

# Governance of Big Data and Analytics to Gain Value from Location Services in the Retail Sector

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# Objective

- To identify
  - Big Data and Analytics Governance Imperatives
  - Challenges of Location Services for Retail
  - Gaining Value from Big Data Analytics and LBS for Retail

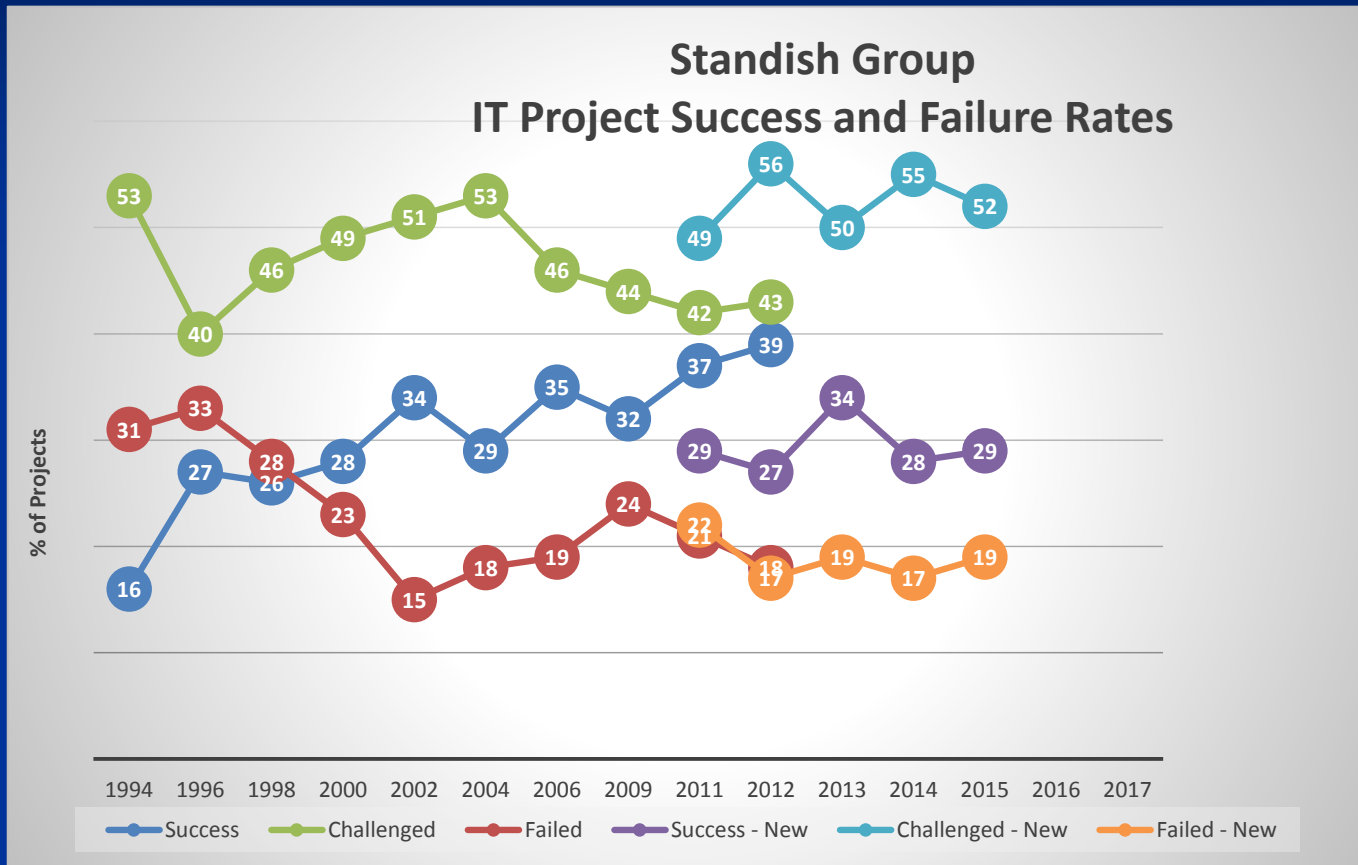
# Context

- BDA project success rates are about 40%
- Analytics Governance can be problematic
- Location Services has variable accuracy
  - University of Derby research
  - Thinknear research
  - Governance Consequences?
- Gaining Value from LBS for Retail
  - Risk mitigation

# Big Data Project Governance

- Beware the Hype!
  - A few highly successful projects
  - Following the Standish Group “Chaos” curves of success, challenge and failure
- Gaining insights from the data
  - Spurious correlations in our data?
  - Do our systems, processes and culture hinder insight generation? (Gary Klien, 2014)
- Accuracy of data

# Project Success Expectations



Sourced from Standish Group

See also Daniel Kahneman, 2011 for Planning Fallacy

# The Planning Fallacy

- “Our project will beat the odds!”

- Why?
- Have we ever beaten the odds before?
- What are we doing better than everyone else?

(Daniel Kahneman, 2012)

- Be realistic

- Large amounts of contingency (Standish group)

- Do not use “challenging” targets

- They will fail or be challenged!

# (Too much ?) Trust in Technology

- Using new predictive and cognitive systems
  - Humans become blinkered
  - Fail to notice problems
  - Get de-skilled
- Reliability of data
  - Data and systems often “gamed” → not reliable
- Sub-prime Mortgages, as example
  - *All Watched over by Machines of Loving Grace* (BBC, 2011)

(N Carr, 2015)

# Things that Hinder Insights

- Data, Systems and Processes to ensure compliance and accuracy
- Don't rock the boat
  - Hide the anomalies
  - Too junior?
  - Too much experience?
  - Too little experience?

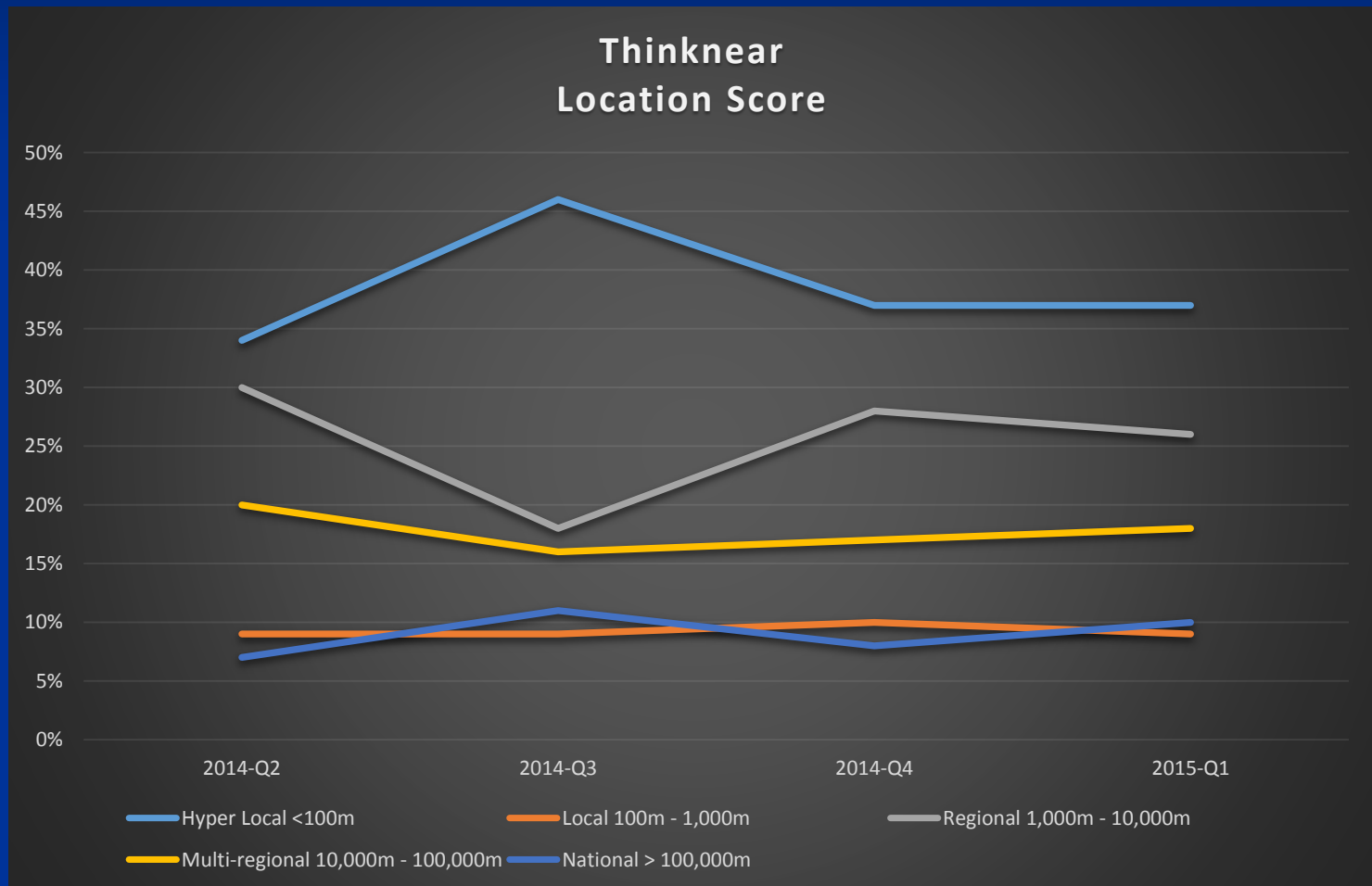
(Gary Klien, 2014)



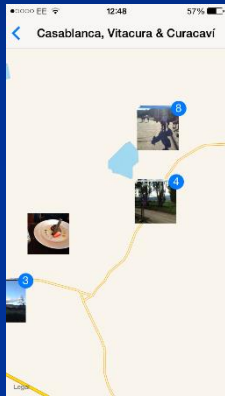
# Location Data Accuracy

- GPS is accurate to +/- 10 metres 95% of the time (averaged over 24 hours is the claim)
  - In perfect conditions!
  - Excellent GPS receiver
- Using smart devices?
  - See Thinknear data
  - See UoD data

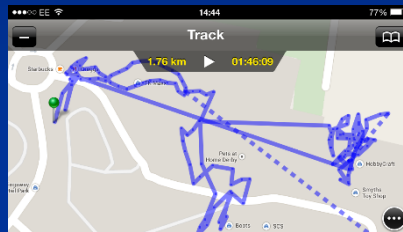
# Thinknear Location Score



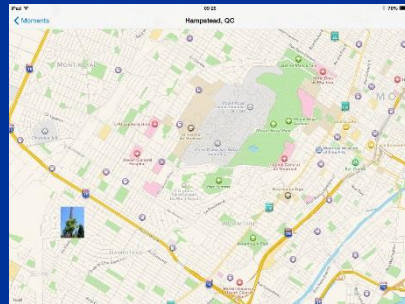
# Triggers to LBS Research Project



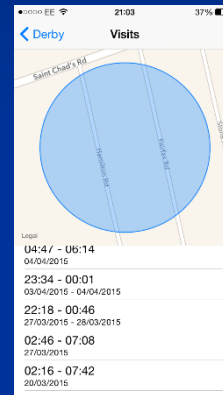
22km  
error



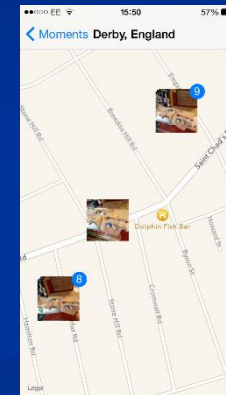
Wandering while  
stationary



4900m error  
from top of  
Mont-Royal



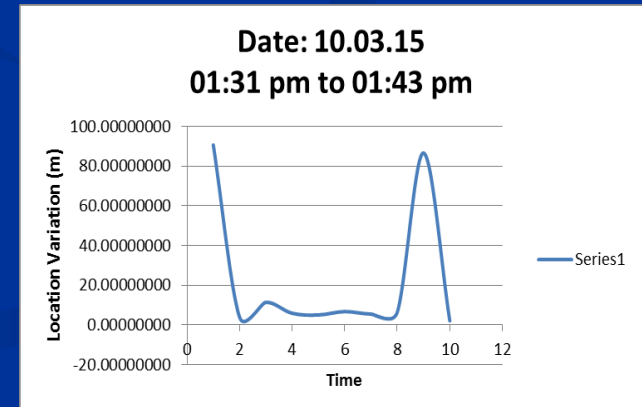
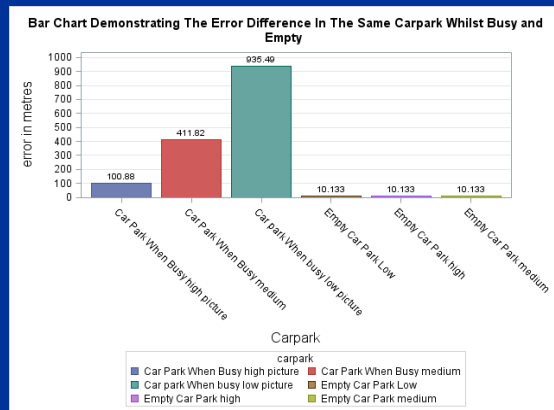
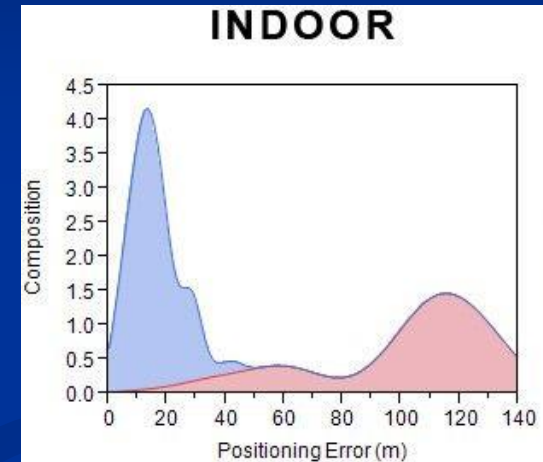
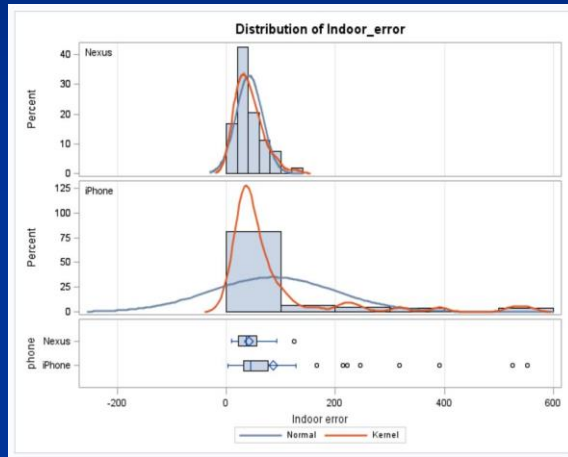
Night-  
time  
wandering



Start-up  
movement

# University of Derby LBS Accuracy

## Different Models



# Governance Consequences

- Failure to gain expected value
- Reputational risk
- Personal Data implications (Europe)

# Gaining Value

Questions for Risk Mitigation

# Governance

- Use 12 Vs of Big Data as questions

- Validate project
- Evaluate nature of data

<http://computing.derby.ac.uk/c/big-data-analytics-analytics-12-vs/>

[http://computing.derby.ac.uk/c/wp-content/uploads/2014/11/Self\\_Richard\\_A2014.pdf](http://computing.derby.ac.uk/c/wp-content/uploads/2014/11/Self_Richard_A2014.pdf)

- Use Standish Group insights as questions

- Provide (large, 40+%) contingency
- Avoid the planning fallacy

# LBS Accuracy

- Avoid “Start-up” problem
  - Take multiple readings
  - Test consistency over time
- Evaluate consequences and risks of
  - Levels of error?
  - Reputational damage?



# Human Insight Generation

- Insights can occur randomly
  - Can they be fostered?
  - Can they be suppressed?
- Corporate culture
  - Active encouragement, action?
  - Filtered?
  - Pro-forma words, no action, management in control?

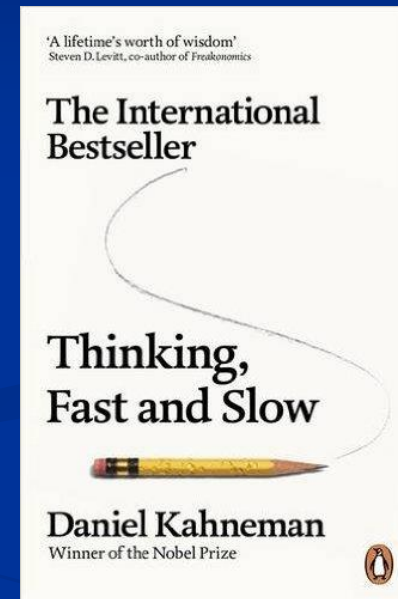
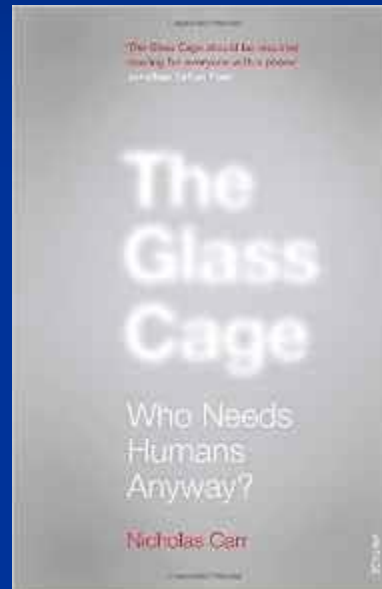
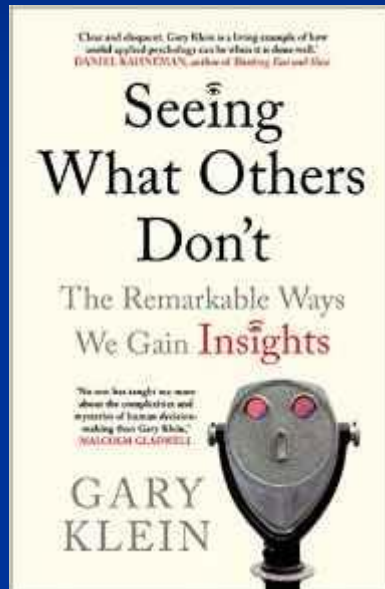
See Gary Klein, 2014, chaps 12 and 13

# Summary

## Questions, not Answers!

- Our trust in people?
- Our trust in technology?
- Veracity of data (12 Vs)?

# Key “Must Read” Books



# Sources

- BBC, 2011, *All Watched over by Machines of Loving Grace – Love and Power*,  
<https://vimeo.com/groups/96331/videos/80799353>
- Daniel Kahneman, 2012, *Thinking, Fast and Slow*
- Gary Klein, 2014, *Seeing What Others Don't - The Remarkable Ways We Gain Insights*
- Standish Group, [www.standishgroup.com](http://www.standishgroup.com)
- Thinknear, <http://www.thinknear.com/library/research/>