

# Enabling Lean Behavior Through Customer-Focused Metrics

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## Company Background

Dell is the #1 PC manufacturer in the US and 2<sup>nd</sup> worldwide. Dell's Direct Model gave it an early competitive advantage by shortening Dell's supply chain. This advantage was temporary; competitors have now managed similar efficiencies. One of the industry's only differentiators is **Customer Service**. Michael Dell knows this. His 1999 book states: "We've found that pricing is only one-third or our customers' decision-making process; **the other two-thirds represent service and support**"

## Project Background

Having recently overcome serious public criticism regarding its technical support, Dell is seeking ways to:

- Reduce Operational Expense on Customer Support, while
- Maintaining or increasing Customer Experience (measure as CSAT)

Historically, Dell has **not been able to reconcile these two goals**, engaging in a guardrail-to-guardrail switch in policies. These policies are summarized as Scenario A and Scenario B.

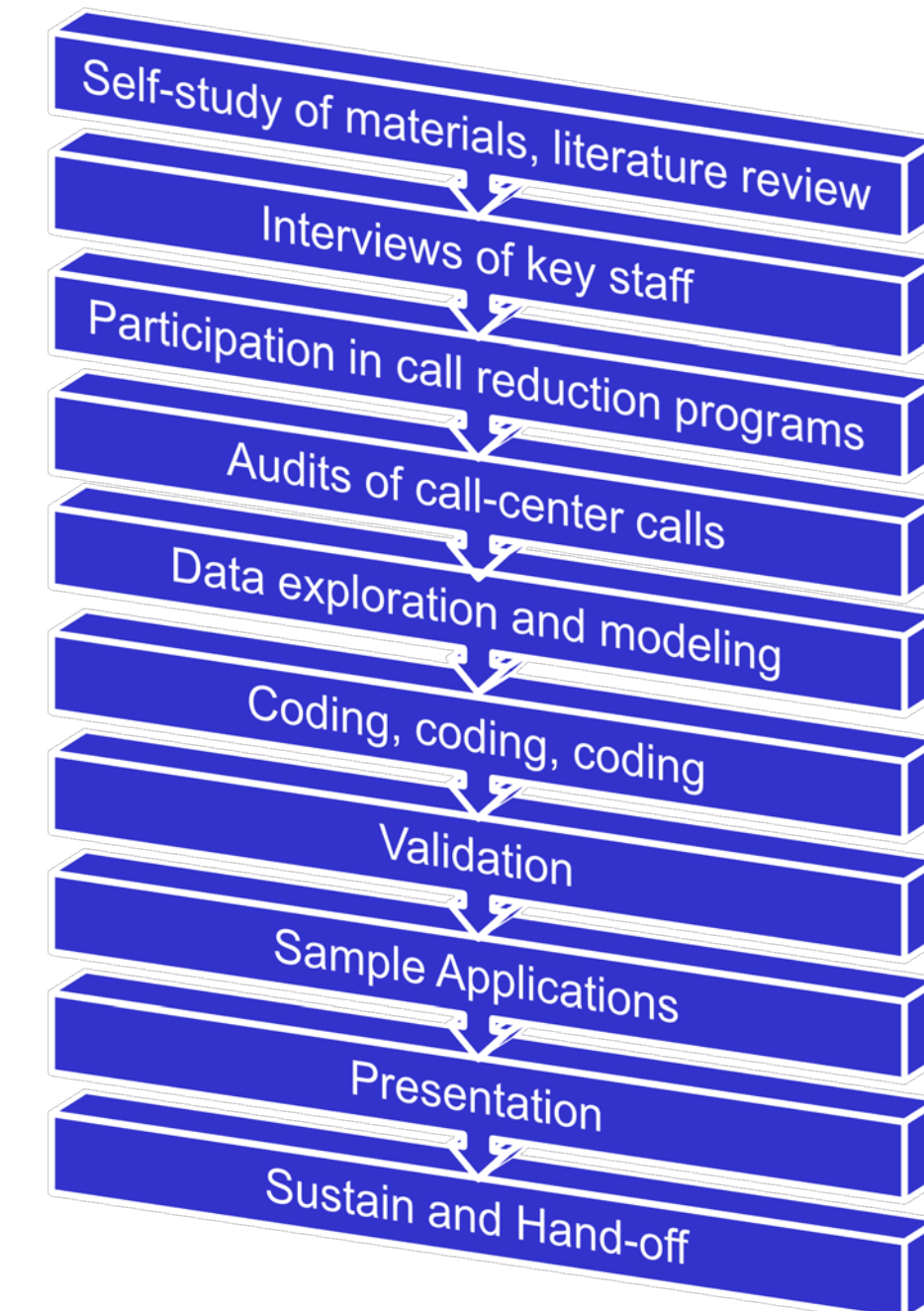
- Scenario A: "Buy" CSAT
  - Maximum resources are dedicated to giving the customers everything they want.
  - Pro: Customer Satisfaction will be high, and as a result so will the "Likelihood to Repurchase" (LTR)
  - Con: Expensive; selling PCs may not be profitable.
- Scenario B: Cut service levels drastically
  - Every customer contact is seen as a \$ loss. Service levels are cut drastically.
  - Pro: Costs are low
  - Con: CSRs' incentives are not aligned with those of customer; priority is on keeping calls short, not on truly resolving the customers' issues.

## Internship Objectives

Find a way to reconcile the dueling objectives of CSAT maximization and cost minimization.

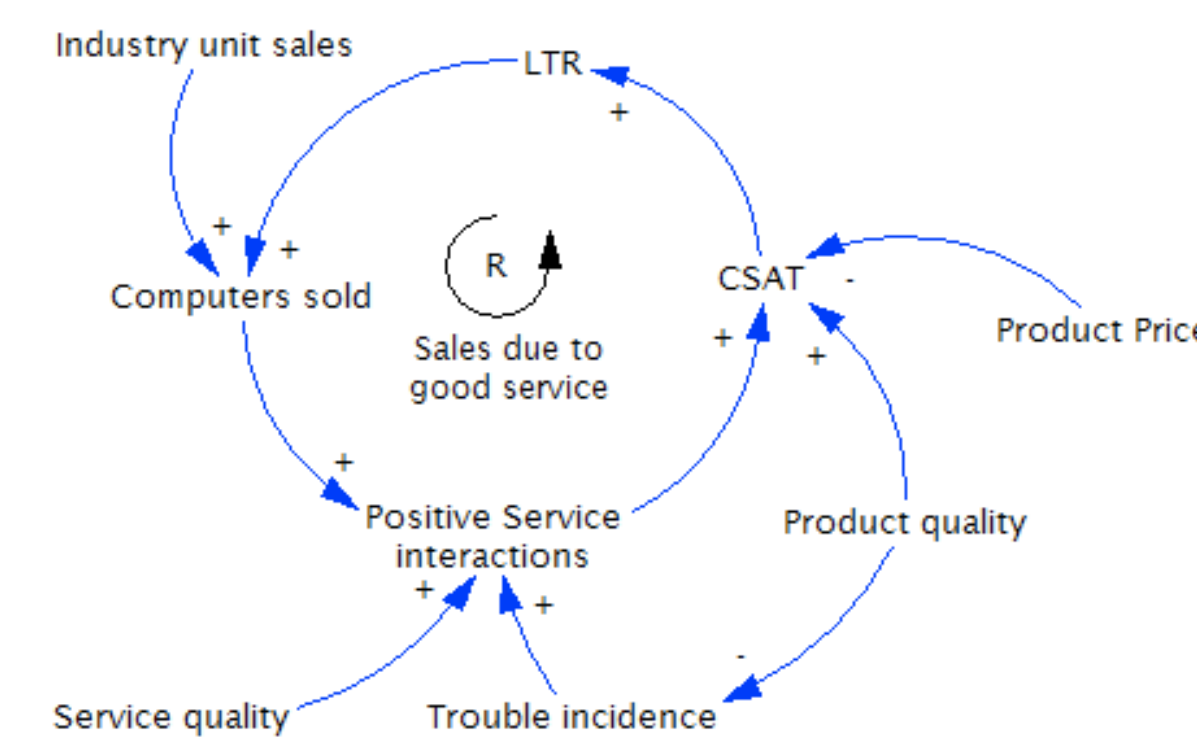
- Construct an unprecedented *customer-centric* view of Dell's eSupport (online), telecom, and call-center journal data **in terms that highlight the customers' actual end-to-end resolution experience during technical support contacts**.
- Formulate new customer-centric metrics that capture the customer experience **in terms of value-added contact time**. This is in contrast to current agent-facing industry metrics (e.g., AHT) which obscure the customer experience and allow for significant gaming (transferred, repeat calls, etc).
- Create generalized waste-reduction recommendations for tech support contacts that maximize value-added contact time based on these new metrics.

## Approach



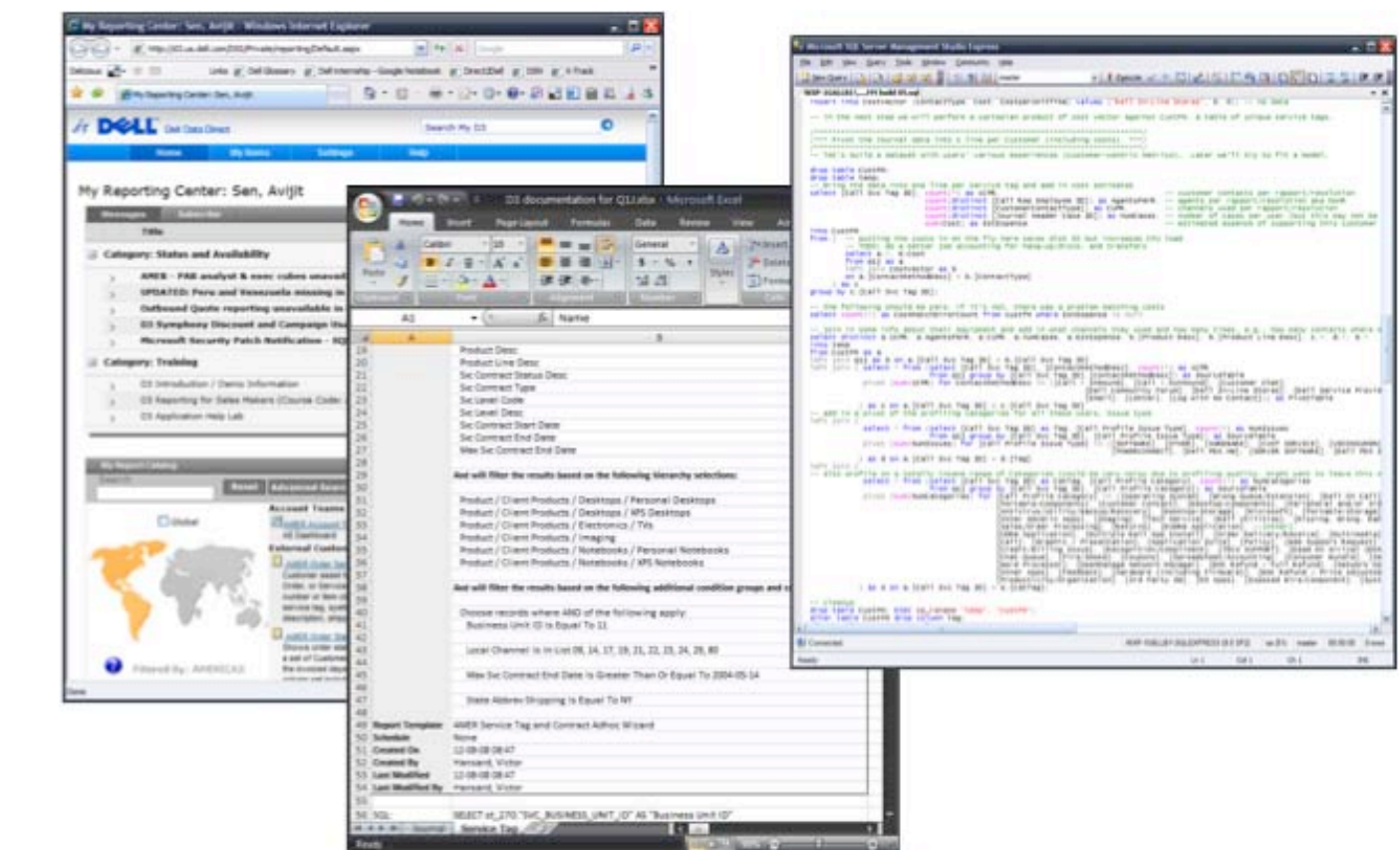
### Main Technical Activities

- Data mining of eSupport, Journal, and Telecom data.
- Mathematical formulation of customer-facing metrics.
  - Value Stream Mapping (VSM) of end-to-end resolution experience for various technical support issues types.
  - Digital articulation of current-state.
- Causal mapping of VSM current and future state call-center behaviors relative to OpEx and Customer Experience.



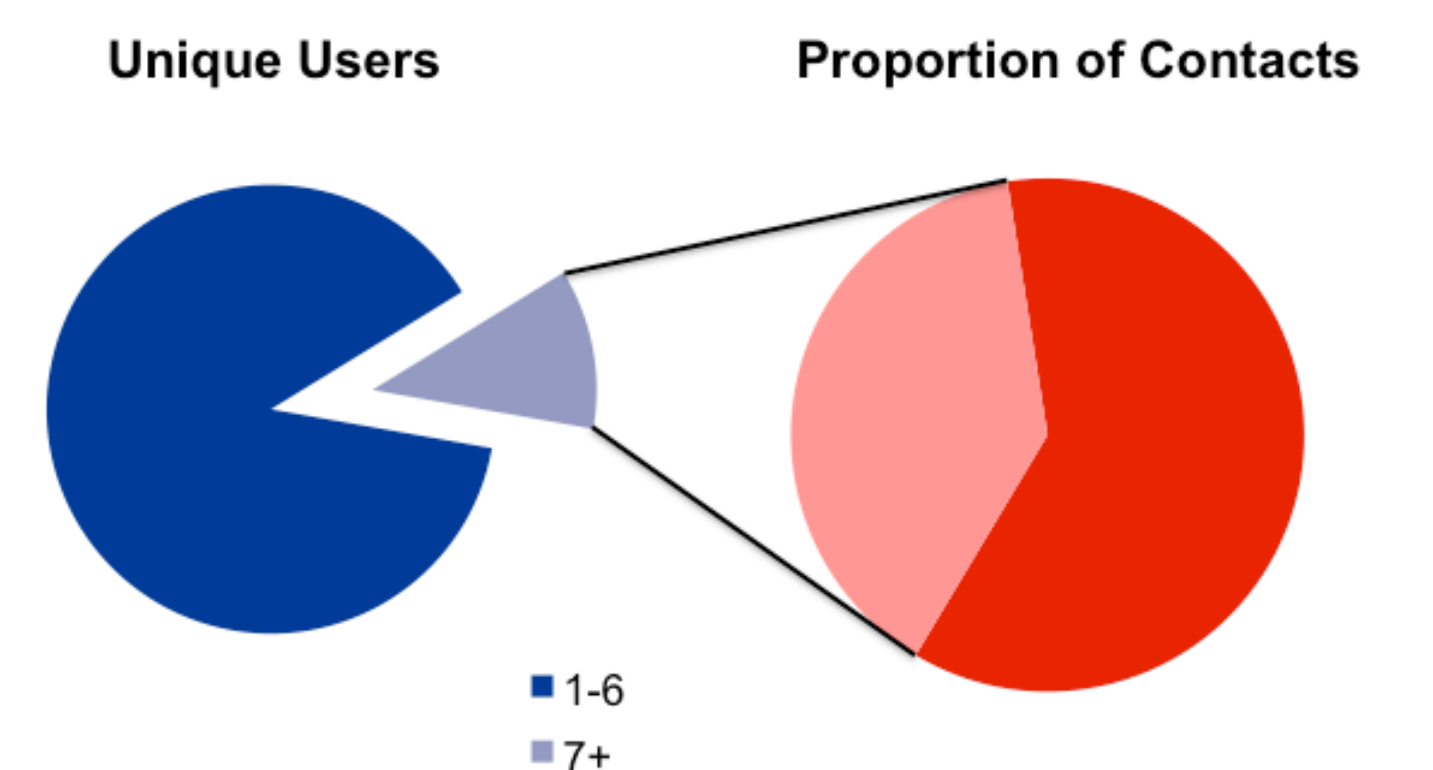
Metric	Description	Formula
cCPR	Customer Contacts Per Resolution across all possible channels (OTB, Online, email, chat, phone).	$\frac{\sum_{CustID} \text{Cases}}{\sum_{CustID, CaseID} \text{Contacts}}$
cTPR	Customer Time per Resolution, time between first contact and final resolution	$\sum_{CustID, CaseID} (T_{max}(\text{JournalSeq}) - T_{min}(\text{JournalSeq}))$
cVART	Customer Value-Added Resolution Time	$\sum_{CustID, CaseID} \text{Interaction Time}$
cNVART	Customer Non-Value Added Resolution Time	$\sum_{CustID, CaseID} (cTPR - cVART)$
cNVANRT	Customer Non-Value Added Necessary Resolution Time	$\sum_{CustID, CaseID} (\text{QueueTime} + \text{HoldTime})$
cVAR	Customer Value-Added Ratio	$\frac{cVART}{cTPR}$
OwnR	Ownership Ratio: Agents per Resolution	$\frac{1}{\text{distinct}(\text{Badge})_{CaseID}}$
cCUPR	Customer's Channels used per resolution	$\sum \text{distinct}(\text{ContactType})_{CaseID}$

## Results



The result of this work is a **mature IT deliverable** that unifies key datasets collected and warehoused by Dell, but which had never been assembled to form a comprehensive, end-to-end view of the end user experience.

- Code was validated by several Dell data analysts.
- Framework tested extensively on large data sets in real-time.
- Codebase presented to management, integrated into on-going projects.
- Surprising results discovered relating to repeat calls (see pie charts).
- Previously impossible profitability analyses now conducted with ease.



## Conclusions

The CustFM metric targets high customer satisfaction by emphasizing value-added support time delivered to the customer. Because it is a Lean metric framework, it also emphasizes waste reduction, thereby also lowering cost.

This type of Lean metric is a powerful tool for fostering Lean behavior across a diverse, geographically dispersed customer service staff. By setting targets based on this type of metric instead of traditional, inward-looking call center measures, the call center is able to self-select behaviors that maximize value-added time delivered to the customer. The result is higher CSAT, with lower costs, and no money spent on Lean program development.