability
Product cost and quality	• Scale • Density-e.g. concentration of service • Location • Labor productivity- practices and training • Equipment productivity- design • Process design • And so on
Customer profit	• Customer size • Customer revenue • Tenure • Acquisition cost • Channel mix • Customer care support • Customer investments in relationships • And so on
Complementor contribution	• Size of relevant complementor products • Complementor investment in business • Relative size in customer value chain • Complementor contribution to customer economics • Exclusivity of relationship • And so on
Business segment economic value	• ROI (return on investment) – profitability • Risk- volatility and covariance • Option value • Investment base • Cashflows

Experimentation as the basis for effective change

	Slow ← Speed of Change → **Fast**	
Large	The middle road: lower returns, or unacceptable when first mover advantage is high	Unacceptable risk, as a starting point. Highly desirable as endpoint
Size of Change ↕ **Small**	Ineffective: lower returns, or unacceptable when first mover advantage is high	Testing: the relevant area for experiments leading to large change

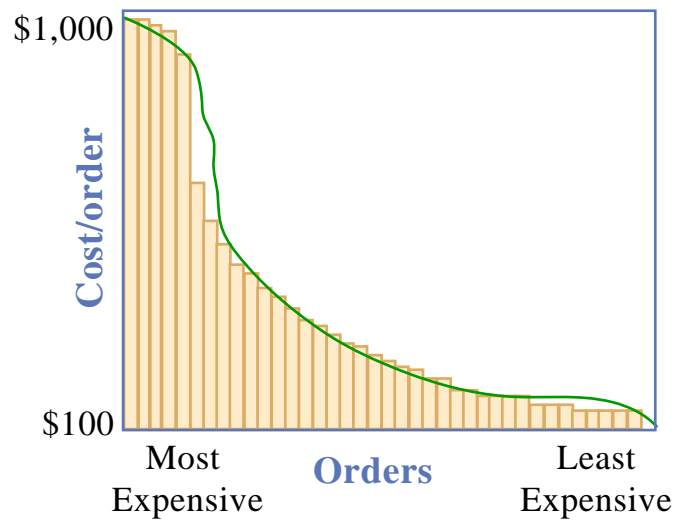Slow   Fast

Speed of Change

Cost De-Averaging:
Using Granular Metrics To Drive Performance

1. The Value Chain of the Local Business Data Circuit

Switching	Transmission	Order fulfillment	Billing	Marketing	Etc.

Average Cost = $395/order

2. Individual Order Cost

Cost/order

$1,000

$100

Most Expensive — Orders — Least Expensive

3. The 80-20 Cost Effect

% of costs

100
80
60
40
20

0   20   40   60   80   100
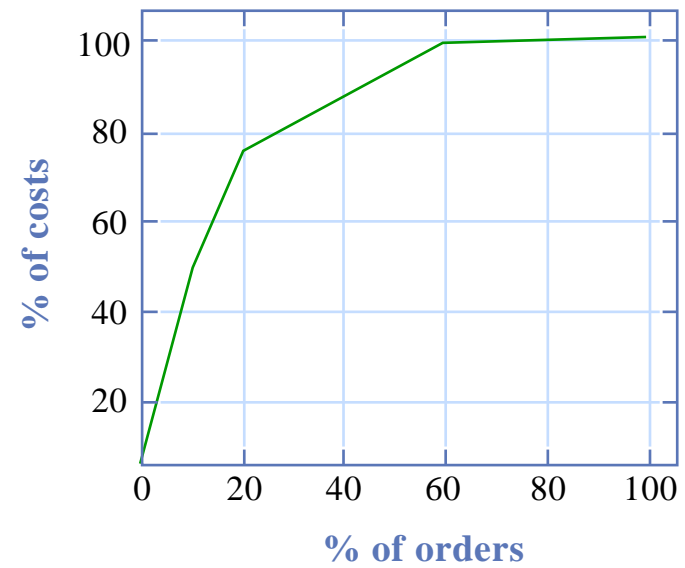
% of orders

THE BEHAVIOR OF COST - THE CASE OF BUSINESS DATA SERVICES

Figure by MIT OCW.

The drivers of the cost of order-fulfillment

Cost of order fulfillment
- Location of work centers
- Activities of order fulfillment
- Manpower productivity
- Equipment
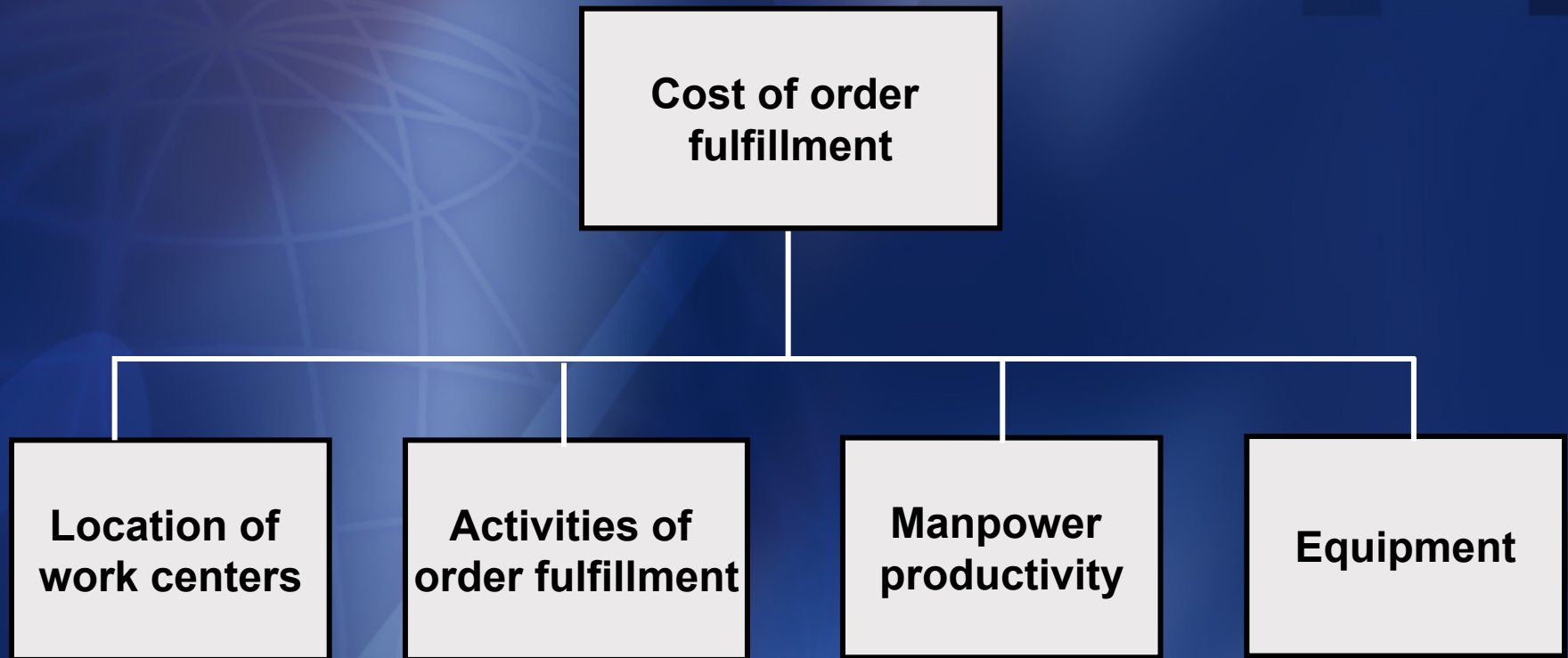
Order Fulfillment
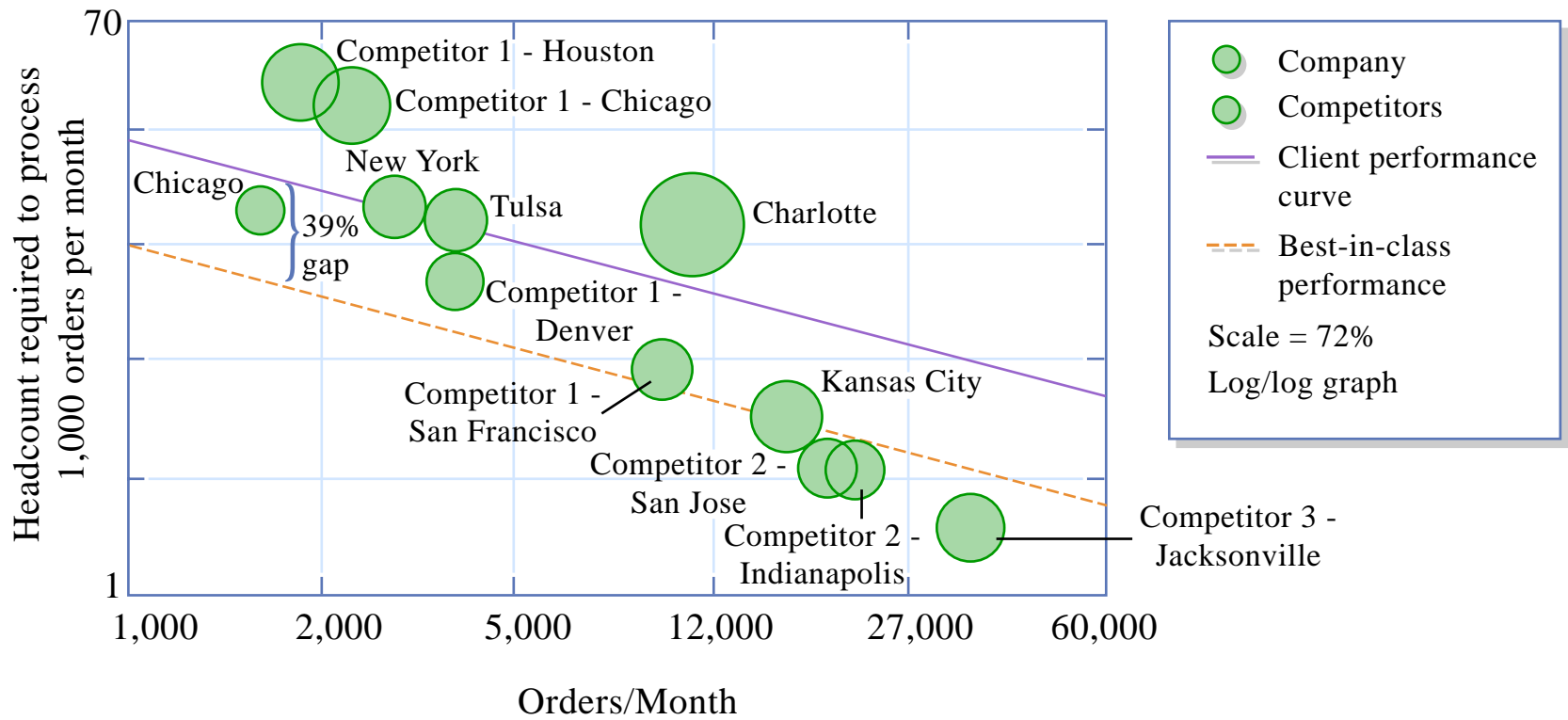
THE BEHAVIOR OF COST BY LOCATION

Figure by MIT OCW.

'Defect-free Path'

Order
- Facilities available
  - Access available — Pass test — Valid design — Automatic switch map — Fast facilities test — Pass access test — Customer ready
  - Access not available
- Facilities not available
  - Access available
  - Access not available — Skin test — Invalid design — Manual switch map — Fail facilities test — Fail access test — Customer not ready

'Defect-prone Path'

$100 (per access leg)

10x cost difference

$2,000 (per access leg)

1 MILLION POSSIBLE ORDER PATHS

THE BEHAVIOR OF COST BY FIVE ACTIVITIES IN THE VALUE CHAIN

Figure by MIT OCW.

The behavior of cost by type of defects

Client

	% of orders	Cost/ order	Average cycle time	Total cost
Defect-free	71%	$100	5 Days	**18%**
Business Data Service Orders	24.0%	$900	25 Days	**60%**
Business Data Service Orders	5.0%	$1,800	45 Days	**22%**

Business Data Service Orders

Focus of program development

Average	1	$395	12.3 Days	

Craftsmen Efficiency

Total hours/cleared fault

| Fault not fixed correctly & repeats |
| Pair throw: reroute around fault |
| Request assistance |
| Refer fault to someone else (specialist) |
| Fix fault |

S:1

Craftsmen

Cumulative cost (%)

Cumulative craftsmen (%)

The Need for Granular Metrics
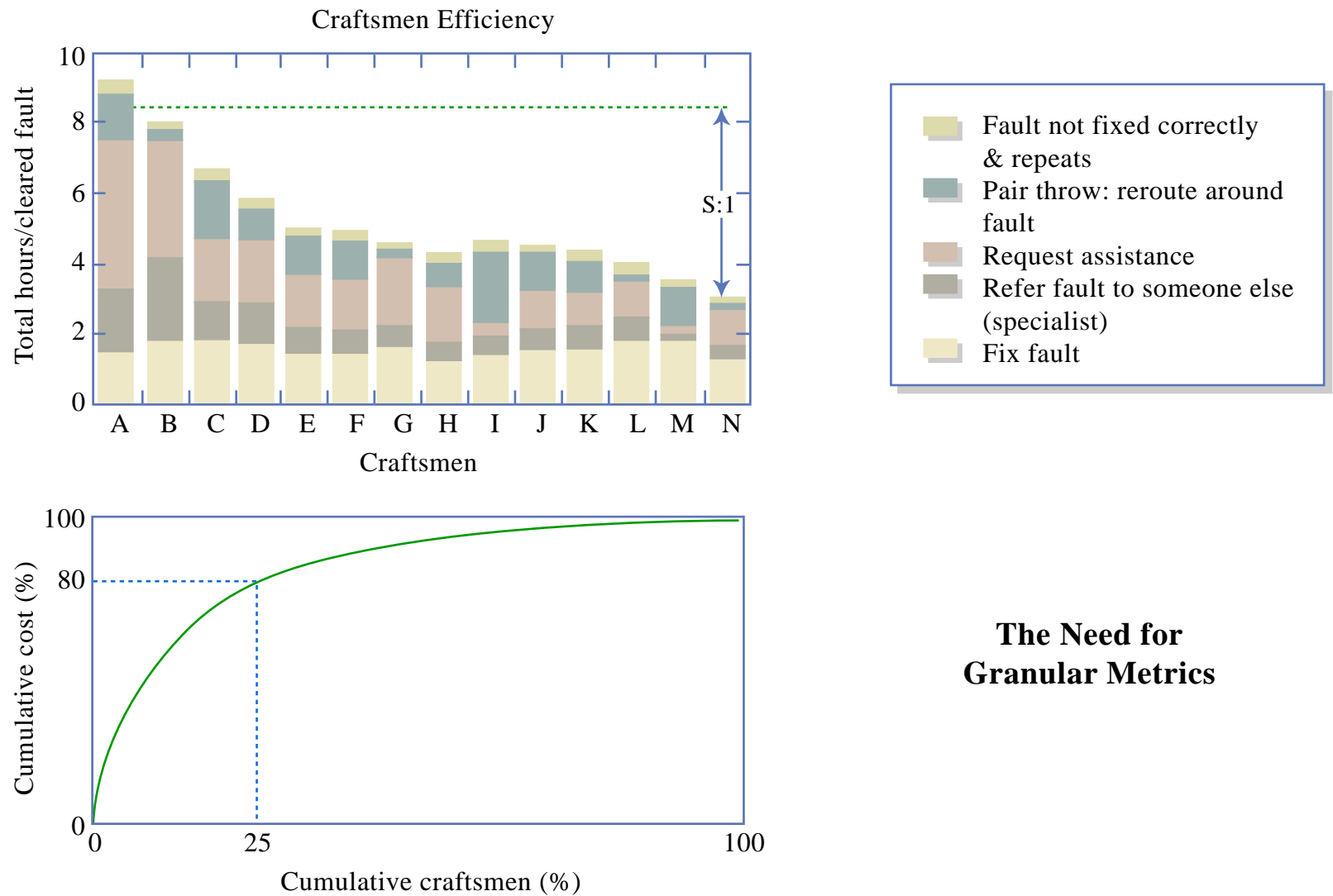
THE BEHAVIOR OF COST BY INDIVIDUAL WORKERS

Figure by MIT OCW.

Line Fault Concentration

100% of demand pair reclamations are concentrated in 17% of junctions

% of Line Faults

% of Junctions
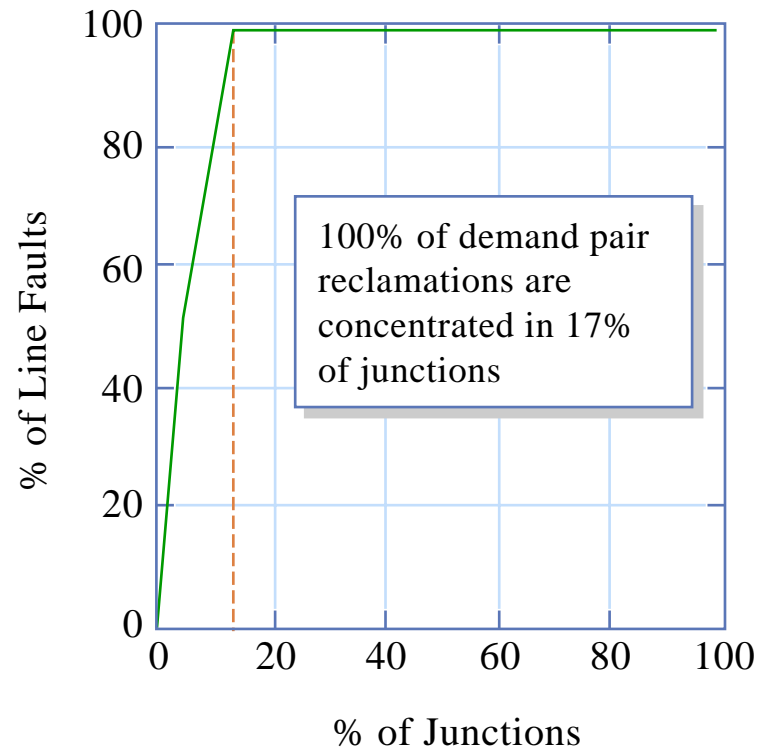
Records Errors Concentration

100% of records errors are concentrated in 19% of equipment

% of Records Errors
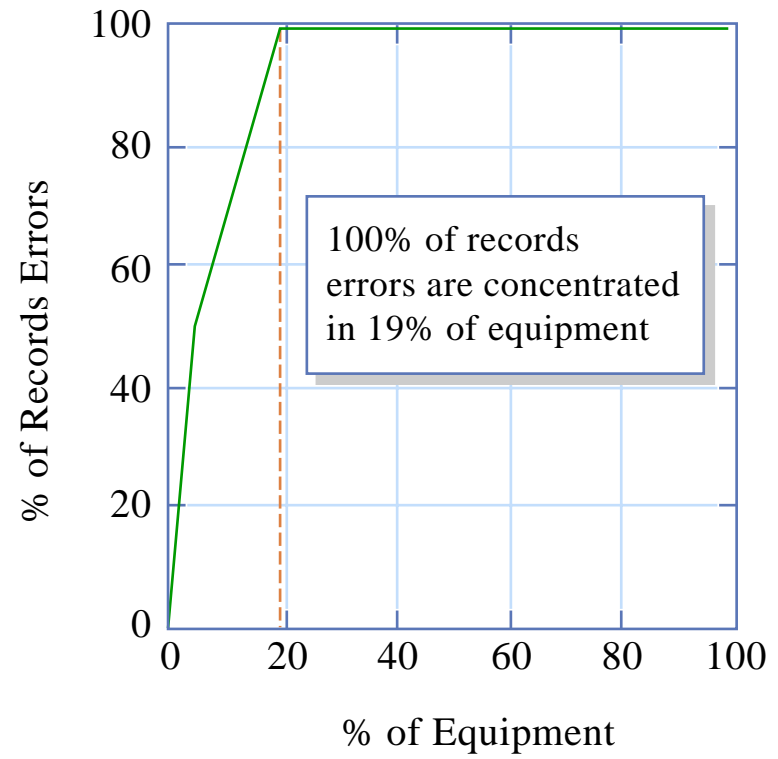
% of Equipment

THE BEHAVIOR OF COST BY TYPE OF EQUIPMENT

Figure by MIT OCW.

Benchmarks

Cost/Unit

Cost Drivers

Best Practice Sessions

Select Associates

Supervisor

Director/Process Reviews

Standard

a b

Individual Performance

Supervisor

Individual Reviews

Standard

a b c

'Supervisor Coaching'

Supervisor Review

Ind.	Actual	Target
—		
—		
—		
—		
Total		

District/Center Reviews

Supervisor	Actual	Target
—		
—		
—		
—		
Total		

OPERATIONAL EFFECTIVENESS: ADAPTIVE FEEDBACK USING GRANULAR METRICS
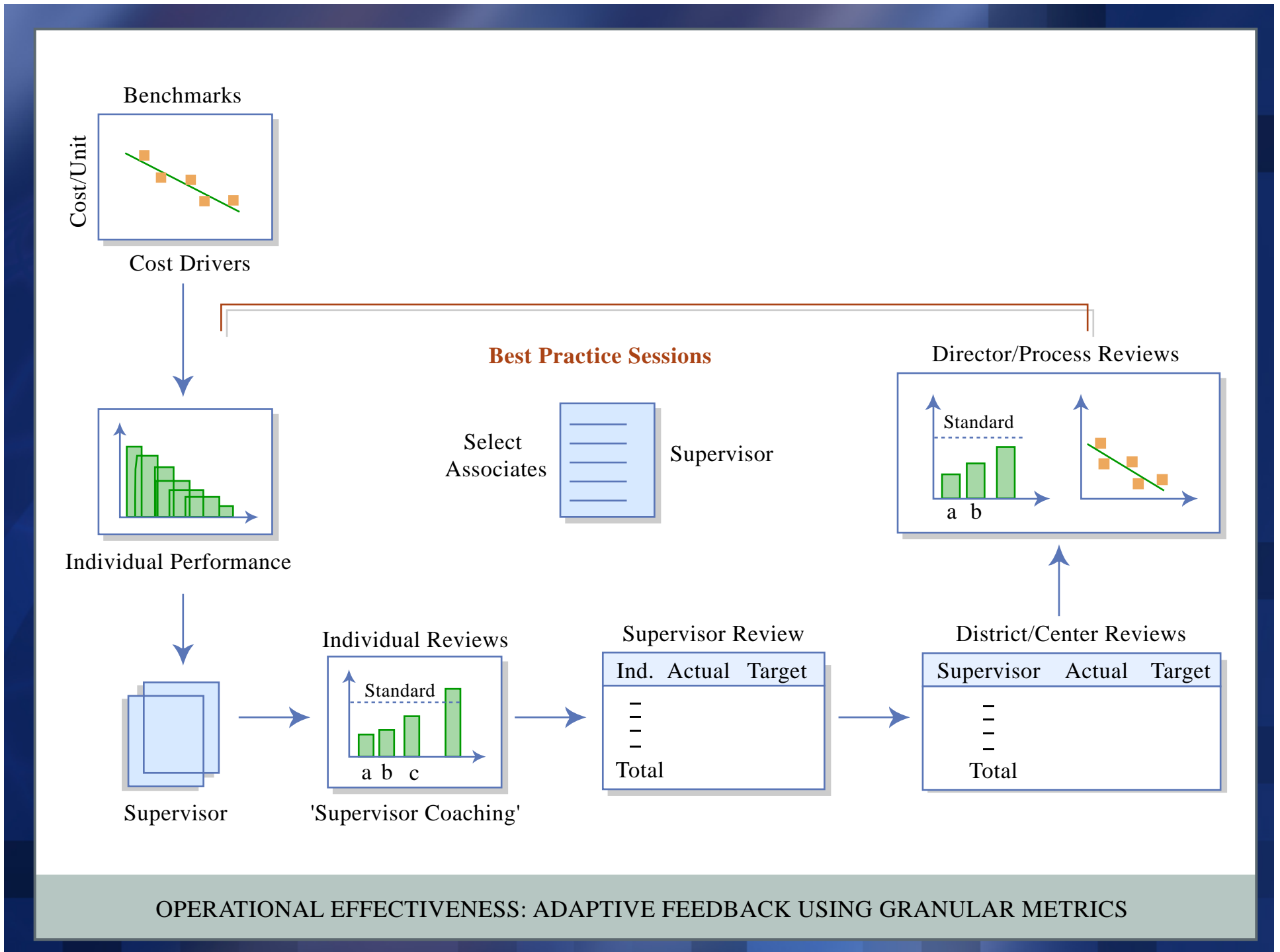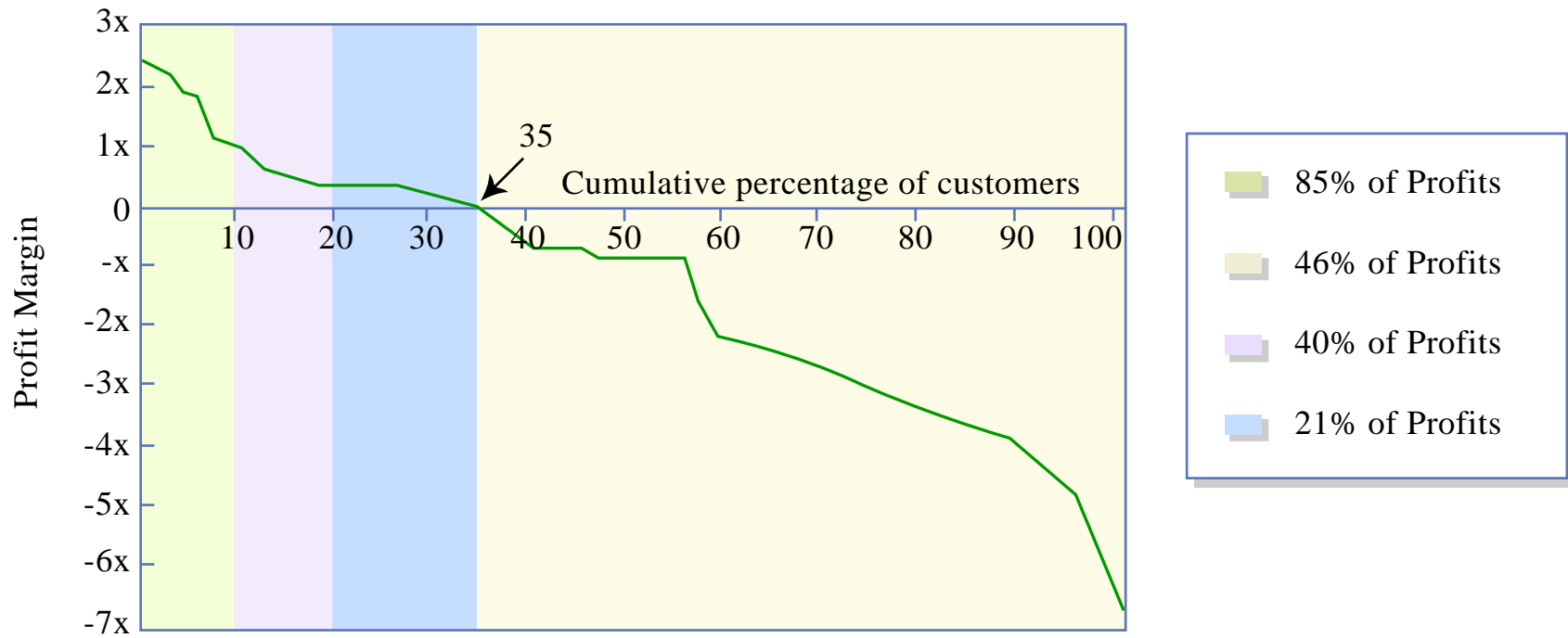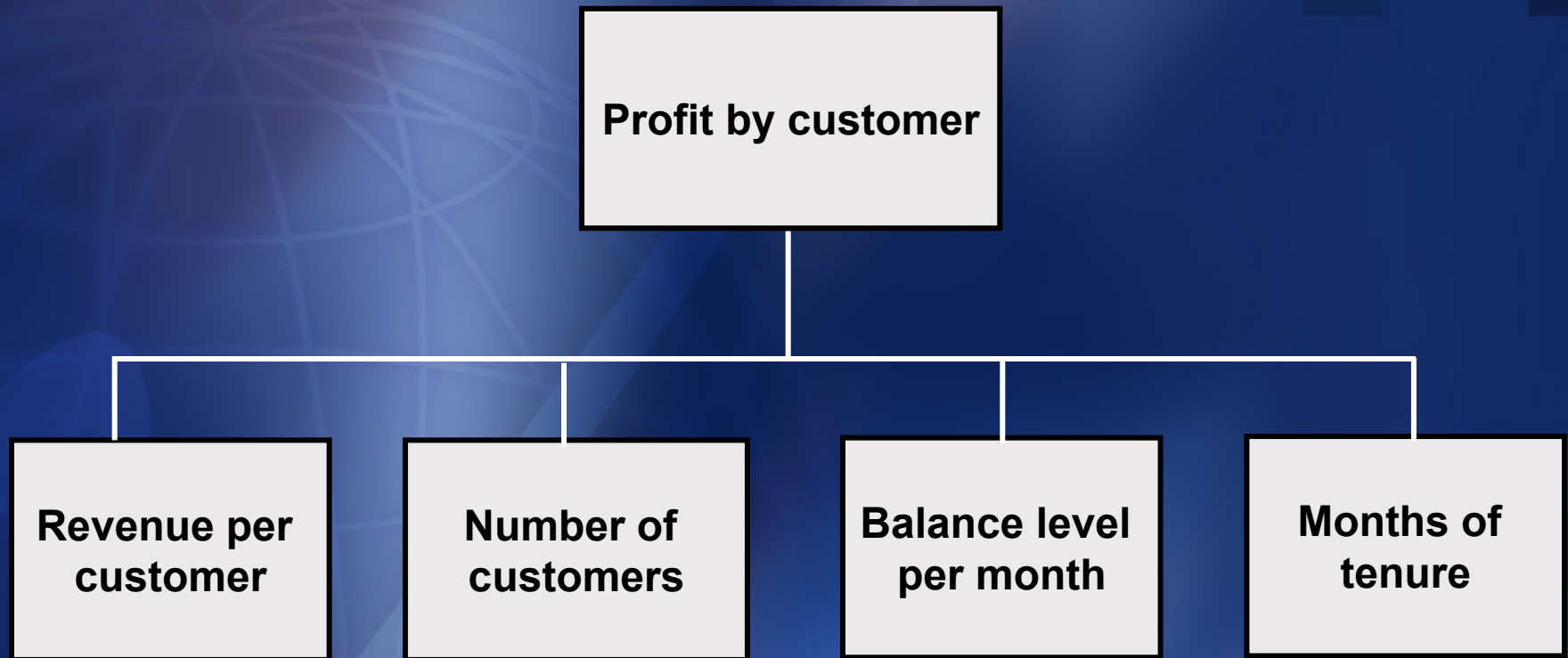
Figure by MIT OCW.

Profit De-Averaging:
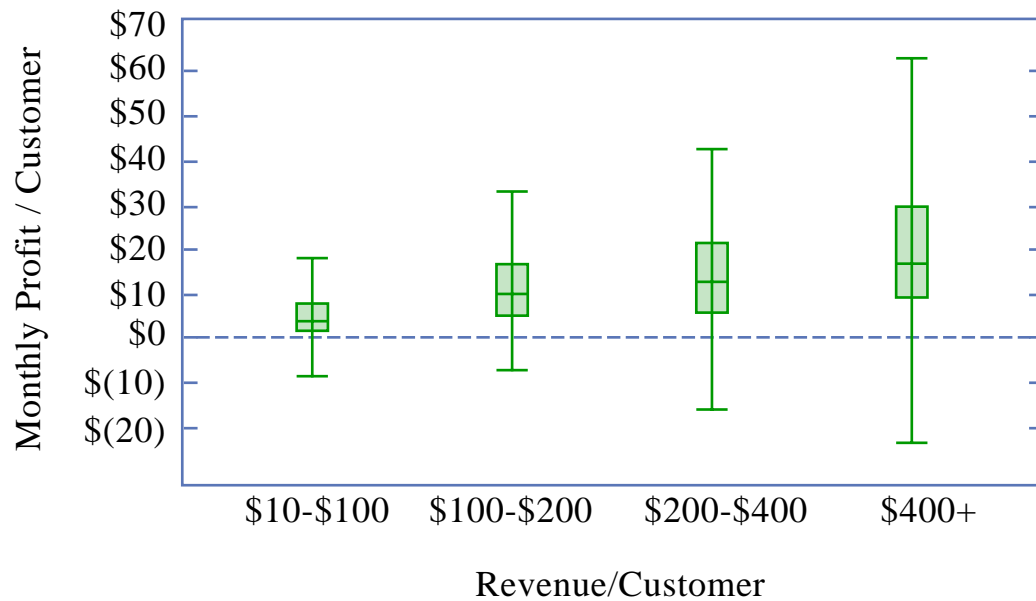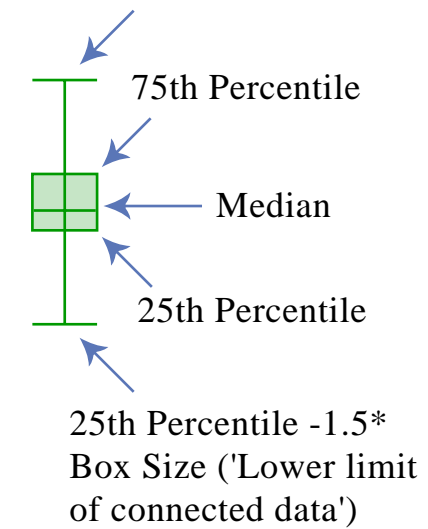# Using Granular Metrics To Drive Performance

THE NEED FOR GRANULAR METRICS

PROFIT MARGIN CONTRIBUTION

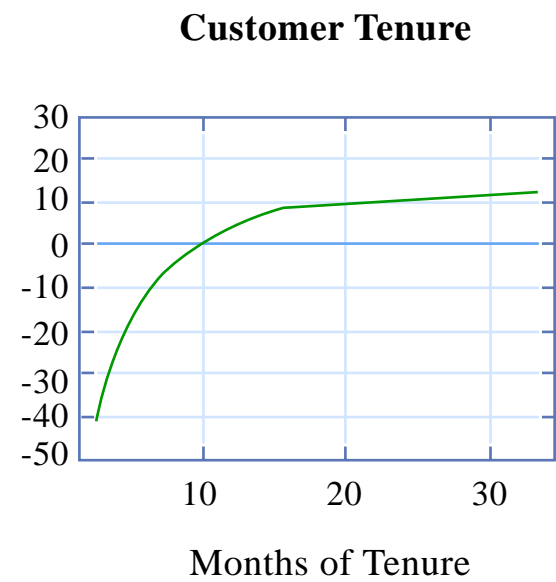**The drivers of customer profitability in the credit card business**

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                        ┌─────────────────────┐
                        │  Profit by customer │
                        └─────────────────────┘
            ┌───────────────┬────────┴────────┬───────────────┐
┌──────────────┐  ┌──────────────┐  ┌──────────────┐  ┌──────────────┐
│ Revenue per  │  │ Number of    │  │ Balance level│  │ Months of    │
│ customer     │  │ customers    │  │ per month    │  │ tenure       │
└──────────────┘  └──────────────┘  └──────────────┘  └──────────────┘
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VARIABILITY OF PROFITS BY USAGE LEVELS

Figure by MIT OCW.

Company Scale

Profit Margin (ROS)

15%
18%
22%

5MM   10MM   20MM   30MM

Number of Customers

Customer Share

30
20
10
0
-10
-20
-30
-40
-50

$1000 $2000 $3000 $4000

Balance Level $/Month

Customer Tenure

30
20
10
0
-10
-20
-30
-40
-50

10   20   30

Months of Tenure
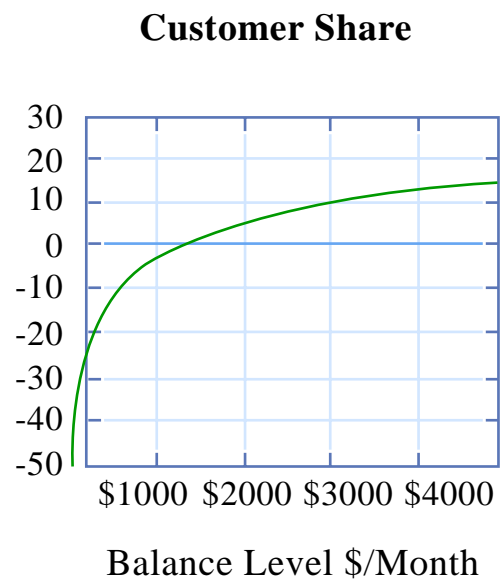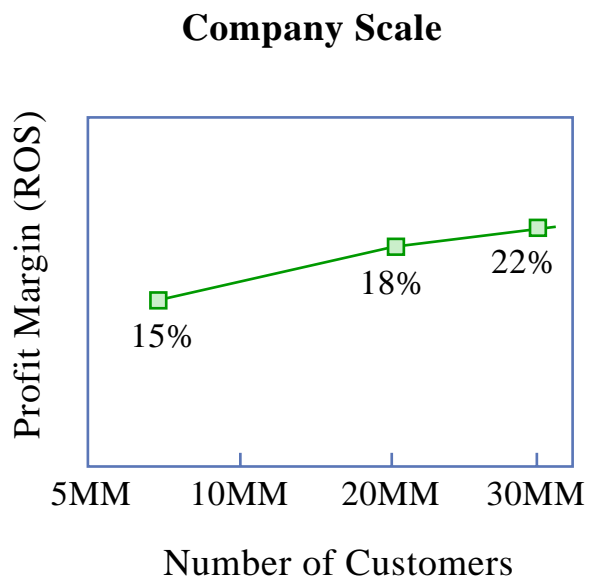
FURTHER EXAMINATION OF PROFIT DRIVERS
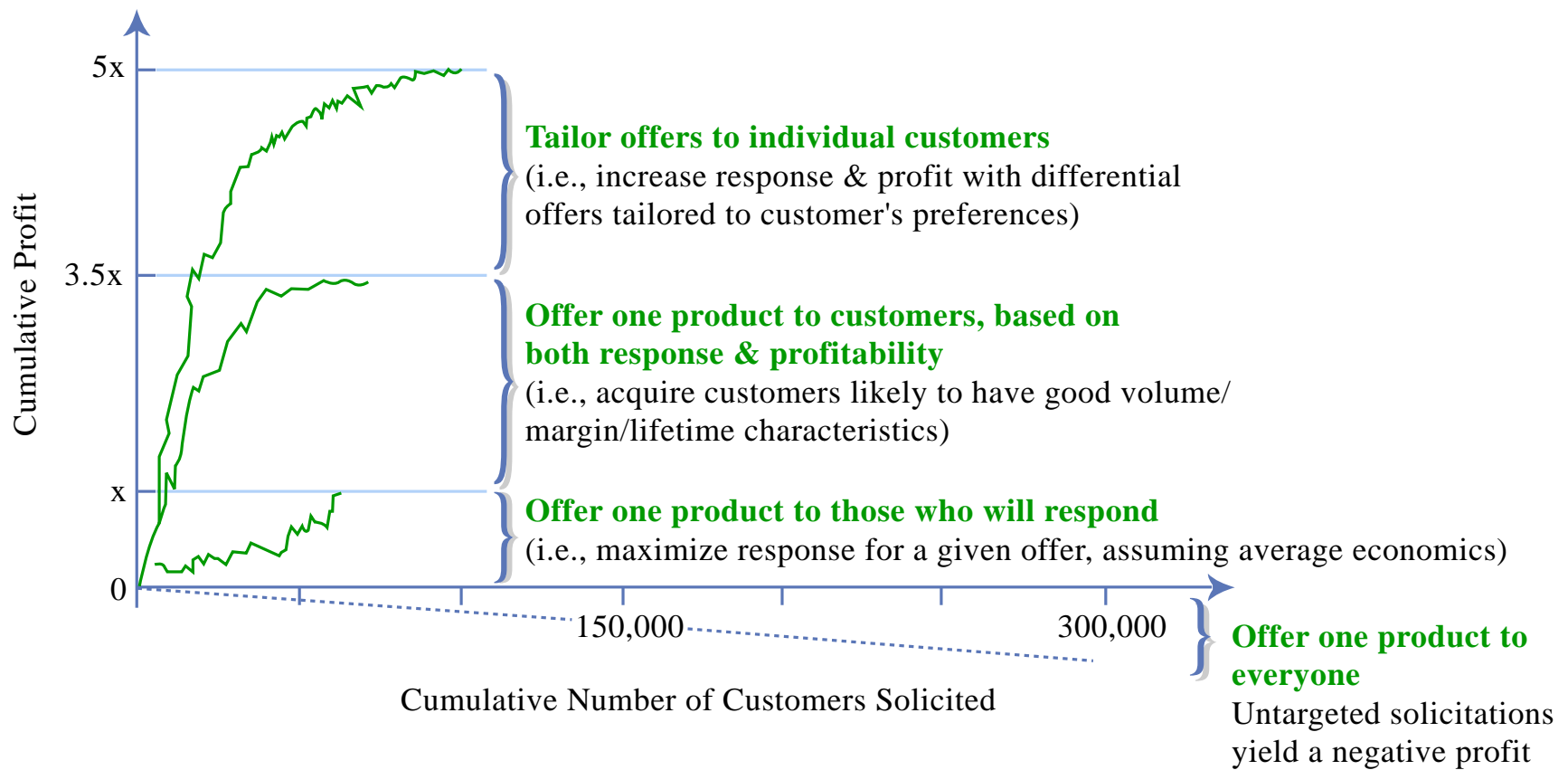
THE EFFECTS OF CUSTOMER TARGETING

Figure by MIT OCW.

Customers' targeting behaviors

Behaviors	Typical competitors	Capital One
• Offer	75 products	5,000 products
• Test/year	30	15,000
• Service tier	4	13
• Key metric	ROE, Delinquency	NPV
• Targets	High response likelihood	High NPV potential
• Solicitations/year	50 million	400 million
• Segmentation frequency	Biannual	Ongoing
• Risk orientation	Risk averse	Price for risk
• Data sources	80	50,000
• Staff analysts	20	150

Capital One- achieving a Total Customer Solutions through Customer Targeting

Select Offers → **Further improvement** → **Offer Creation**
- Interest rates
- Fees
- Promotions

Offer Creation → **Core offer** / **Variation 1** / **Variation 2**

Mass marketing

Screen for profitability
- Full life cycle customer profitability

Test cells / **Variation 1** / **Variation 2**

Collect customer response
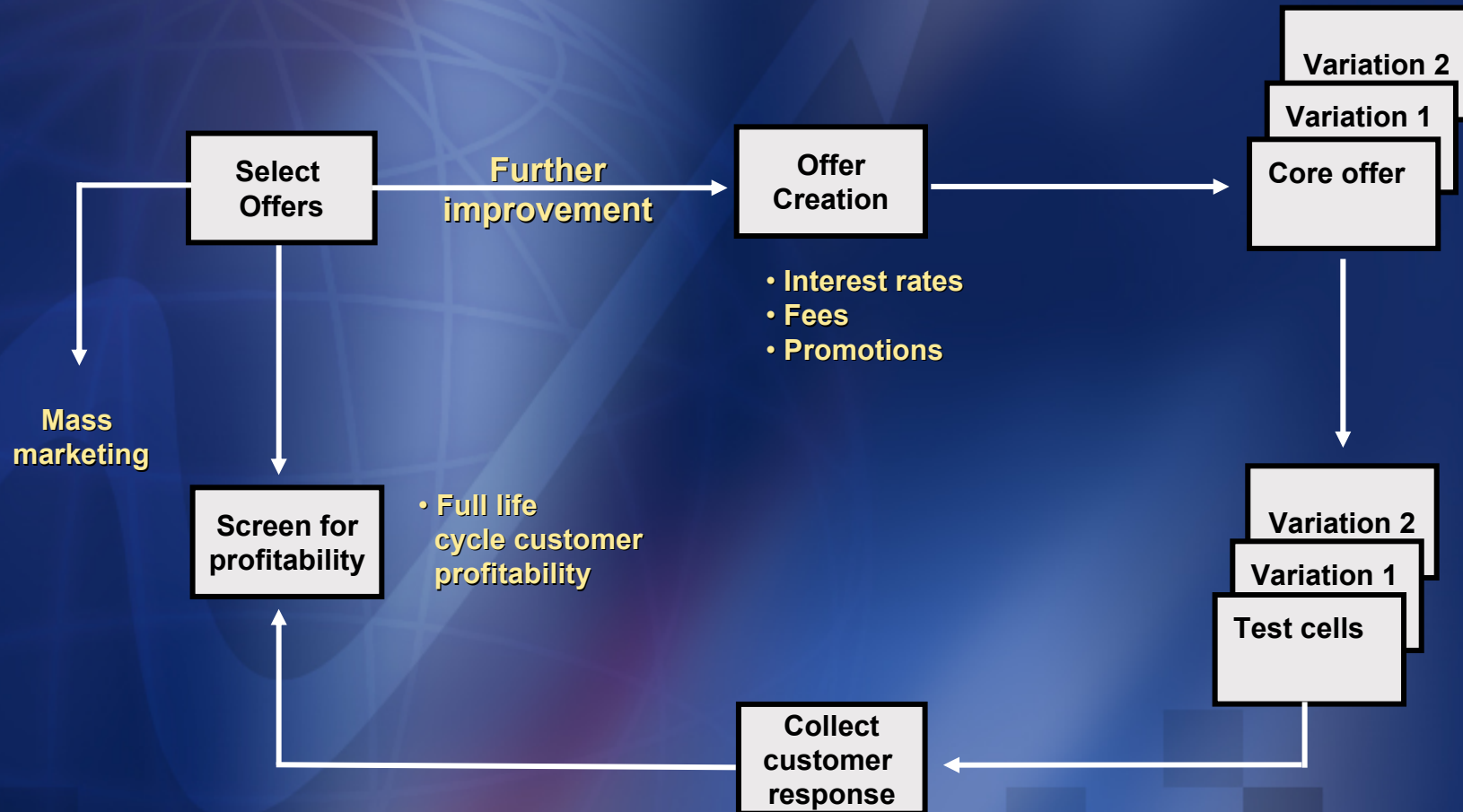
Success metrics

	Typical competitor	Capital One
● Customer NPV	$62	$427
● Acquisition cost	$77	$67
● Activation	58%	79%
● Percent with revolving balances	25%	40%
● Fee income per account	$55	$73
● Charge-off per account	$71	$54
● Tenure	4 years	6 years

Value Created by Business Unit

% of Total Company Value Created (y-axis: 60, 20, 15, 10, 5, 0, -5, -20, -40)

% of Equity Investment (x-axis: 0, 25, 50, 75, 100)

- 100% of value created
- 42% more value created
- -21% of value created
- -21% of value created

- i) 24% of new capital
  ii) 21% of R&D
- i) 20% of new capital
  ii) 32% of R&D
- i) 36% of new capital
  ii) 25% of R&D
- i) 20% of new capital
  ii) 22% of R&D
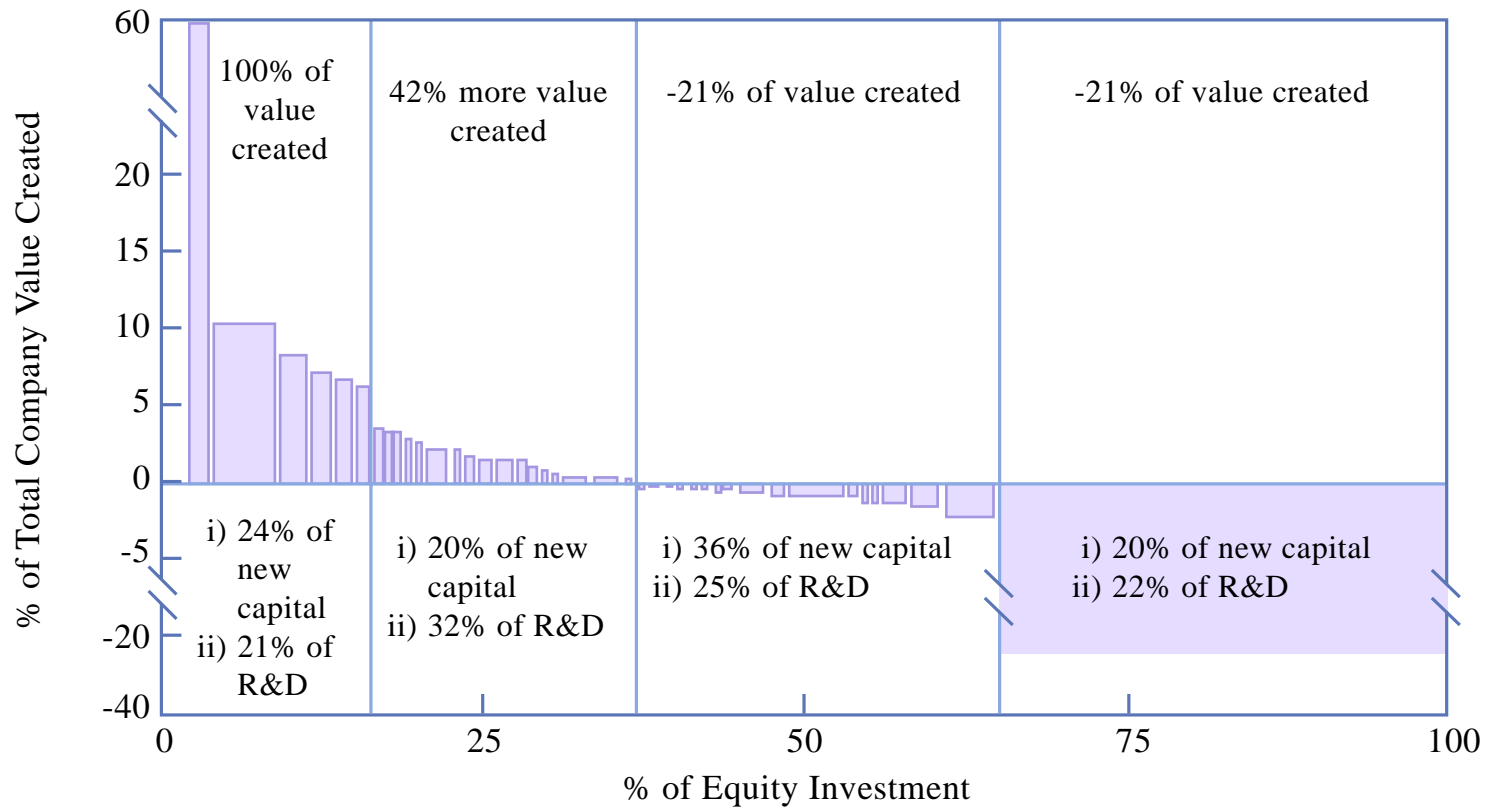
1) 6 BUs contribute 100% of value created
2) 16 more BUs contribute another 42% of value created
3) Those 22 BUs are worth $ 15.5 billion, on an equity investment of only $4.2 billion
4) 44% of new capital investment and 53% of R&D spending over the next three years is going to BUs earning economic profits
5) 56% of new capital investment and 47% of R&D spending are going to BUs that will be generating economic losses

SOURCES OF VALUE CREATION

Figure by MIT OCW.