

# Demo and Q&A:

## Tableau

*Inexpensive software for  
fast, easy to share **visual**  
data analytics*

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# Presentation Outline

- Introduction (URegina)
- PivotTables: Concepts & Terms
- Pivot Tables in Tableau
- Getting started
- Deployment options & issues
- Q & A
- Future: pre-conference training?

# University of Regina ★



# History & Functionality of PivotTables

- Pivot table functionality in MS Excel since mid 1990's; redesigned, easier to use version introduced in 2007.
- Available in other spreadsheet programs, report writers (ex Crystal Reports), statistical tools (e.g., SPSS, SAS), and dashboard toolsets.
- Tableau is a new program that offers PivotTable functionality; it offers excellent capabilities for visualizing and manipulating data.
- unlike Excel, it is not a modeling / free-form tool
- Also NOT a data entry tool (but **can** store data)

# PivotTables: Terms

- **Data source:** raw data underlying a pivot table; in a list format with rows and columns
- 1st row contains **field** headings.
- **Rows** contain data elements pertaining to cases (e.g., a student or a cohort of students).
- Data elements are referred to as **items** or **values** (can be numeric or text).

	A	B	C	D	E	F
	Time_					
1	Term	Unique ID	Gender	status	Faculty	Faculty2
2	200030	123456781	F	FT	AR	Arts
3	200030	123456782	F	FT	AR	Arts
4	200030	123456783	F	FT	AR	Arts
5	200030	123456784	F	FT	AR	Arts
6	200030	123456785	F	FT	AR	Arts
7	200030	123456786	M	FT	AR	Arts
8	200030	123456787	F	FT	ED	Education
9	200030	123456788	F	FT	SW	Social Work
10	200030	123456789	M	FT	SC	Science
11	200030	123456790	F	FT	AR	Arts
12	200030	123456791	F	FT	FA	Fine Arts
13	200030	123456792	F	FT	FA	Fine Arts
14	200030	123456793	F	FT	ED	Education

# Tableau – Advanced Features

- Graphs
- Lattice Graphs
- Pages and paths
- Mapping

# Excel - problems

- Fixed data set size – difficult to deal with queries that return a variable # of records
- Data size limitations (even without 60,000 row limit)
- constant changes to interface (ex 2007)
- Terrible look & graphics (better in 2007)
- Limited graphics and no Maps
- **End user/audience** complexity

# Some Technical Notes

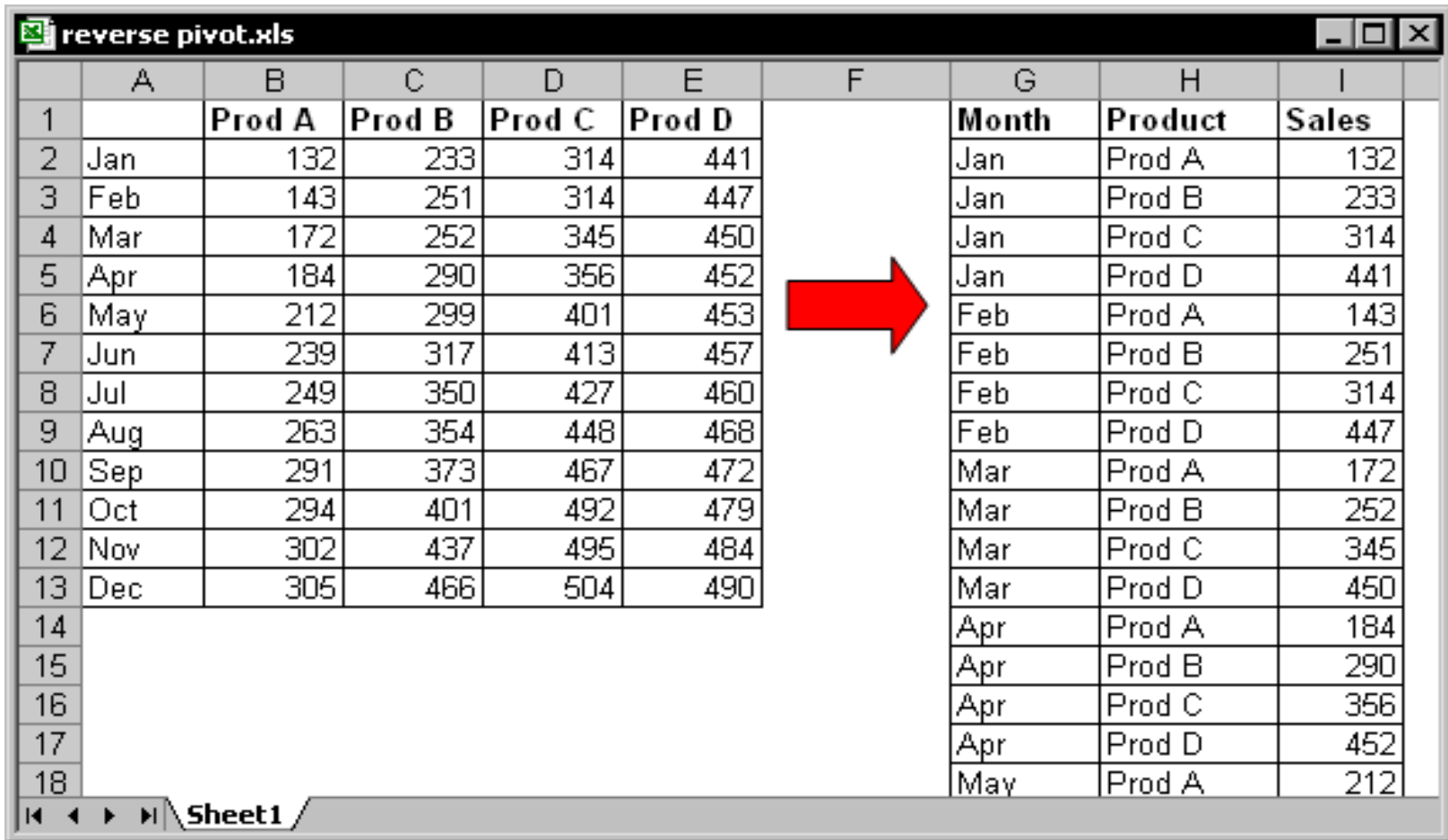
- Deployment Issues
- Proper Data Source Layout
- Excel “lists” must be contiguous
- Measures must be “additive” (you cannot add averages)
- A “null” is not the same as a zero



# Deployment

- Cost
- Data refresh
- Visual interface
- Web delivery
- Links with internal info services

# Proper Data Source Layout: Wide & Flat vs Tall and Thin



The image shows a screenshot of an Excel spreadsheet titled "reverse pivot.xls". The spreadsheet is divided into two sections by a red arrow pointing from left to right. The left section, columns A through E, represents a "Wide & Flat" data layout. The right section, columns F through I, represents a "Tall and Thin" data layout.

	A	B	C	D	E	F	G	H	I
1		<b>Prod A</b>	<b>Prod B</b>	<b>Prod C</b>	<b>Prod D</b>		<b>Month</b>	<b>Product</b>	<b>Sales</b>
2	Jan	132	233	314	441		Jan	Prod A	132
3	Feb	143	251	314	447		Jan	Prod B	233
4	Mar	172	252	345	450		Jan	Prod C	314
5	Apr	184	290	356	452		Jan	Prod D	441
6	May	212	299	401	453		Feb	Prod A	143
7	Jun	239	317	413	457		Feb	Prod B	251
8	Jul	249	350	427	460		Feb	Prod C	314
9	Aug	263	354	448	468		Feb	Prod D	447
10	Sep	291	373	467	472		Mar	Prod A	172
11	Oct	294	401	492	479		Mar	Prod B	252
12	Nov	302	437	495	484		Mar	Prod C	345
13	Dec	305	466	504	490		Mar	Prod D	450
14							Apr	Prod A	184
15							Apr	Prod B	290
16							Apr	Prod C	356
17							Apr	Prod D	452
18							May	Prod A	212

# Selected Web Resources

How to make a file tall & thin from “wide and flat”:

- Can be done directly in SQL (multiple “union” statement)
- SPSS etc. “flatten”
- Excel (reverse pivot table, flat pivot in 2010):
  - [http://spreadsheetpage.com/index.php/tip/creating\\_a\\_database\\_table\\_from\\_a\\_summary\\_table/](http://spreadsheetpage.com/index.php/tip/creating_a_database_table_from_a_summary_table/)
  - <http://stackoverflow.com/questions/687470/how-to-flatten-or-collapse-a-2d-excel-table-into-1d>

Information about Tableau:

([www.tableausoftware.com/learning/examples](http://www.tableausoftware.com/learning/examples))

# Q&A / Discussion

[www.TableauSoftware.com](http://www.TableauSoftware.com)

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