Title: Visualizing Star Wars (or Star Wars Episode \$: Trip to the Data Mine!)

Topic Covered: Finding Credible Data, Visualizing Data, Mining Data

Time Frame: 45 min – 1 hour

Description: The scope of this workshop is to show the thought process that goes into visualizing credible data and give a quick overview of the entire infographic process.

Session One:

- Start with reminding students of discussion expectations and outlining the process and lesson objectives.
- Ask if anyone can think of any possible data trends in Star Wars movies over time. Discuss and guide group to the question of if they make more money over time.
- Turn on classroom projector and attached computer. Go to the website: boxofficemojo.com . Ask if this can be considered credible? How do you know? Direct them to the "About" page located at the bottom, where we find it is owned by imdb.com (as of 2016), which is considered by most to be a credible site, at least for public use data.

Box Office Mojo								
Search Site	About Box Office Mojo							
Search Social	GENERAL Box Office Mojo (http://www.boxofficemojo.com), is the leading online box-office reporting service. Box Office Mojo is owned and operated by IMDb (www.imdb.com), the #1 movie website in the world.							
Twitter	PRESS / MEDIA To request an interview with our box office editor for print, online publication or for television or radio broadcast, write to press@imdb.com (please include your telephone number and deadline).							
Release Sched. Showtimes	COPYRIGHT You are also welcome to quote small subsets (less than 20 names/titles) of filmography or title related data on non-commercial websites, on message board systems, in magazine articles etc. We do insist, however, that you make reference to the source of the data via the phrase: "Information courtesy of Box Office Mojo. Used with permission."							
Box Office Daily Weekend Weekly Monthly Quarterly Seasonal Yearly All Time Chart Watch	For offline references please also include the URL http://www.boxofficemojo.com to compensate for the lack of a live link to the site. ADVERTISE WITH US Click here for more information about advertising opportunities. GENERAL INQUIRES Please write to mall@boxofficemojo.com. ADDITIONAL LINKS - About Box Office Tracking- RSS Feeds - Free Box Office Data Feeds - Privacy Falcy							
International Indices Movies A-Z Studios	- iem of Use							

 Along the left side of the Box Office Mojo (BOM) website is an "Index by Franchise" option. This will lead to many popular movie franchises, but the one in question is Star Wars. Clicking on the franchise page will give a large amount of data, including total gross, opening, and opening date.





Ask group to see if they can spot any trends in the data. Since The Force Awakens is the highest gross, does that mean it is the most successful? Ask if there is any reasoning as to why these numbers are not necessarily comparable. Lead group to the discussion of inflation and how these numbers are hard to compare because a dollar from 1977 is different than a dollar now. How could we adjust? While it is possible to use an inflation curve and multiply by the appropriate factor, BOM actual includes an adjustor at the top right corner, which will do all the work. Simply set it to the date of the first film (1977) and all numbers will be adjusted to the dollar value of that time.

ran	CIIISES									
			Star V	ars				UPCOMING RE	LEASE	S
То	tal Grosses	Opening \	Weekends					Title (click to view)	Studio	Rele Dat
								Rogue One: A Star Wars Story	BV	12/1
Rank	Title (click to view)	Studio Gross /		eaters	Opening / Theaters		Date	Star Wars: Episode VIII	BV	12/1
1	Star Wars: The Force Awakens	BV	\$936,390,4	62 4,134	\$247,966,675	4,134	12/18/15	Untitled Han Solo Star Wars Anthology Film	BV	5/25
2	Star Wars: Episode I - The Phantom Menace	Fox	\$431,088,2	95 3,126	\$64,820,970	2,970	5/19/99			
3	Star Wars: Episode III - Revenge of the Sith	Fox	\$380,270,5	77 3,663	\$108,435,841	3,661	5/19/05			
4	Star Wars	Fox	\$307,263,8	57 1,750	\$1,554,475	43	5/25/77			
5	Star Wars: Episode II - Attack of the Clones	Fox	\$302,191,2	52 3,161	\$80,027,814	3,161	5/16/02			
6	Return of the Jedi	Fox	\$252,583,6	17 1,764	\$23,019,618	1,002	5/25/83			
7	The Empire Strikes Back	Fox	\$209,398,0	25 1,278	\$4,910,483	126	5/21/80			
8	Star Wars (Special Edition) (Re-release)	Fox	\$138,257,8	65 2,375	\$35,906,661	2,104	1/31/97			
9	The Empire Strikes Back (Special Edition) (Re-release)	Fox	\$67,597,6	94 2,322	\$21,975,993	2,111	2/21/97			
10	Return of the Jedi (Special Edition) (Re-release)	Fox	\$45,470,4	37 2,111	\$16,293,531	2,111	3/14/97			
11	Star Wars: Episode I - The Phantom	Fox	\$43,456 3	82 2655	\$22,469,032	2.655	2/10/12			

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SAINT LOUIS

University of Colorado

SFU



Franchises

Adjuster: 1977, \$2.23 \$

Star Wars													
		UPCOMING RELEASES											
Total Grosses Opening Weekends							Title (click to view)	Studio	Releas Date				
									Rogue One: A Star Wars Story	BV	12/16/		
Rank	Title (click to vi	ew) S	Studio A	dj. Gross / The	aters	Opening / Th	eaters	Date					
1	Star Wars	F	Fox \$	318,296,900	1,750	\$1,554,500	43	5/25/77					
2	Star Wars: The For Awakens	orce B	3V \$	241,037,000	4,134	\$63,559,300	4,134	12/18/15					
3	Star Wars: Episo The Phantom Me	de I - F nace	ōx \$	189,161,500	3,126	\$28,454,900	2,970	5/19/99					
4	Return of the Jee	li F	Fox \$	180,592,900	1,764	\$16,296,400	1,002	5/25/83					
5	The Empire Strik Back	es F	ōx \$	175,862,800	1,278	\$4,070,800	126	5/21/80					
6	Star Wars: Episo - Revenge of the	de III F Sith	ōx \$	132,293,800	3,663	\$37,724,200	3,661	5/19/05					
7	Star Wars: Episo Attack of the Clo	de II - F nes	ōx \$	115,987,400	3,161	\$30,716,400	3,161	5/16/02					
8	Star Wars (Speci Edition) (Re-release)	al F	īох	\$67,171,000	2,375	\$17,444,800	2,104	1/31/97					
9	The Empire Strike Back (Special Edi (Re-release)	es ition) F	ōх	\$32,841,600	2,322	\$10,676,800	2,111	2/21/97					
10	Return of the Jec (Special Edition) (Re-release)	li F	ōx	\$22,091,300	2,111	\$7,916,000	2,111	3/14/97					
11	Star Wars: Episo The Phantom Me (in 3D) (Re-release)	de I - nace F	ōx	\$12,234,400	2,655	\$6,326,800	2,655	2/10/12					
12	Star Wars (Re-ise (Re-release)	sue) F	ōx	\$11,738,800	1,070	\$2,857,100	1,070	8/13/82					
13	Star Wars: The C Wars	lone _V	WВ	\$10,920,700	3,452	\$4,538,000	3,452	8/15/08					
14	The Empire Strike Back (Re-issue) (Re-release)	es F	īох	\$10,070,100	1,006	\$2,995,700	992	11/19/82					

- From this data, we see that the original Star Wars actually made more money (as of April 2016), so there does not seem to be much of a trend over time. But how could we tell? It is often hard to find trends just by looking at numbers. How can we graph this data so as to visualize if there are any trends? Lead discussion toward a simple bar graph, with movies in sequential order at the x-axis and gross sales along the y axis. Talk about which entries to include (guide class towards original releases on not the rereleases). Remind them that making choices about which data to include and which data to exclude shapes the visualization, and that is part of visualizing data, and therefore it is not neutral.
- Launch Excel and adjust windows so that the data is half the screen, and the spreadsheet is on the other half. Have the group call out the appropriate years and numbers for each film. (Note that for the years, the only intention is for them to be in sequential order for a bar graph, there is no need to graph the years). A bar graph should show that there are no clear trends.

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S<mark>TEM</mark> Literacy_{through} Infographics

ANH (1977)	318,296,900	
ESB (1980)	175,862,800	
ROTJ (1983)	180,592,900	
TPM (1999)	189,161,500	
AOC (2002)	115,987,400	
ROS (2005)	132,293,800	
TFA (2015)	241,037,000	



- Observant individuals may spot that the first film in a trilogy tends to do far better, and that the third grosses more than the second, but only slightly. Knowing this trend, how would we expect the next Star Wars movie to do in the box office? What could change this?
- Returning to the 1977-adjusted data, have the class pair up with their tablemate and write down 5 different data characteristics from the website that you DIDN'T explore, including opening day gross, total number of theaters, opening day theaters, re-release data, iMax theater releases, worldwide numbers, ticket prices adjusted for inflation, and so on.)

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- Ask each pair to contribute one unexplored characteristic via post it, and then review.
 Point out that there is data that is not available from this site to tell a more complete story, like the quality of the movie. Ask where we might find some sort of measure of the quality (possibility of rotten tomatoes.) Is that a credible way to examine quality? Why or why not? Ask if anyone can think of more data to tell a complete story, and what type of site might be able to provide it?
- Wrap up the lesson with each pair writing down one question they're left with about Star Wars data on a post-it. Hang the post-its in the classroom.
- The workshop may end here or individuals may work with the data on their own, as in the notes below. They could even upload this data to an online infographic designer such as piktochart, infogr.am, etc. and make a quick visualization on what they found. This should give a brief overview of working with data, visualizing it, and finding stories from data.

Notes:

There are plenty of ways this could go much further (originals vs re releases, Number of theaters, amount of competition, etc.) It could go on for at least another hour or even week. The discussion should be curtailed toward the end so there is plenty of time to see the visualization and even revise the graph if time allows. Other data that could be graphed includes critical ratings, presence of characters, merchandising sales, number of explosions (external source required), or even digging into percentage of female characters, amount of CGI, total marketing budgets, etc.

