Every Data Tells a Story

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HockeyStats.CA
Prelude

- Data visualization is an important part of how we look at hockey analytics.
- Every piece of data tells a story and “data viz” allows us to look at it in a different light.
- We need to provide the tools and teachings to those who want to learn - break down the barrier between the analytics community and average fans. (Hockey analytics should be for everyone.)

- Covering:
  - What is Data Visualization
  - Choosing Your Story
  - Knowing Your Audience
  - Bridging the Gap
What is Data Visualization?

- Term that describes any effort to help people understand the significance of data by placing it in a visual context.
- Combines multiple data points onto one page.
LOS ANGELES KINGS 0 – 5 NASHVILLE PREDATORS
44 – 57 Corsi (All Situations)
(44% – 56%)
2018–02–01

http://hockeystats.ca – @hockeystatsca
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Why do we use Data Viz?

- **Identify patterns**
  - Patterns, trends and correlations that might go undetected in text-based data can be exposed and recognized easier with data visualization software.
  - Make large data sets understandable.
  - People can “read” visualizations easier than columns and rows of numbers.

- **Multiview analysis**
  - Two analysts, same data, different conclusions.
  - Different leveled audiences.
Choose Your Story

● Where is your data coming from?
  ○ NHL itself
  ○ Individual stats sites
  ○ Tracking projects

● What story are you telling?
Knowing Your Audience

● Importance
● Social Media
● Narratives
Categories of Audiences

1. Novice - Brand new to hockey and hockey analytics.
2. Generalist - Everyday fans
3. Managerial - In depth, low-level interest in stats
4. Expert - Extreme details - analysts
5. Executive - NHL GMs, front offices.
Bridging the Gap

- Why

- Roadblocks
  - The Language Barrier
Bad Data vs Trial & Error

Ashley
@AshonIce

Hockey viz makers: talk at me about your biggest failure for a viz and why it failed please. But only if you're okay with being quoted at vanhac.

3:30 PM - 5 Feb 2018
My biggest issue was information overload. I wanted to tell the whole story in a single image without recognizing that it became so busy that the reader couldn’t learn anything.
CJ Turtoro
@CJTDDevil

Replying to @iyer_prashanth @AshonIce

Primary Shot Assist Locations, DET vs. Opponents, Select Games

Visual by Prashanth Iyer

3:45 PM - 5 Feb 2018
I've reworked these charts [hockeyviz.com/fixedImg/fLine](https://hockeyviz.com/fixedImg/fLine) ... so many times and I can never get the information I want to show up properly.
different colors for each line and too many lines (now I try to stick to <= 4)
I made this, shared it online and received some of the lowest number of hits out of all the stuff I share. I spent a lot of time on it to get it exactly how I wanted it. Why it failed? There is just way too much going on and the analysis is just useless.

public.tableau.com/profile/robert ... 

8:20 AM - 6 Feb 2018
Magpie alone is pointless. I had to use other established stats to show its effectiveness.
Early on... Too much data, not enough pretty.

#PeopleLovePrettyPictures

3:38 PM - 5 Feb 2018
every chart i have made is a beautiful success. i have never failed
## Shift Chart

### Toronto Maple Leafs

<table>
<thead>
<tr>
<th>Player</th>
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</thead>
<tbody>
<tr>
<td>12 P. Marner</td>
<td>22 N. Zaitsev</td>
<td>25 J. Van Ri...</td>
<td>32 J. Leivo</td>
<td>11 Z. Hyman</td>
<td>47 L. Komarov</td>
<td>2 R. Hainsey</td>
<td>23 T. Dermott</td>
<td>2 R. Hainsey</td>
<td>51 J. Gardiner</td>
<td>23 T. Dermott</td>
</tr>
<tr>
<td>44 M. Rielly</td>
<td>51 J. Garnett</td>
<td>23 T. Dermott</td>
<td>16 N. Zaitsev</td>
<td>43 N. Kadri</td>
<td>25 J. Van Ri...</td>
<td>29 W. Backlund</td>
<td>20 D. Moore</td>
<td>47 L. Komarov</td>
<td>25 J. Van Ri...</td>
<td>29 W. Backlund</td>
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### Boston Bruins

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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>37 P. Dero ...</td>
<td>42 D. Backlund</td>
<td>74 J. Debrusk</td>
<td>47 T. Krug</td>
<td>52 S. Kuraly</td>
<td>47 T. Krug</td>
<td>46 D. Pastrnak</td>
<td>52 S. Kuraly</td>
<td>37 P. Dero ...</td>
<td>47 T. Krug</td>
<td>46 D. Pastrnak</td>
</tr>
</tbody>
</table>

### Time (Minutes)

- The time in minutes is plotted along the horizontal axis.
- The players are shifted at regular intervals, typically every 5 minutes.
- The shift chart visually represents the changing lineup throughout the game.
Conclusion

- Good data will tell good stories!
- Be accessible and open!
- Be creative!
- Follow @HockeyStatsCA on Twitter.
Resources

● All 3 Zones Project
  ○ https://allthreezonesblog.wordpress.com/2015/09/16/all-three-zones-project-now-available/

● The Passing Project

● Tape to Tape Project

★ HockeyStats.CA
★ Corsica.Hockey
★ NaturalStatTrick.Com
★ HockeyViz.Com