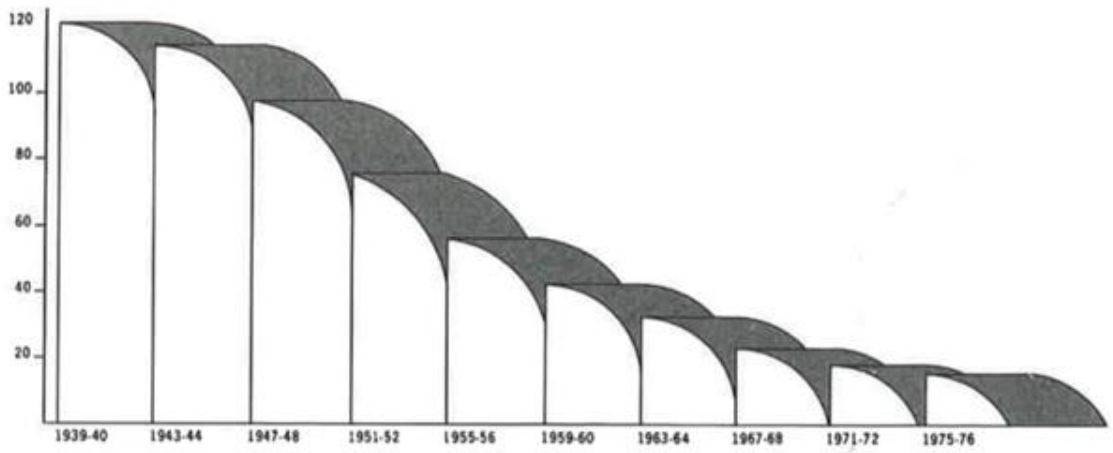
19-The-problem-with-dimensions

The problem with dimensions



SOURCE: THE VISUAL DISPLAY OF QUANTITATIVE INFORMATION, E. TUFTE

Graphical Integrity 4th principle

Graphical Integrity 4th principle

THE NUMBER OF INFORMATION-CARRYING (VARIABLE) DIMENSIONS DEPICTED SHOULD NOT EXCEED THE NUMBER OF DIMENSIONS IN THE DATA

Graphical Integrity 4th principle

THE NUMBER OF INFORMATION-CARRYING (VARIABLE) DIMENSIONS DEPICTED
SHOULD NOT EXCEED THE NUMBER OF DIMENSIONS IN THE DATA

Dimensions of your data:

Graphical Integrity 4th principle

THE NUMBER OF INFORMATION-CARRYING (VARIABLE) DIMENSIONS DEPICTED SHOULD NOT EXCEED THE NUMBER OF DIMENSIONS IN THE DATA

Dimensions of your data:

Number of columns

Graphical Integrity 4th principle

THE NUMBER OF INFORMATION-CARRYING (VARIABLE) DIMENSIONS DEPICTED SHOULD NOT EXCEED THE NUMBER OF DIMENSIONS IN THE DATA

Dimensions of your data:

Number of columns

Dimensions of your representation:

Graphical Integrity 4th principle

THE NUMBER OF INFORMATION-CARRYING (VARIABLE) DIMENSIONS DEPICTED
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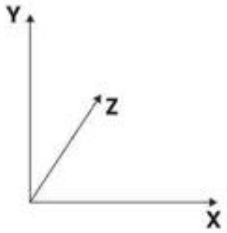
Dimensions of your data:

Number of columns

Dimensions of your representation:



Number of axes + hidden dimensions

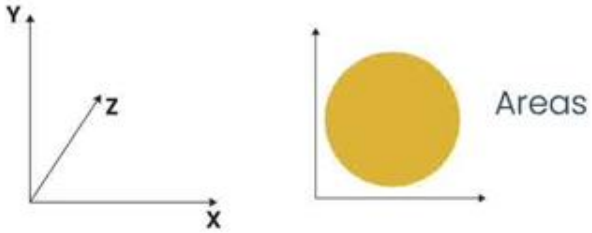
Graphical Integrity 4th principle

THE NUMBER OF INFORMATION-CARRYING (VARIABLE) DIMENSIONS DEPICTED SHOULD NOT EXCEED THE NUMBER OF DIMENSIONS IN THE DATA

Dimensions of your data:

Number of columns

Dimensions of your representation:



Number of axes + hidden dimensions

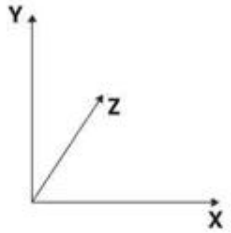
Graphical Integrity 4th principle

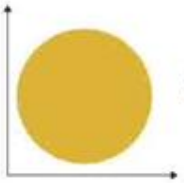
THE NUMBER OF INFORMATION-CARRYING (VARIABLE) DIMENSIONS DEPICTED
SHOULD NOT EXCEED THE NUMBER OF DIMENSIONS IN THE DATA

Dimensions of your data:

Number of columns

Dimensions of your representation:





Areas

Colors

Number of axes + hidden dimensions

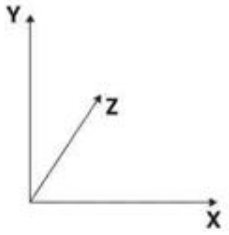
Graphical Integrity 4th principle

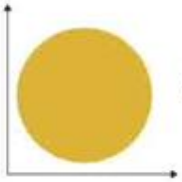
THE NUMBER OF INFORMATION-CARRYING (VARIABLE) DIMENSIONS DEPICTED
SHOULD NOT EXCEED THE NUMBER OF DIMENSIONS IN THE DATA

Dimensions of your data:

Number of columns

Dimensions of your representation:





Number of axes + hidden dimensions

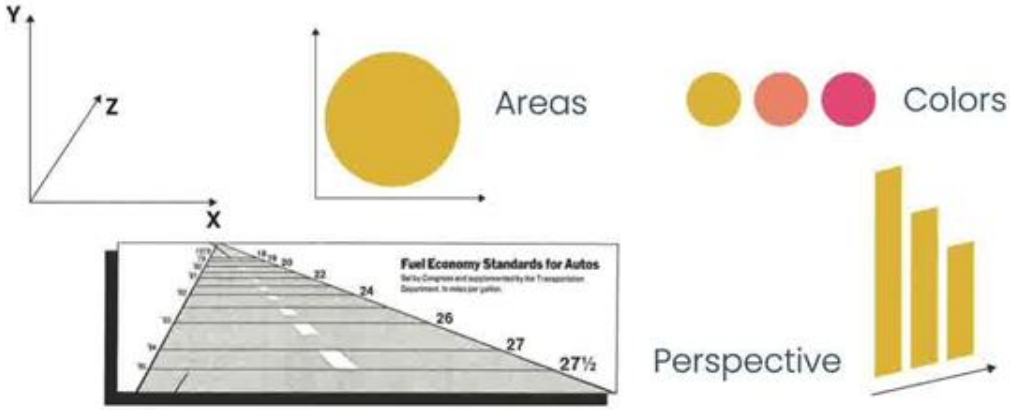
Graphical Integrity 4th principle

THE NUMBER OF INFORMATION-CARRYING (VARIABLE) DIMENSIONS DEPICTED SHOULD NOT EXCEED THE NUMBER OF DIMENSIONS IN THE DATA

Dimensions of your data:

Number of columns

Dimensions of your representation:



Number of axes + hidden dimensions

Graphical Integrity 4th principle

THE NUMBER OF INFORMATION-CARRYING (VARIABLE) DIMENSIONS DEPICTED

SHOULD NOT EXCEED THE NUMBER OF DIMENSIONS IN THE DATA

NUMBER OF DIMENSIONS IN THE GRAPHICAL REPRESENTATION = NUMBER OF DIMENSIONS IN THE DATA

Graphical Integrity 4th principle

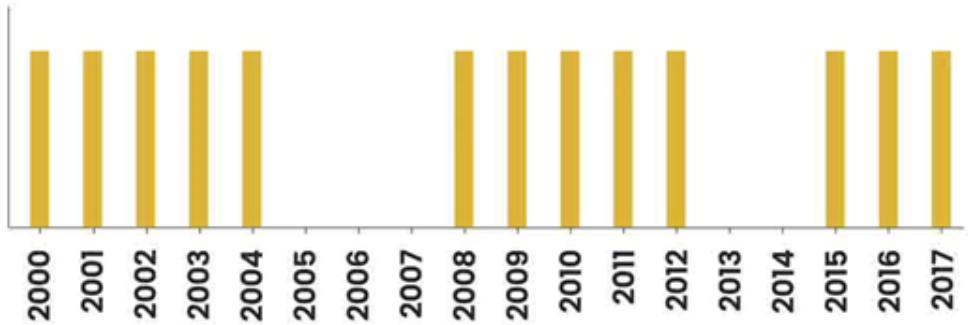
If you have **1-D** data:

Years active
2000
2001
2002
2003
2004
2005
2006
2010
2011
2012
2015
2016
2017

Graphical Integrity 4th principle

If you have **1-D** data:

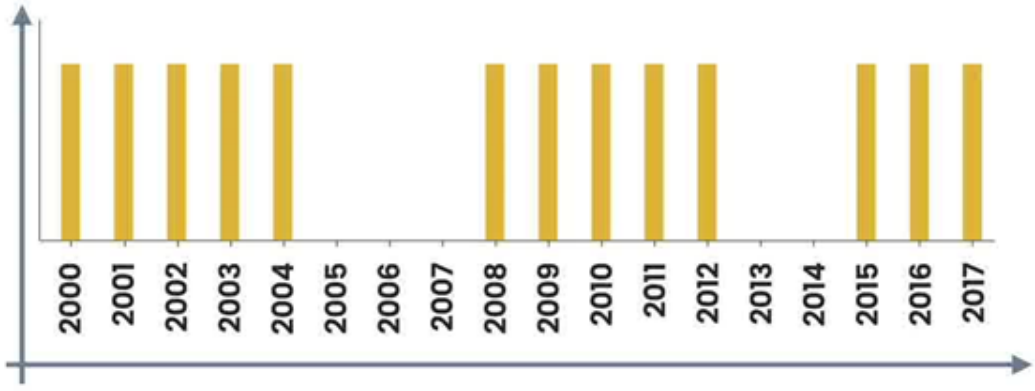
Years active
2000
2001
2002
2003
2004
2005
2006
2010
2011
2012
2015
2016
2017



Graphical Integrity 4th principle

If you have **1-D** data:

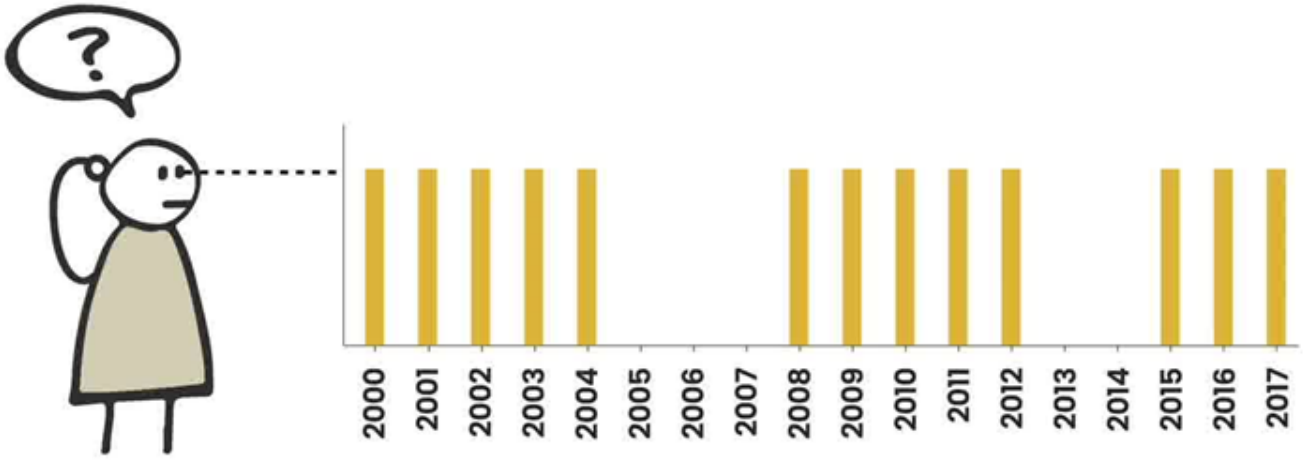
Years active
2000
2001
2002
2003
2004
2005
2006
2010
2011
2012
2015
2016
2017



Graphical Integrity 4th principle

If you have **1-D** data:

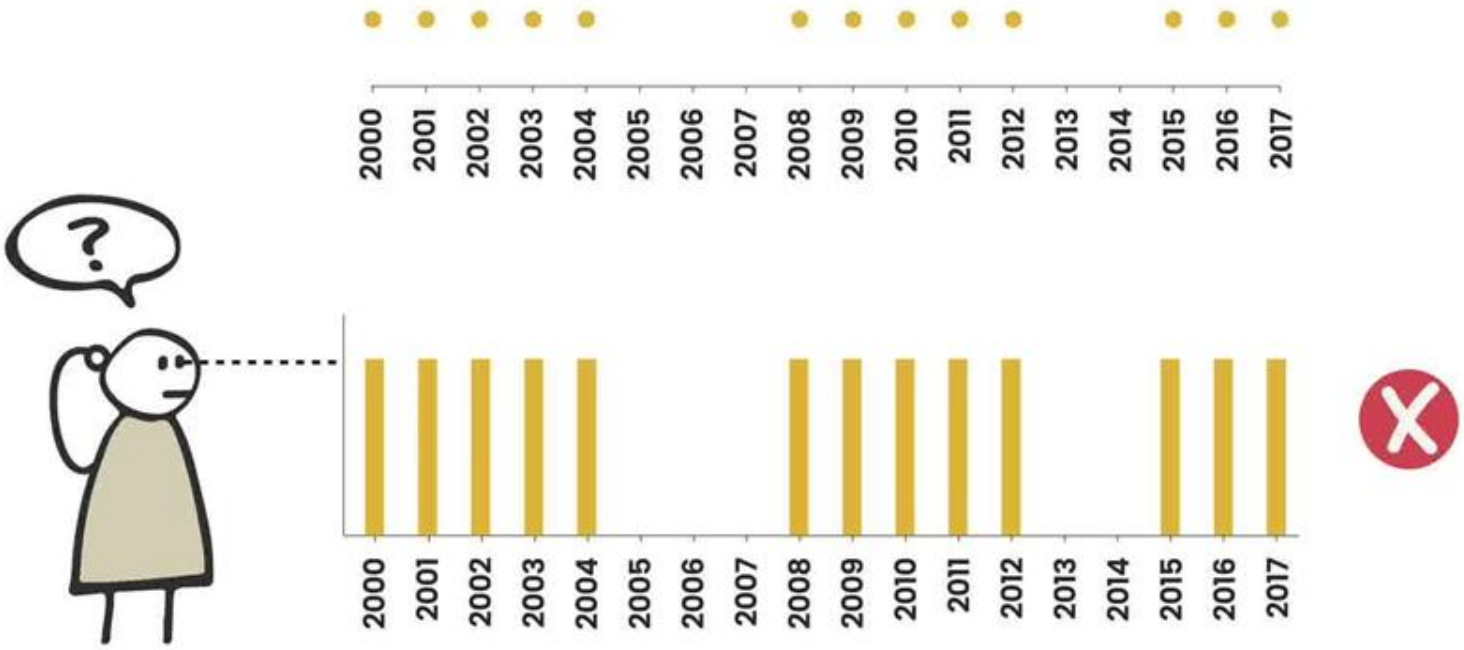
Years active
2000
2001
2002
2003
2004
2005
2006
2010
2011
2012
2015
2016
2017



Graphical Integrity 4th principle

If you have **1-D** data:

Years active
2000
2001
2002
2003
2004
2005
2006
2010
2011
2012
2015
2016
2017



Graphical Integrity 4th principle

If you have **2-D** data:

Years active
2000
2001
2002
2003
2004
2005
2006
2010
2011
2012
2015
2016
2017

Graphical Integrity 4th principle

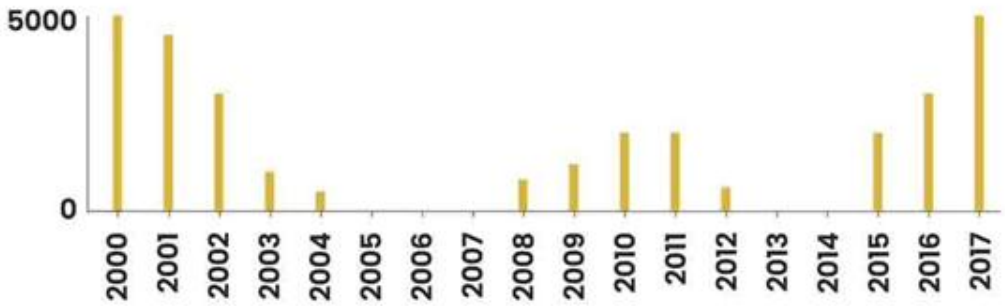
If you have **2-D** data:

Years active	Benefit
2000	5000
2001	4500
2002	3000
2003	1000
2004	500
2005	800
2006	1200
2010	2000
2011	2000
2012	600
2015	2000
2016	3000
2017	5000

Graphical Integrity 4th principle

If you have **2-D** data:

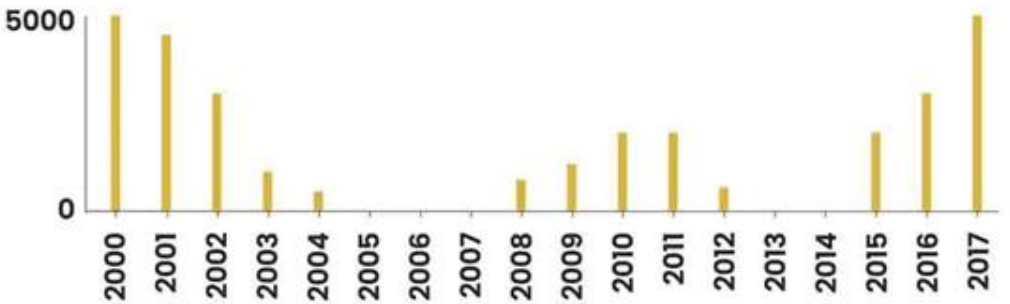
Years active	Benefit
2000	5000
2001	4500
2002	3000
2003	1000
2004	500
2005	800
2006	1200
2010	2000
2011	2000
2012	600
2015	2000
2016	3000
2017	5000

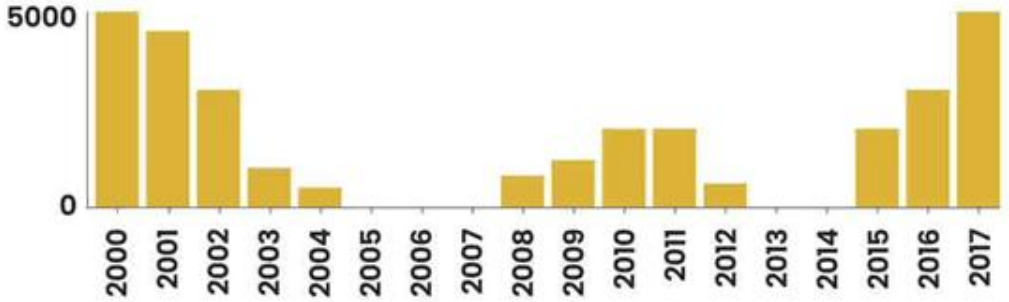


Graphical Integrity 4th principle

If you have **2-D** data:

Years active	Benefit
2000	5000
2001	4500
2002	3000
2003	1000
2004	500
2005	800
2006	1200
2010	2000
2011	2000
2012	600
2015	2000
2016	3000
2017	5000

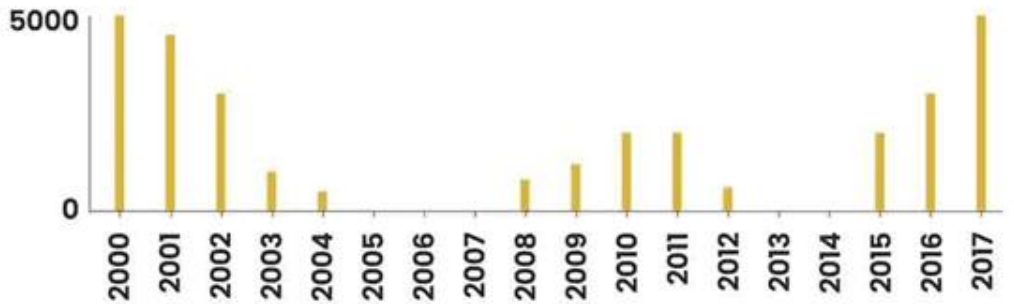


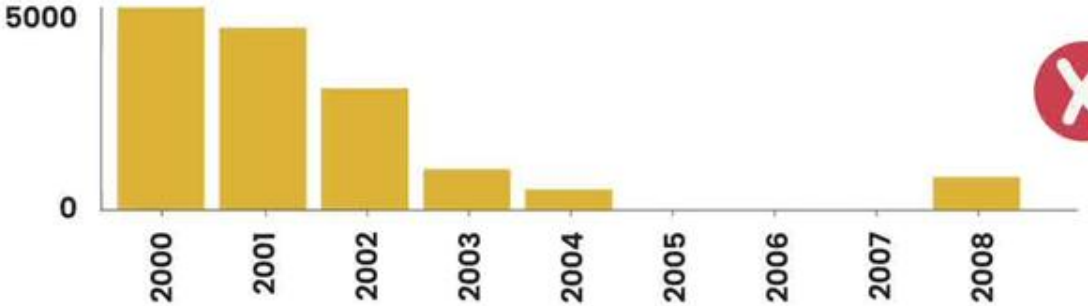


Graphical Integrity 4th principle

If you have **2-D** data:

Years active	Benefit
2000	5000
2001	4500
2002	3000
2003	1000
2004	500
2005	800
2006	1200
2010	2000
2011	2000
2012	600
2015	2000
2016	3000
2017	5000

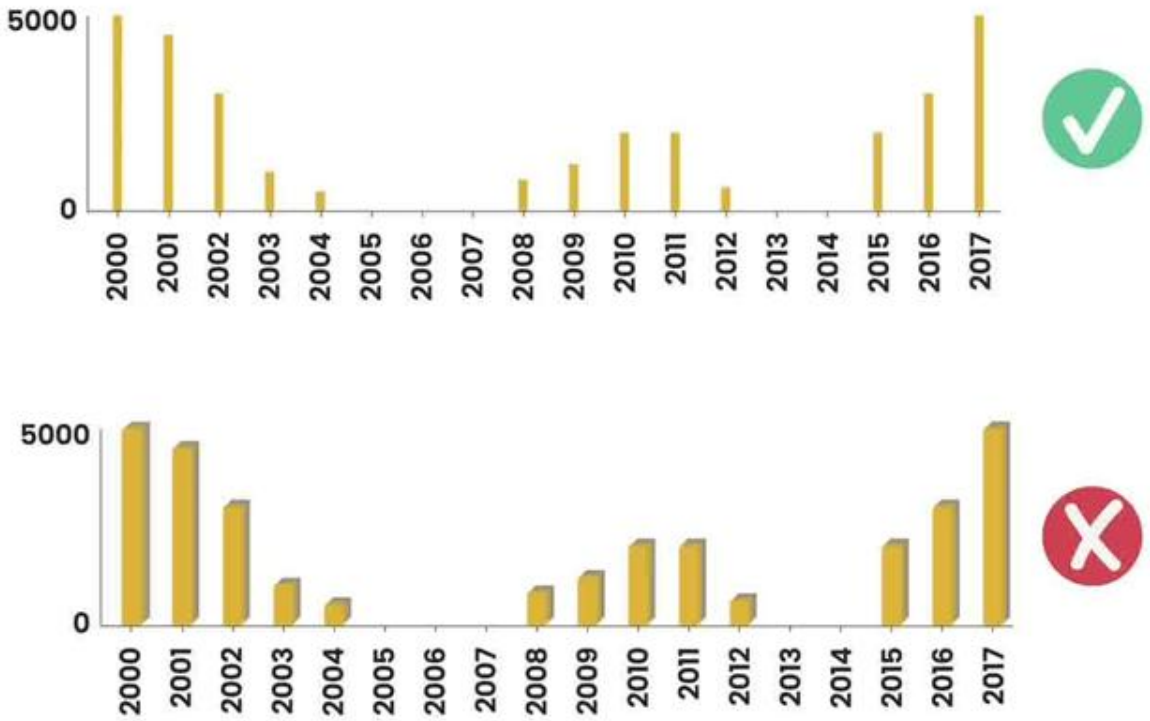




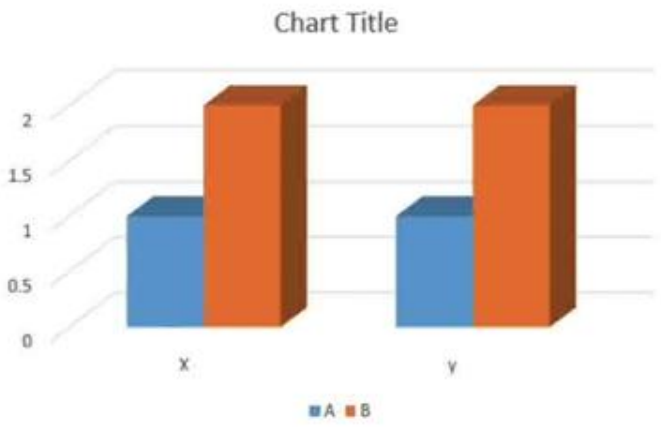
Graphical Integrity 4th principle

If you have **2-D** data:

Years active	Benefit
2000	5000
2001	4500
2002	3000
2003	1000
2004	500
2005	800
2006	1200
2010	2000
2011	2000
2012	600
2015	2000
2016	3000
2017	5000

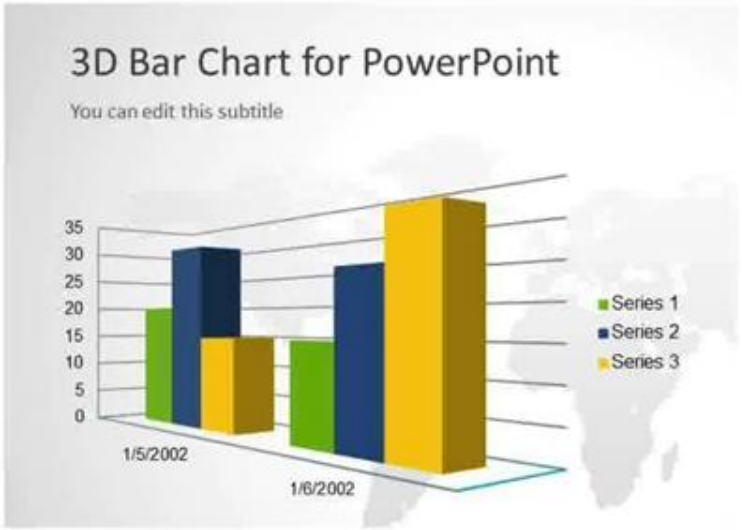


Microsoft Excel



SOURCE: SUPERUSER.COM

Microsoft Powerpoint

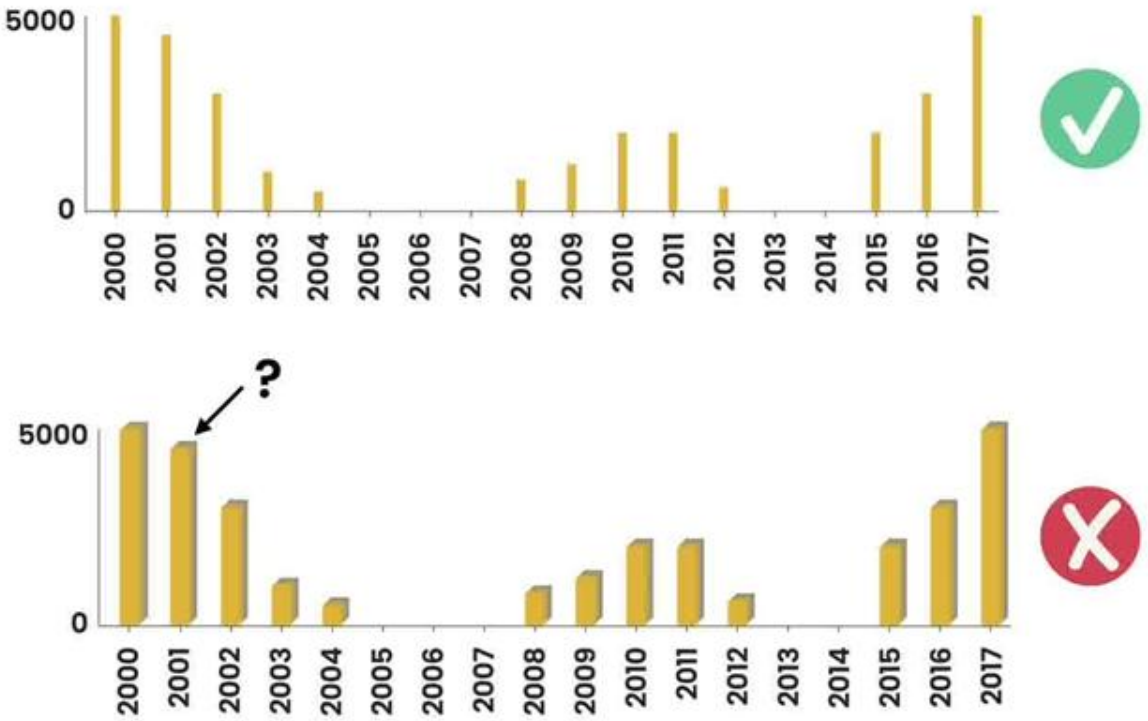


SOURCE: SLIDEMODEL.COM

Graphical Integrity 4th principle

If you have **2-D** data:

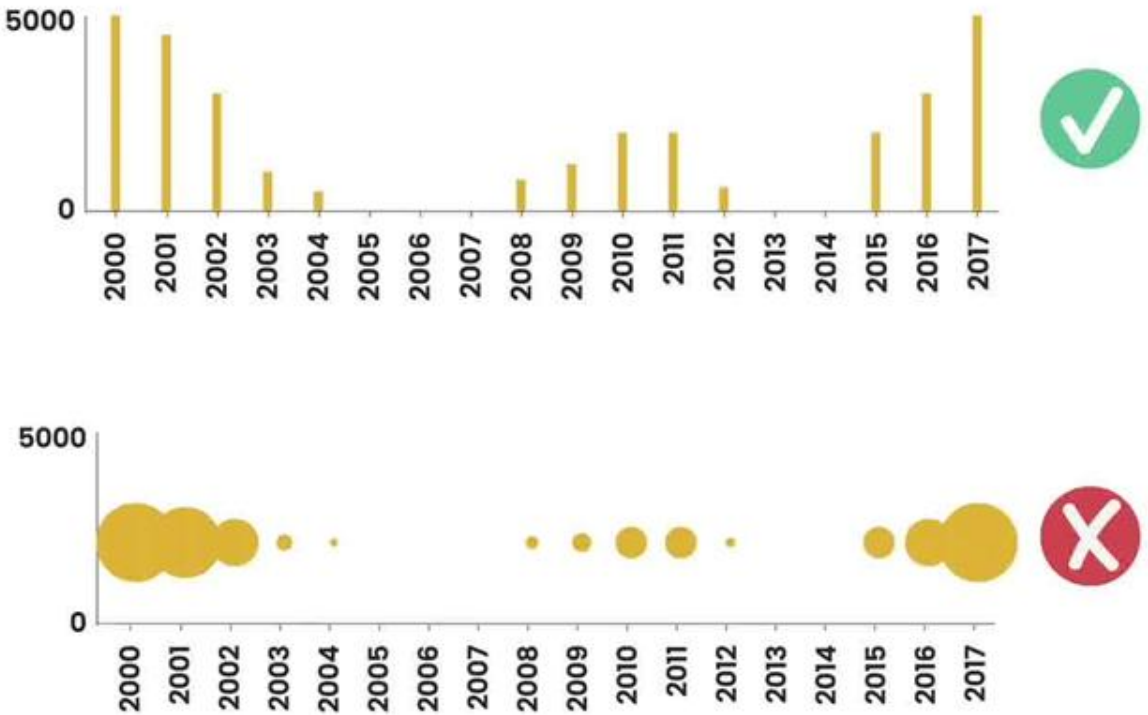
Years active	Benefit
2000	5000
2001	4500
2002	3000
2003	1000
2004	500
2005	800
2006	1200
2010	2000
2011	2000
2012	600
2015	2000
2016	3000
2017	5000



Graphical Integrity 4th principle

If you have **2-D** data:

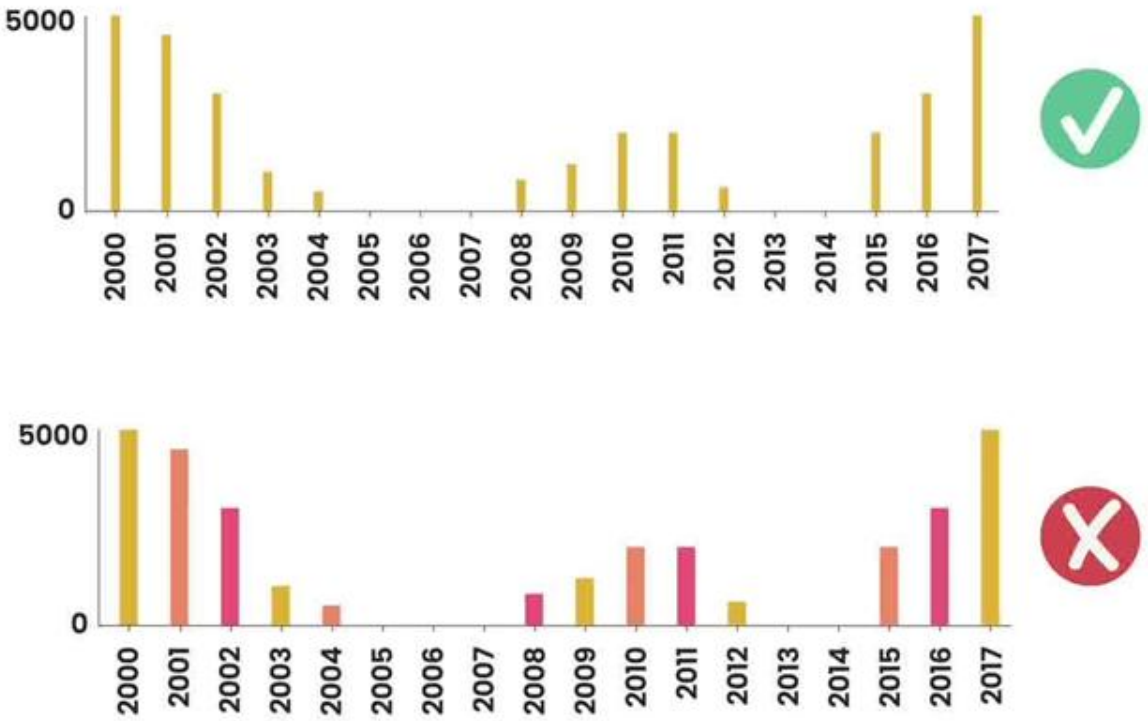
Years active	Benefit
2000	5000
2001	4500
2002	3000
2003	1000
2004	500
2005	800
2006	1200
2010	2000
2011	2000
2012	600
2015	2000
2016	3000
2017	5000



Graphical Integrity 4th principle

If you have **2-D** data:

Years active	Benefit
2000	5000
2001	4500
2002	3000
2003	1000
2004	500
2005	800
2006	1200
2010	2000
2011	2000
2012	600
2015	2000
2016	3000
2017	5000



Examples

SOURCE: WASHINGTON POST, 1978,
VIA THE VISUAL DISPLAY OF QUANTITATIVE INFORMATION, E. TUFTE

Examples

SOURCE: WASHINGTON POST, 1978,
VIA THE VISUAL DISPLAY OF QUANTITATIVE INFORMATION, E. TUFTE

Dimensions of the dataset:

Year, value of dollar. TOTAL = 2

Examples

SOURCE: WASHINGTON POST, 1978,
VIA THE VISUAL DISPLAY OF QUANTITATIVE INFORMATION, E. TUFTE

Dimensions of the dataset:

Year, value of dollar. TOTAL = 2

Dimensions of the representation:

Examples

SOURCE: WASHINGTON POST, 1978,
VIA THE VISUAL DISPLAY OF QUANTITATIVE INFORMATION, E. TUFTE

Dimensions of the dataset:

Year, value of dollar. TOTAL = 2

Dimensions of the representation:

1 axis (vertical) for the years + 2D for the value of dollar.

TOTAL = 3

Examples

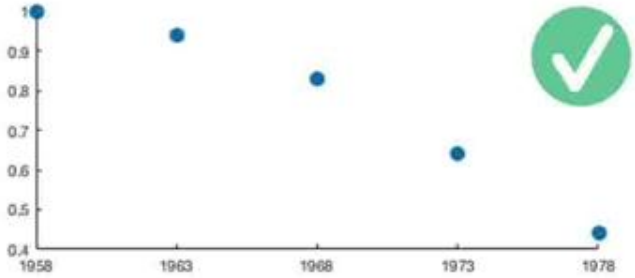
SOURCE: WASHINGTON POST, 1978,
VIA THE VISUAL DISPLAY OF QUANTITATIVE INFORMATION, E. TUFTE

Dimensions of the dataset:

Year, value of dollar. TOTAL = 2

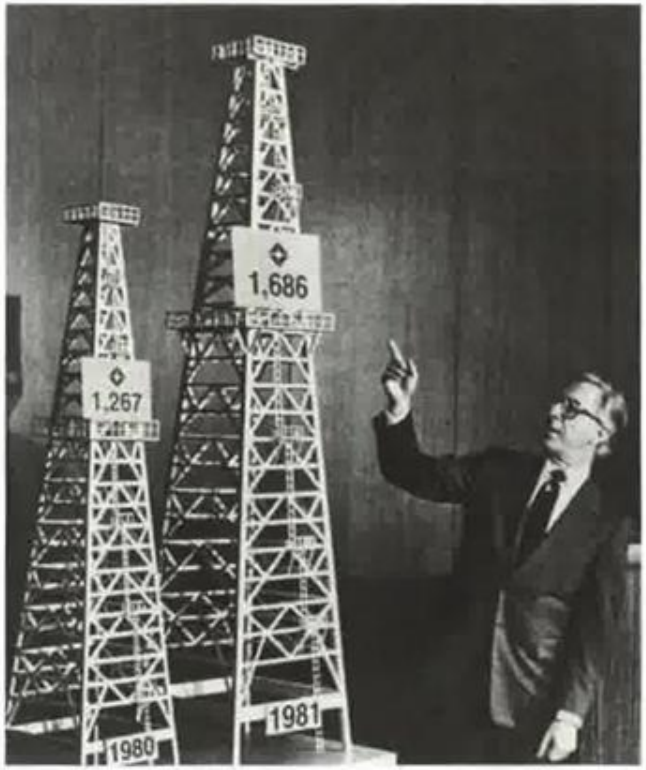
Dimensions of the representation:

1 axis (vertical) for the years + 2D for the value of dollar.
TOTAL = 3



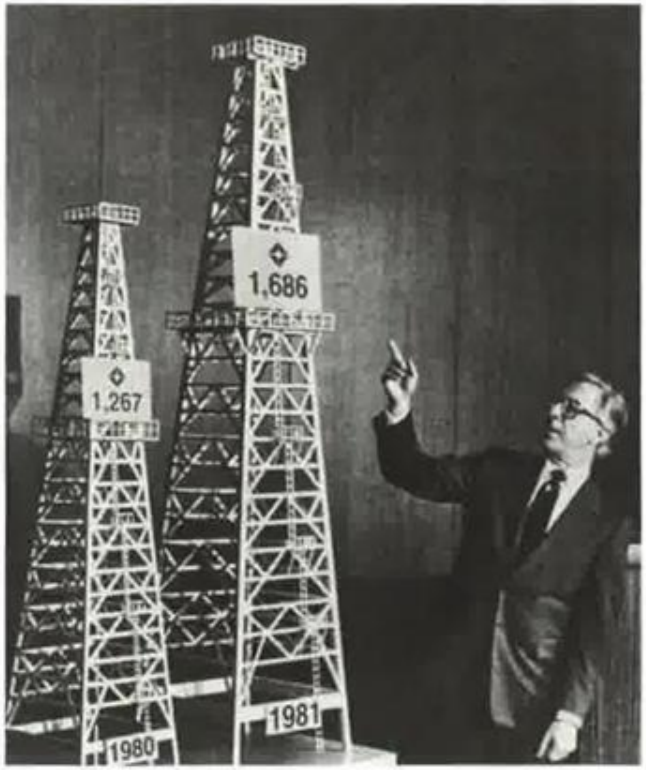
1 axis (horizontal) for the years + 1 axis (vertical) for the value of dollar. TOTAL = 2

Examples

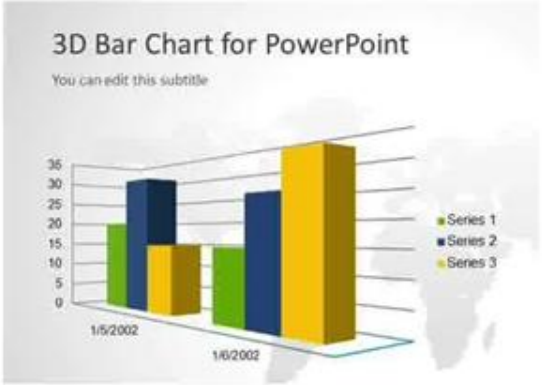


SOURCE: THE NEW YORK TIMES, 1981,
VIA THE VISUAL DISPLAY OF QUANTITATIVE INFORMATION, E. TUFTE

Examples

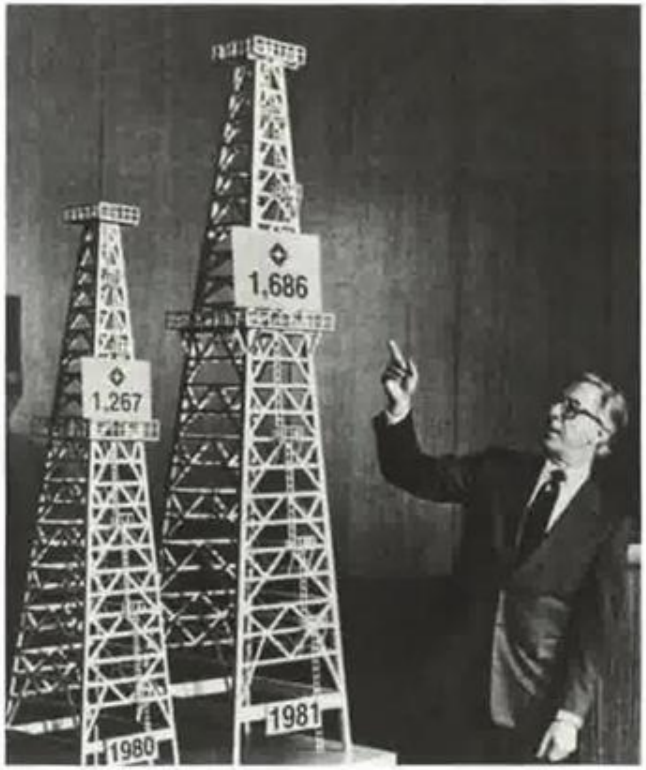


SOURCE: THE NEW YORK TIMES, 1981,
VIA THE VISUAL DISPLAY OF QUANTITATIVE INFORMATION, E. TUFTE



SOURCE: SLIDEMODEL.COM

Examples



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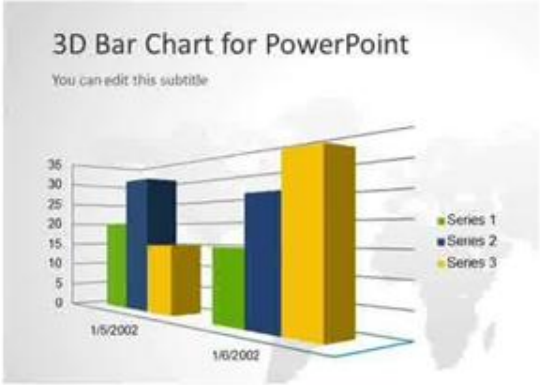
VIA THE VISUAL DISPLAY OF QUANTITATIVE INFORMATION, E. TUFTE



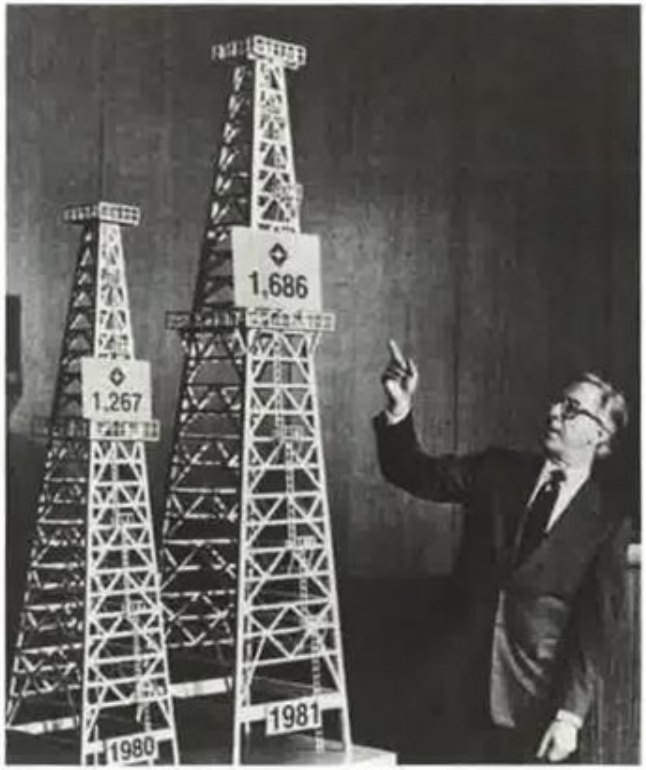
SOURCE: SLIDEMODEL.COM

Dimensions of the dataset:

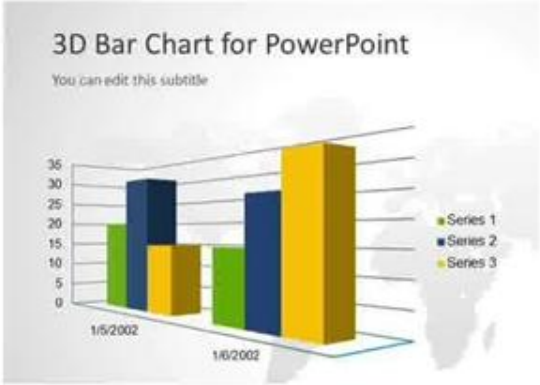
Year, price of oil. TOTAL = 2

Dimensions of the representation:

Examples



SOURCE: THE NEW YORK TIMES, 1981,
VIA THE VISUAL DISPLAY OF QUANTITATIVE INFORMATION, E. TUFTE



SOURCE: SLIDEMODEL.COM

Dimensions of the dataset:

Year, price of oil. TOTAL = 2

Dimensions of the representation:

1 axis (horizontal) for the years + 3D object (tower) for the price of oil

TOTAL = 4

To be continued...