

Telling Stories With Data

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Ladies Nairobi





A bit About Me



A bit about Me

- Data Scientist, *Nielsen*
- Head of Data Science, *Ajua*
- Curriculum Design Consultant, *Moringa School*
- Principal Analyst, *KOKO Networks*
- Rugby Analyst
- Houzzie.com



“We are all storytellers. We all live in a network of stories. There isn’t a stronger connection between people than storytelling.”

Jimmy Neil Smith, Director of the International Storytelling Center

Data Science is ... Simple, but Hard?

- Understand the Business Problem (Product, KPIs etc)
- Get data
- Clean and Explore
- Clean and Explore
- Clean and Explore
- Build Dashboards / Build and validate model
- Deploy
- Get Dashboard or model used [USEFULNESS / VALUE / IMPACT]



Why some Solutions do not
end up being USEFUL . . .

Asking and Answering The Wrong Questions Very Well

01

- Asking the RIGHT questions > Answering any/every questions WELL.
- The question informs the approach.
- Asking the wrong question -> having to start over again (Mostly)
- ASK - prior - as much as earthly possible!
- Listen.
- Decide when to use Hypotheses vs Exploration techniques

Weak Stakeholder Buy In

02

- Guaranteed failure without stakeholder support.
- Find a sponsor, if possible.
- Functional, Executives must believe in the purpose and value – Show expected RESULTS.
- Do not Spring things up / ambush! Carry them along from conceptualization.

Unnecessary Complexity + Complication

02

- Most phenomena that we have data for are known or knowable.
(Cause and effect perceivable; or separated over time and space)
- Beware of the Hammer and Nail Syndrome.
- Reproducibility.
- The measure of success is always on the business/Ops side.



Idea 1:
Understanding The Audience

Why Communicate?

Direct

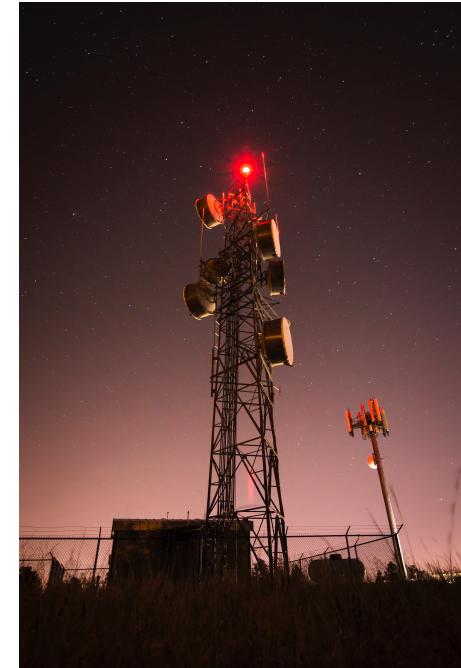
Here are some additions I would like us to make to Dashboard X to provide insights for the Sales Ops team.

Inform

We are at risk of losing 8% of our customers in the next month in Thumaita because of the increasing out of stock.

Persuade

We should send personalized messages to customers in Thumaita and offer 5% discounts to reduces the risk to 3%.



All Audiences are **SIMILAR**

- Our Minds are story processors, not Logic Processors.
- We respond most strongly to stories that follow a particular general structure.
 - Conflict
 - Stakes / Tension
 - Characters
 - Transformation

All Audiences are **SIMILAR**

- We participate in stories based on:
 - Engagement – Emotionally Laden Attention
 - Transportation – Experiential insertion of self into the story
 - Relevance – Close relationship / Importance
 - Influence – shifting beliefs, knowledge, behaviour

All Audiences are, also, DISSIMILAR

Internal vs External

- Are you part of an agency or an internal analytics team?
- What is at stake?
- What is the culture?
- Historical context
- Frequency?
- Tool?

All Audiences are, also, DISSIMILAR

Strategic vs Operational

- What are they using the Data for?
- Is it Organizational or Functional?
- The Forest or the Trees?
- How much time do they have?
- Frequency?
- Tool?

All Audiences are, also, DISSIMILAR

Technical vs Non-technical

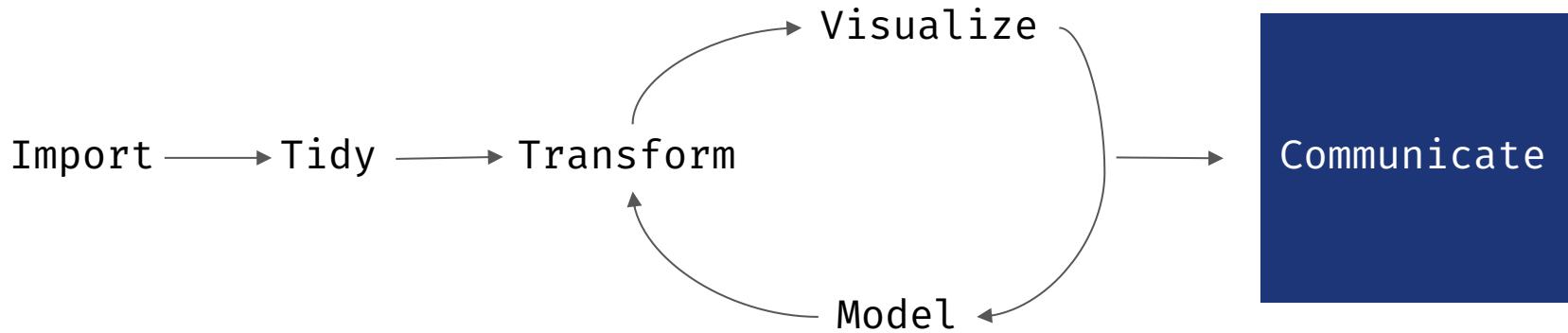
- How much technical information is useful?
- Model parameters & features or the business prediction?
- What do they know already?
- Previous/Related work?
- Methods/Approach and/or how to use the output?



Idea 2: Reducing The Cognitive Load

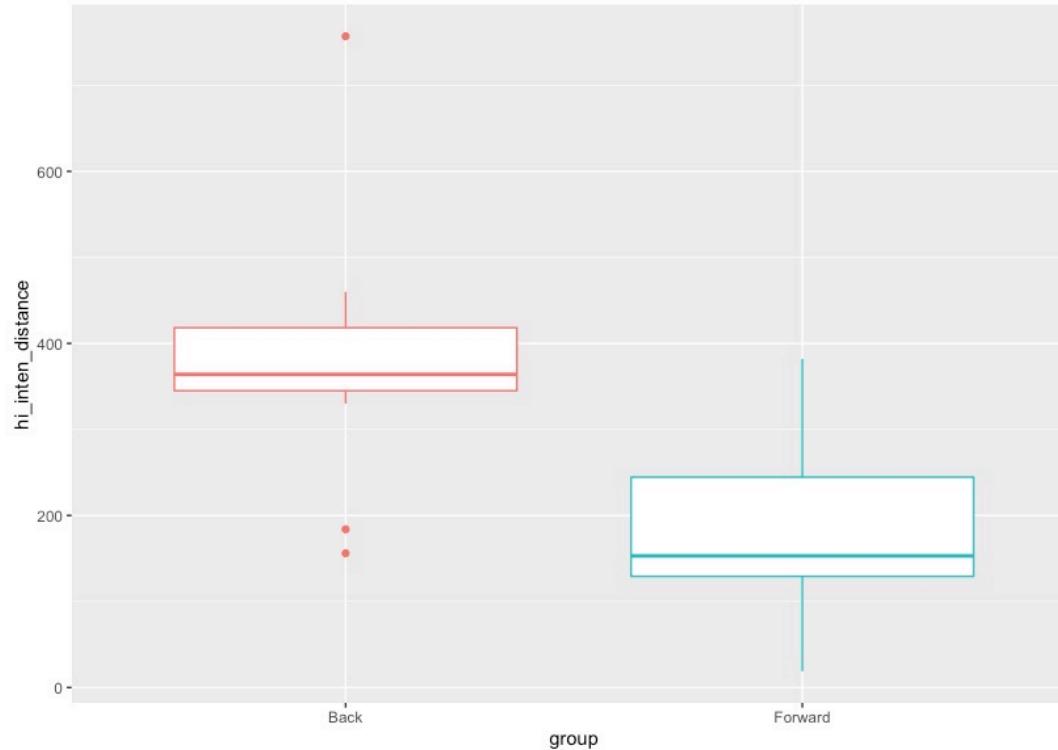


“Stories are more powerful than statistics because they take less effort for your brain to contextualize complex issues.”





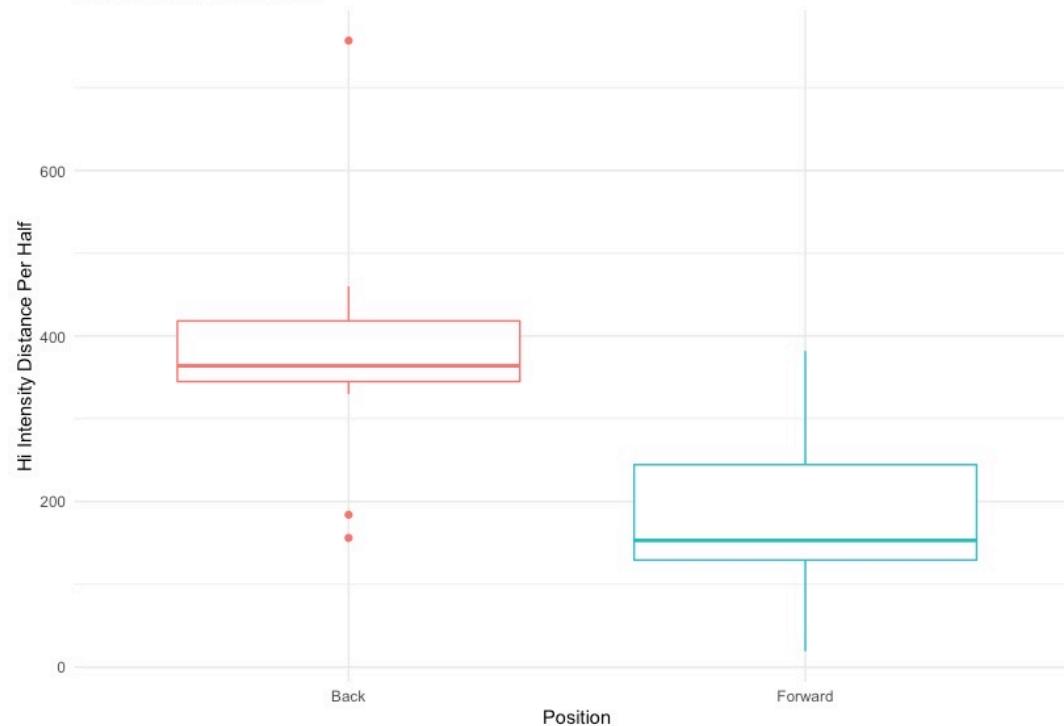
Hi Intensity Distance





Hi Intensity Distance

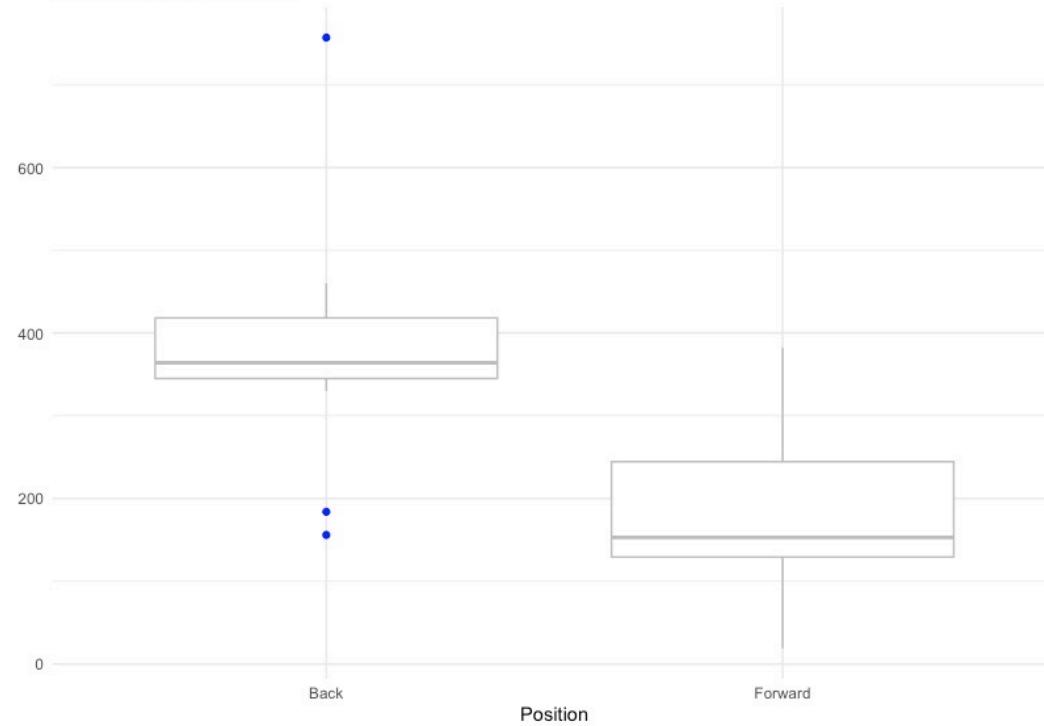
Distance covered at >18KPH





Hi Intensity Distance

Distance covered at >18KPH





Hi Intensity Distance Per Game (Metres)

Distance covered at >18KPH

#13; 757m

600

400

200

0

Back

Forward

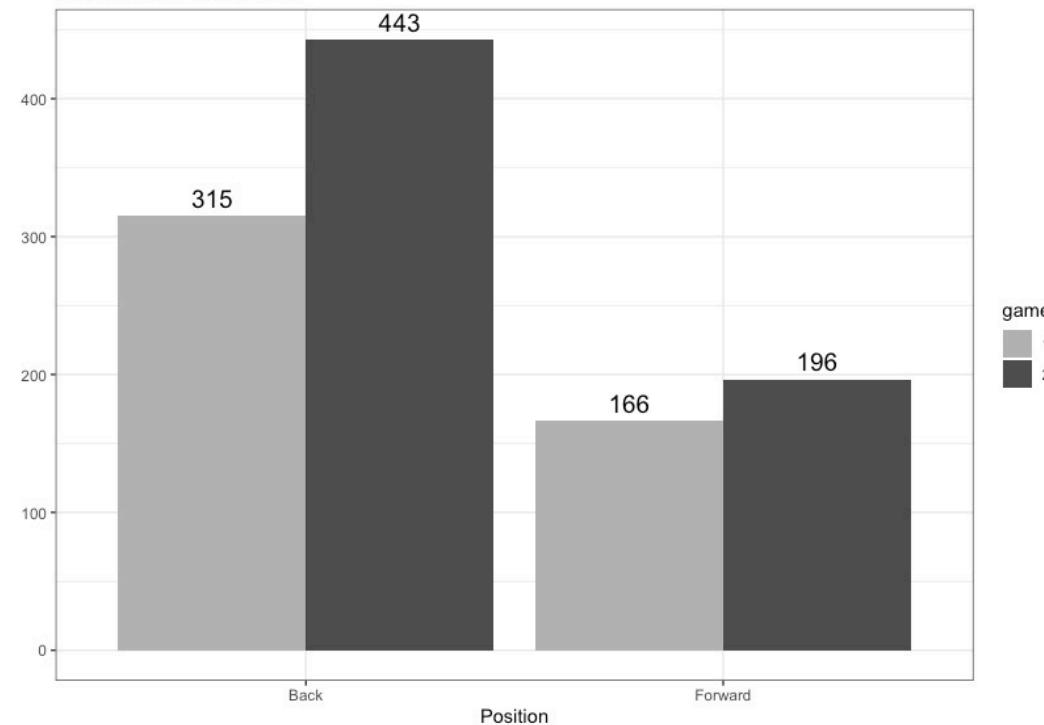
Position

#11; 184m
#14; 156m



Average Hi Intensity Distance Per Game (Metres)

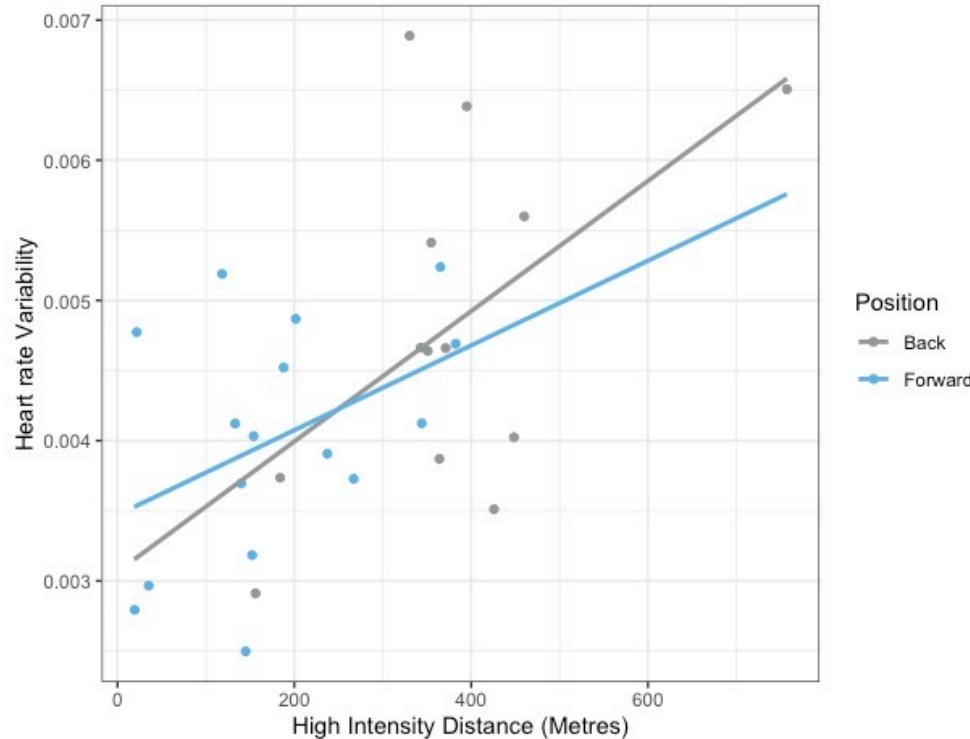
Distance covered at >18KPH



Player	Position	Heart rate Variability	Hi-Intensity Distance
1	Forward	0.00275	90
2	Forward	0.0044	220
3	Forward	0.0038	21
4	Forward	0.00385	147
5	Forward	0.00485	153
6	Forward	0.00345	210
7	Forward	0.0041	239
8	Forward	0.00495	374
9	Back	0.00555	383
10	Back	0.0054	347
11	Back	0.0042	264
12	Back	0.005	353
13	Back	0.00525	603
14	Back	0.0032	291
15	Back	0.0288	412



Heart Rate Variability vs High Intensity Distance



RECAP

- 01** | Story telling is an INHERENT human inclination

- 02** | Optimize on the Data , the Insights and the Narrative

- 03** | Begin with Understanding the Context – Audience + Expectations

- 04** | Reduce Cognitive load in your Visualizations – “START GREY”

- 05** | Do not use Pie Charts.



Thank You



@Kamandeh_

