

User Focused Data Visualization and Storytelling

Chris Hamill – Sr. Program Manager, Power BI Customer Advisory Team



@ChrisHamill17



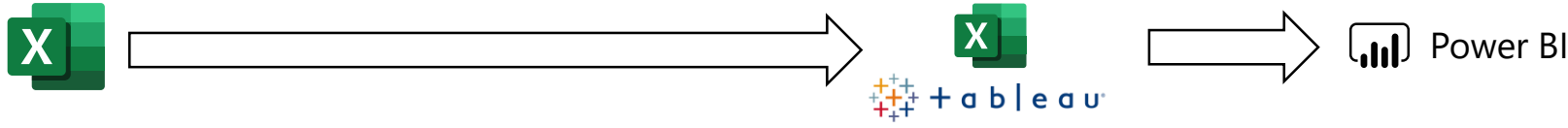
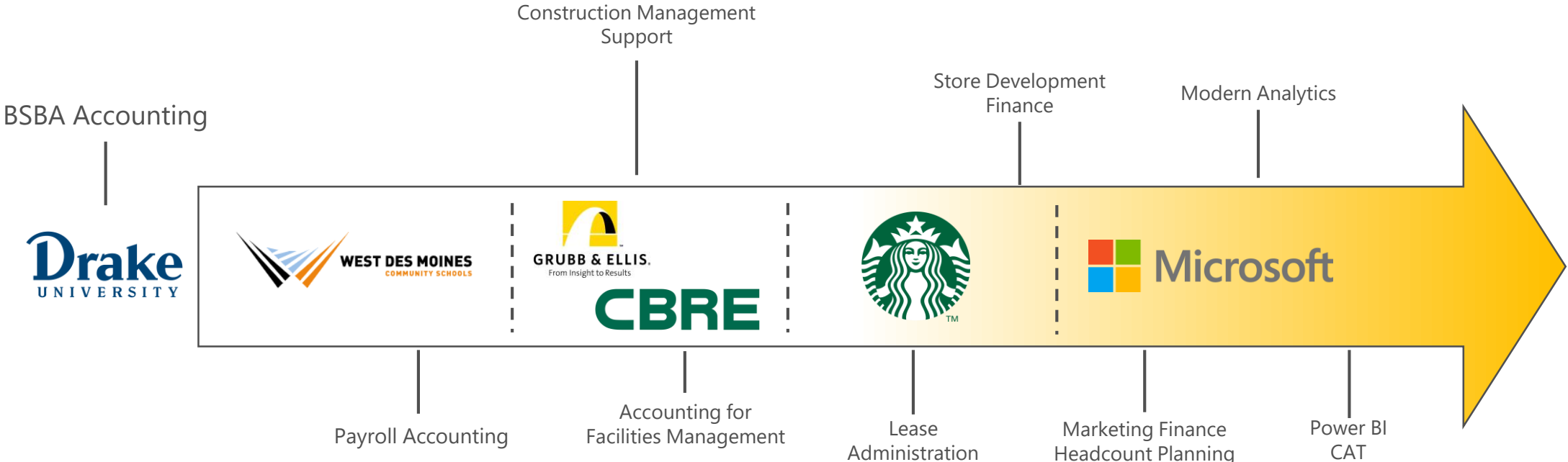
www.linkedin.com/in/chris-hamill17



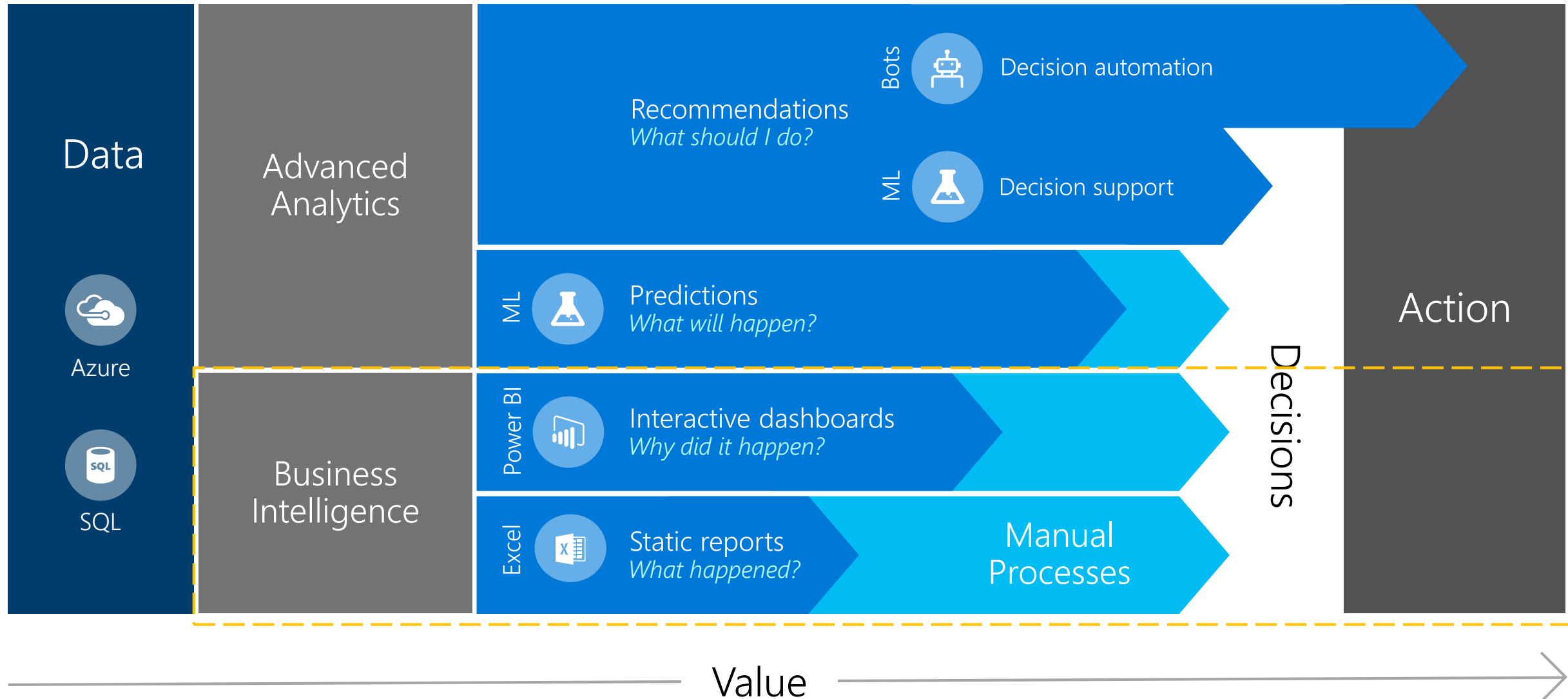
www.alluringbi.com

- Modernization of Reporting
- Goals and High-Level Tips
- Best Practices for Visuals
- Effective Design Elements
- Report Redesign

Career Path and Modernization of Reporting

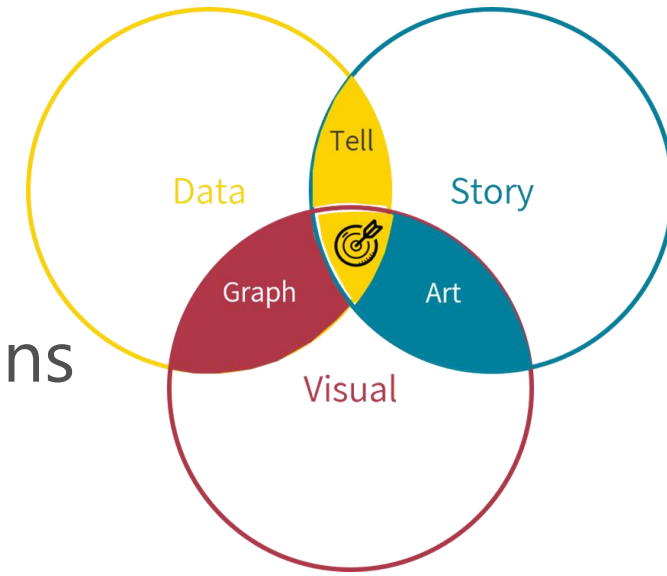


Modern Reporting



Goals of Storytelling through Data Visualization

- Transfer of Information that can be easily interpreted
- Provide depth for end users to ask and answer questions
- Motivation for data-driven decisions
- Repeatable and Consistent – Connected to business process





- Know your Audience



- Know your Platform



- Test your Assumptions



- Fail Fast



- Iterate Often

- Avoid overwhelming end users



Polling Question

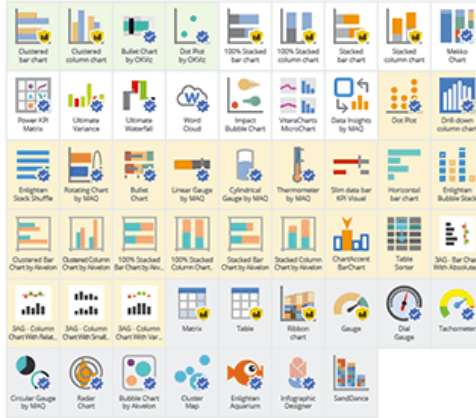
Which of the Following is a Goal of Story Telling through Data Visualization?

- a) Automated Reporting
- b) Providing insights to leadership
- c) Transfer of Information that can be easily interpreted

Get Familiar with your Toolbox

COMPARISON

Display measures compared by their magnitude



CHANGE OVER TIME

Display the changing trend of measures



RANKING

Display measures by their rank order



SPATIAL

Display measures over spatial maps



FLOW

Display a flow or dynamic relations



PART-TO-WHOLE

Display the parts of a measure



DISTRIBUTION

Display the distribution of a measure



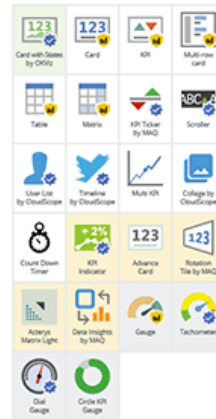
CORRELATION

Display relations between measures



SINGLE

Display single values



FILTER

Control report filters

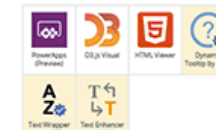


NARRATIVE

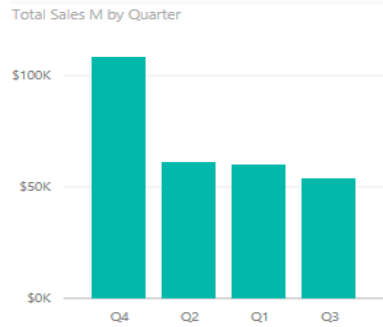
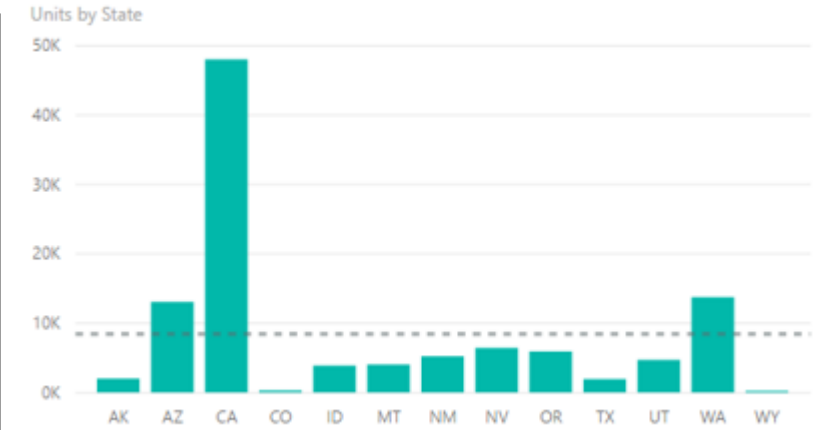
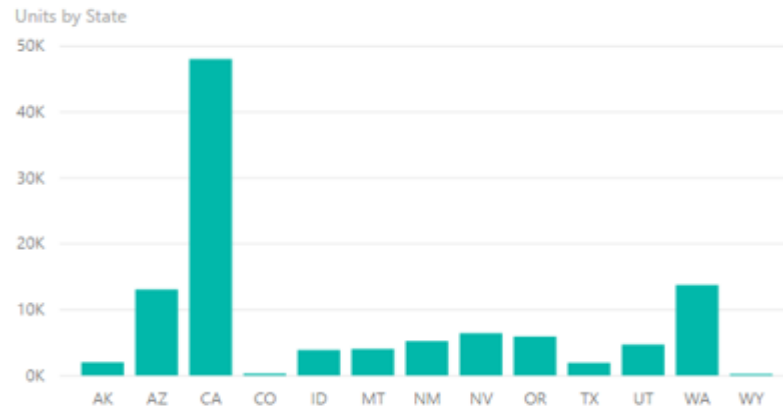
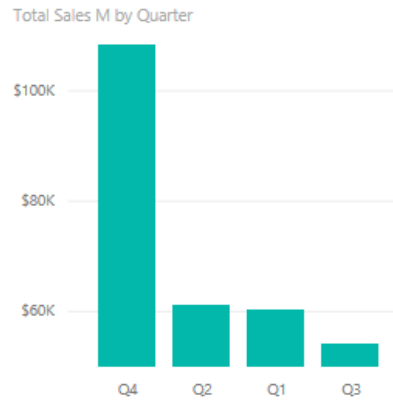
Tell a story with data



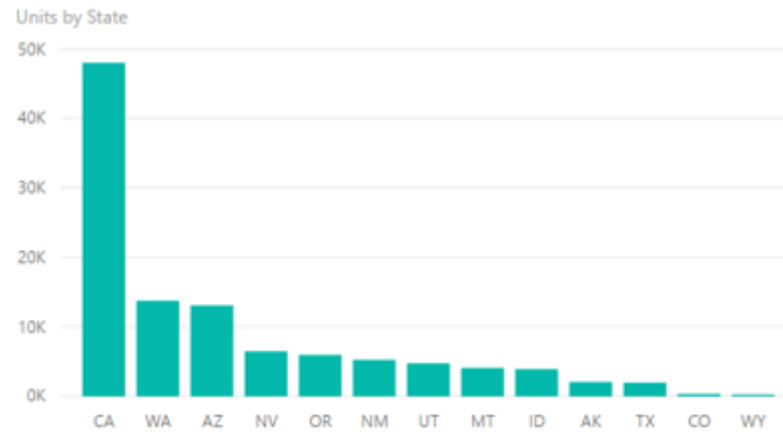
MISCELLANEOUS



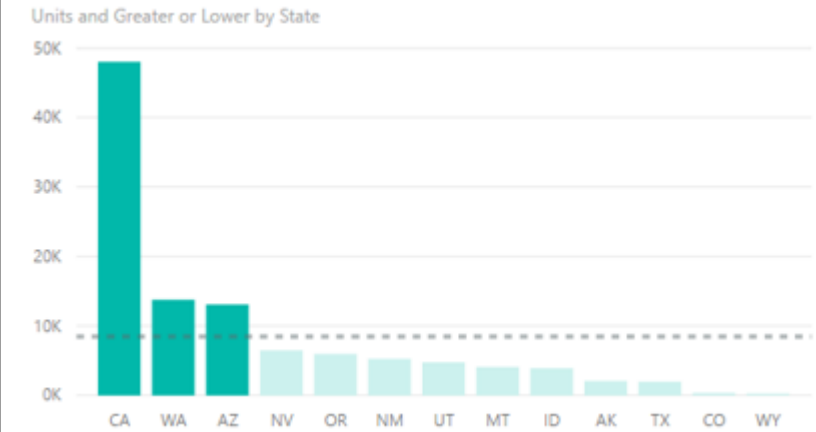
Column Chart Do's and Don'ts



Start Axis at 0



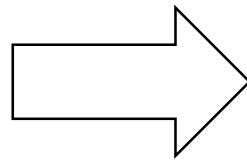
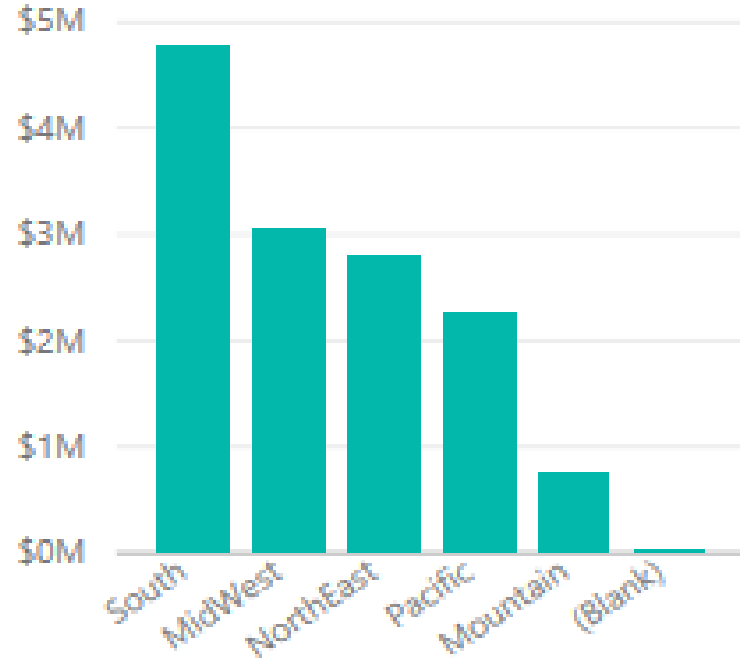
Sort Chart



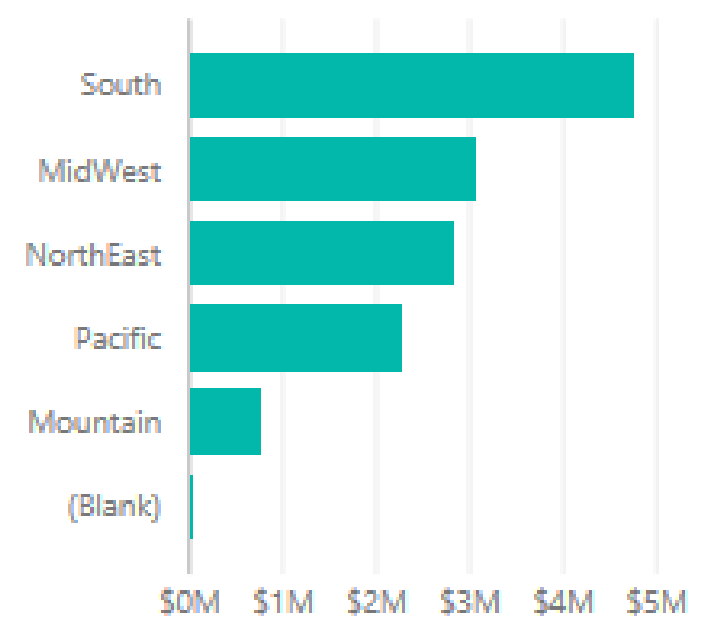
Work with Reference Lines or Coloring to draw attention

Column Chart vs Bar Chart

Total Sales M by Region



Total Sales M by Region



When you have too many elements to display in a column, the bar chart can be easier to scroll



-4%

MoM

- Make sure units are correct
- Add title for clarity

- Choose right precision levels

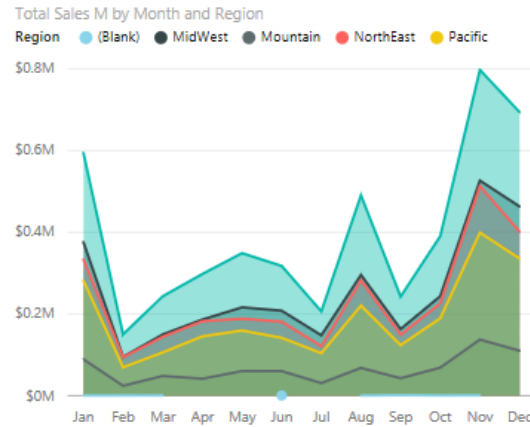
- Consider use of colors to draw attention to KPIs that matter most



Total Sales

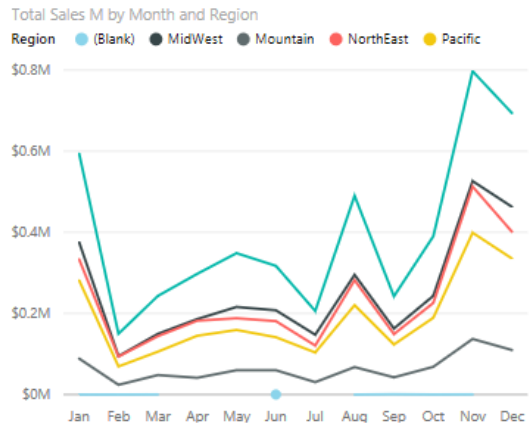
\$14M

Line Chart Do's and Don'ts



- Choose Area Charts sparingly (when # of series < 5)

- Too many colors can be distracting



- Often Line charts are the safer option

Table/Matrix Do's and Don'ts



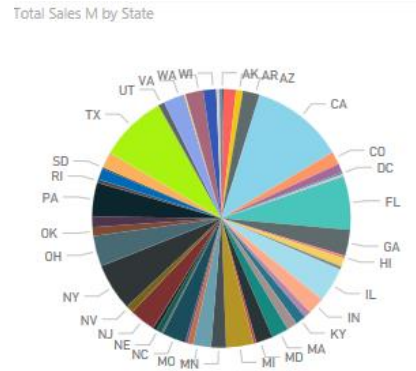
Segment	Revenue	% Growth
Convenience	\$354,839,877	31.889%
Extreme	\$7,369,823	41.175%
Moderation	\$306,267,892	33.767%
Productivity	\$118,451	17.172%
Regular	\$1,792,558	9.956%
Select	\$206,289	337.485%
Total	\$670,594,889	32.791%



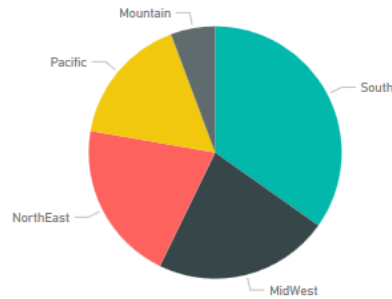
Segment	Revenue	% Growth
Convenience	\$354,839,877	32%
Moderation	\$306,267,892	34%
Extreme	\$7,369,823	41%
Regular	\$1,792,558	10%
Select	\$206,289	337%
Productivity	\$118,451	17%
Total	\$670,594,889	33%

- Reduce precision
- Use muted background color
- Choose the right font size
- Sort Table based on KPIs
- Consider using conditional formatting

Pie Chart Do's and Don'ts



Bad Pie chart



Good Pie chart

- Do not have more than 3-5 categories (if you have more then put a slicer and choose a default)
- Include data labels
- Choose appropriate colors

Polling Question

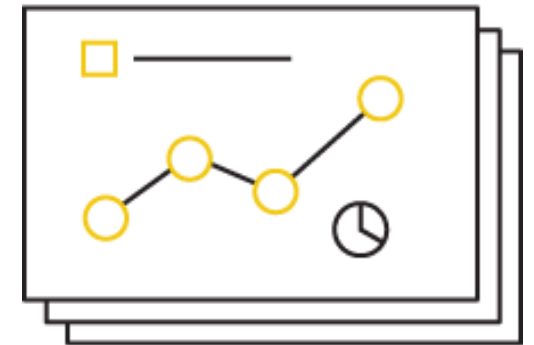
Which of the Following would be a good candidate for use of a Line Graph?

- a) Sales by Region
- b) Sales by Month
- c) Expenditure by Account Type

Effective Design Elements and Application

- Margins
- Distribution
- Alignment
- Branding/Targeting
- Coloring
- Consistency
- Accessibility
- Backgrounds

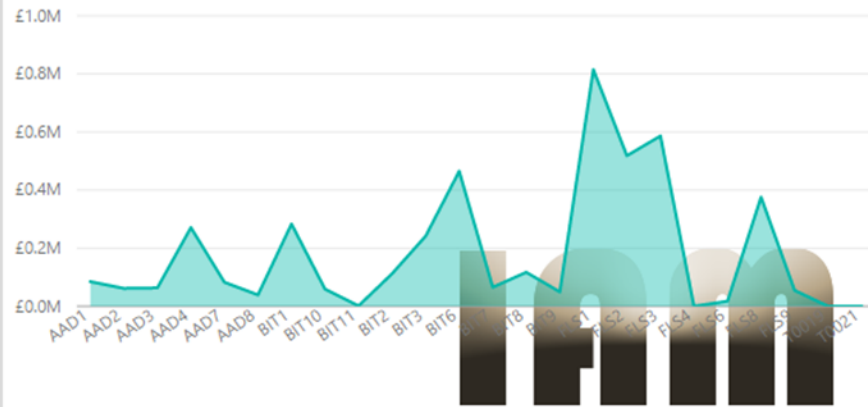
- Performance



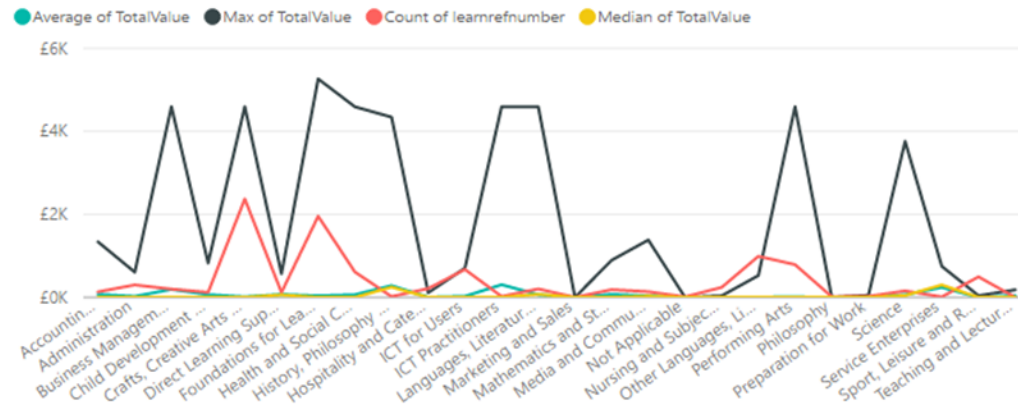
Key Funding Values - College Overview



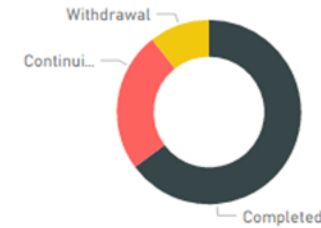
Provider Monitoring



SSA Tier 2 by Funding and Learner Number

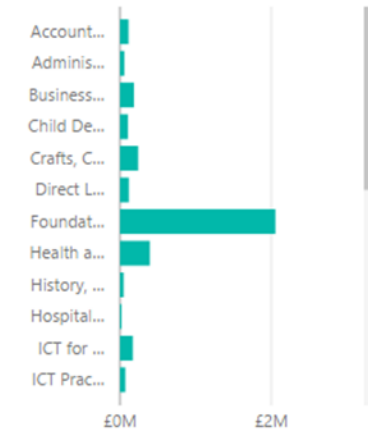


Proportion by Completion Status



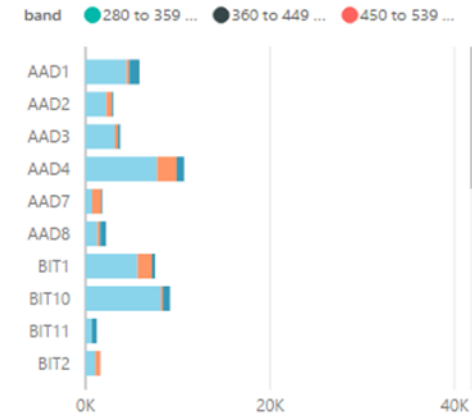
<<College Logo>>

SSA Tier 2 Funding Distribution

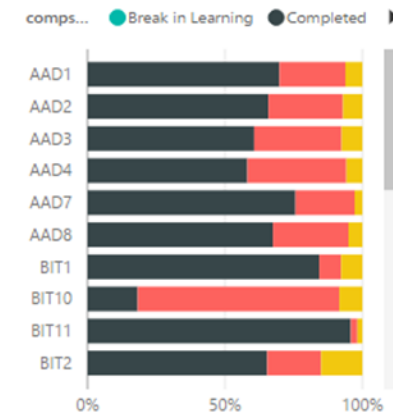


INFO ASSET MANAGEMENT

Funding by School and Band



Learner Proportion by School/Dept



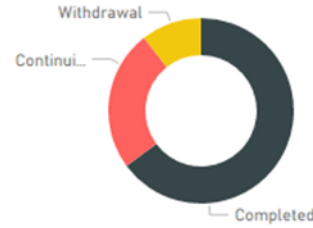


Key Funding Values - College Overview

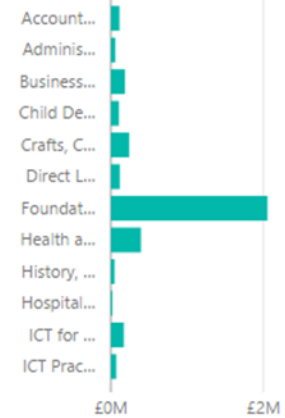
<<College Logo>>

£4,366,475.2 TotalValue
£3,083,448.4 ProgCashValue
£498,118.0 AimAchValue
£516,150.0 LearningSupportValue

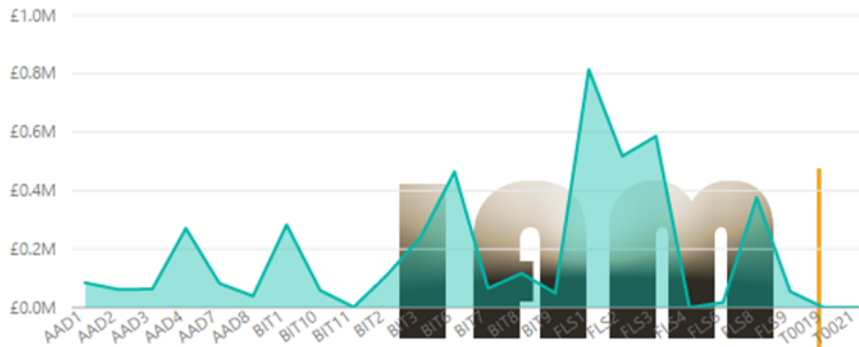
Proportion by Completion Status



SSA Tier 2 Funding Distribution



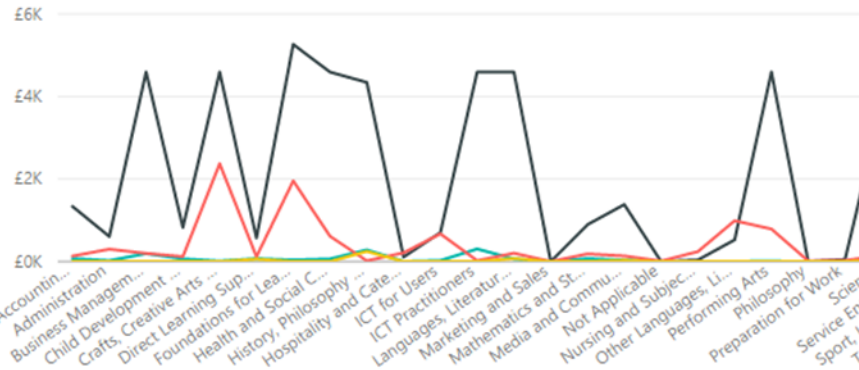
Provider Monitoring



INFO ASSET MANAGEMENT

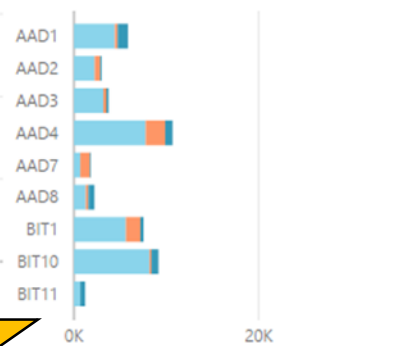
SSA Tier 2 by Funding and Learner Number

● Average of TotalValue ● Max of TotalValue ● Count of leamrefnumber ● Median of TotalValue



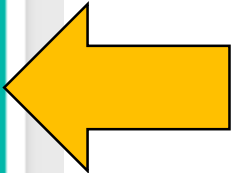
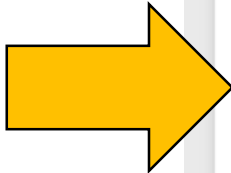
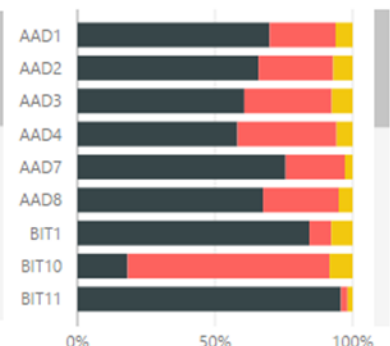
Funding by School and Band

band ● 280 to 359 ... ● 360 to 449 ... ● 450 to 539 ...



Learner Proportion by School/Dept

comps... ● Break in Learning ● Completed



<<<College Logo>>

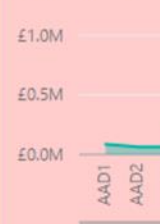
Key Funding Values - College Overview

£4,366,475.2
TotalValue

MAIN KPIs

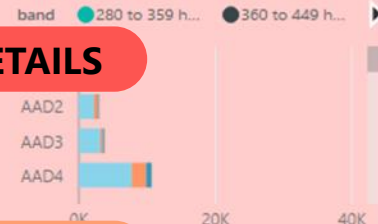
?

Provider Monitor



KPIs DETAILS

Funding by School and Band



INDICATORS

£3,083,448.4
ProcCashValue

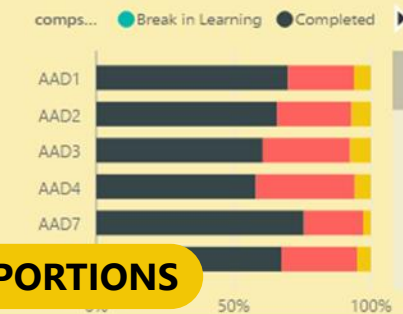
£498,118.0
AimAchValue

£516,150.0
LearningSupportValue

Proportion by Completion Status

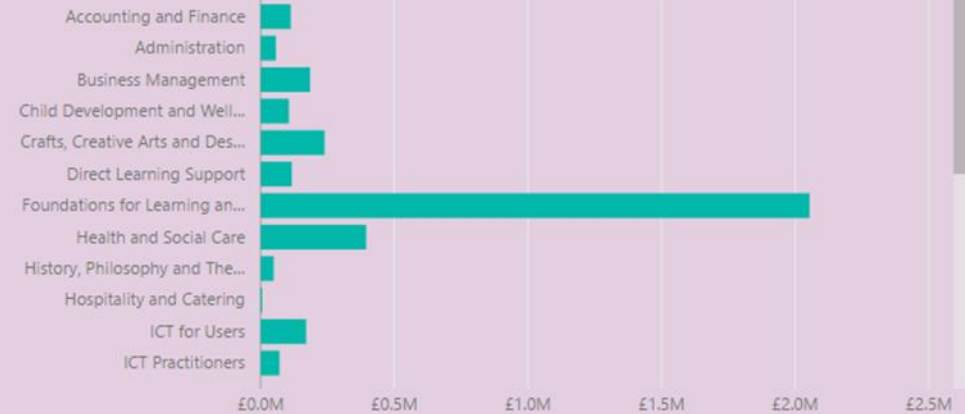


Learner Proportion by School/Dept



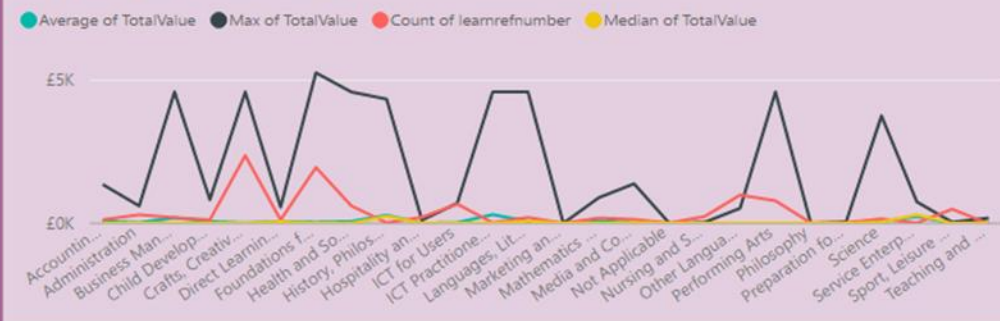
PROPORTIONS

SSA Tier 2 Funding Distribution



SSA TIER 2

SSA Tier 2 by Funding and Learner Number



<<<College Logo>>

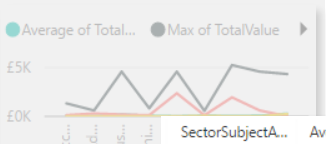
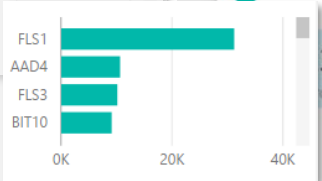
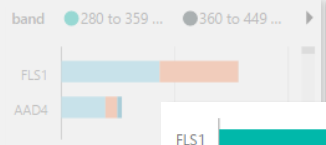
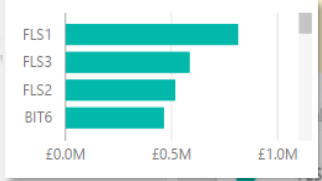
Key Funding Values - College Overview

£4.4M

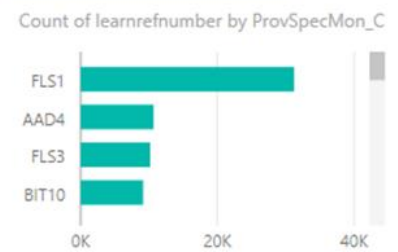
TotalValue

123K

Learn Ref Numbers



SectorSubjectA...	Average of TotalValue
Accounting an...	£71.4
Administration	£22.8
Business Mana...	£192.7
Child Develop...	£65.4
Total	£35.4



£3,083,448.4

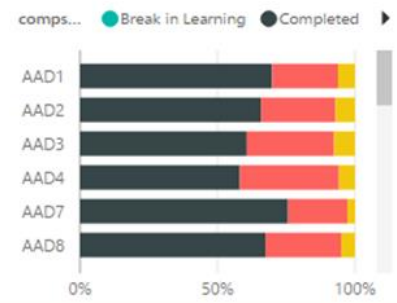
£498,118.0

£516,150.0

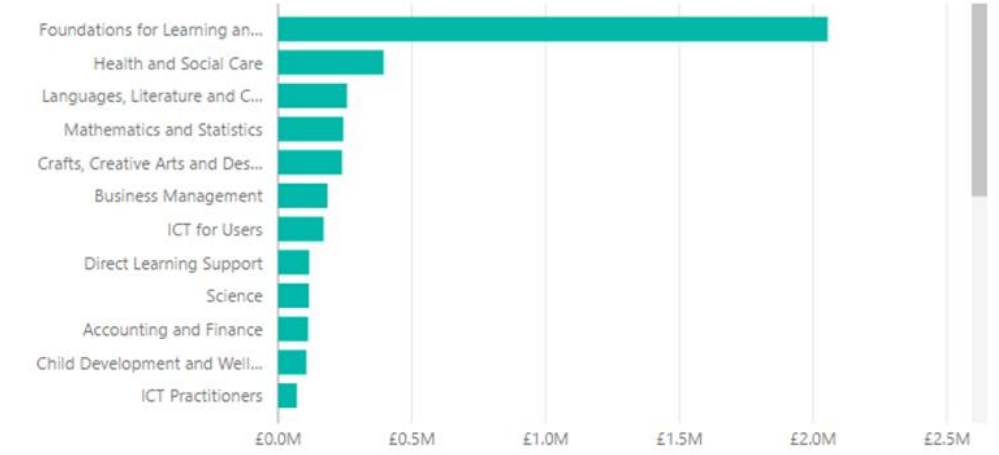
Count of learnrefnumber by compstatus



Count of learnrefnumber by ProvSpecMon_...



TotalValue by SectorSubjectAreaTier2Desc



SectorSubjectAreaTier2Desc	Average of TotalValue	Max of TotalValue	Count of learnrefnumber	Median of TotalValue
Accounting and Finance	£71.4	£1,336.0	132	£0.0
Administration	£22.8	£607.6	300	£0.0
Business Management	£192.7	£4,592.6	198	£0.0
Child Development and We...	£65.4	£829.0	120	£0.0
Crafts, Creative Arts and De...	£12.1	£4,592.6	2371	£0.0
Direct Learning Support	£70.4	£571.3	118	£58.7
Foundations for Learning a...	£36.9	£5,264.3	1956	£0.0
Health and Social Care	£64.1	£4,592.6	613	£0.0
History, Philosophy and The...	£281.7	£4,343.1	19	£246.2
Total	£35.4	£5,264.3	8607	£0.0

SSA TIER 2

Key Funding Values - College Overview

MAIN KPIs

£4.4M

Total Value

123K

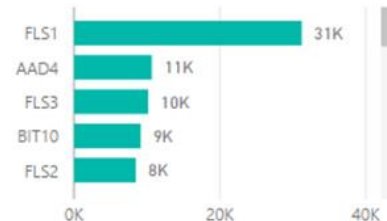
Learn Reference Numbers

KPIs DETAILS

Provider Monitoring Field/School/Dept



Learn references



INDICATORS

£498,118.0

AimAchValue

£3,083,448.4

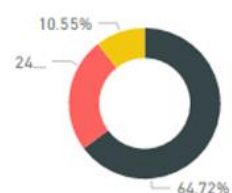
ProgCashValue

£516,150.0

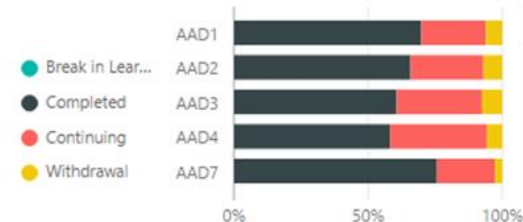
LearningSupportValue

PROPORTIONS

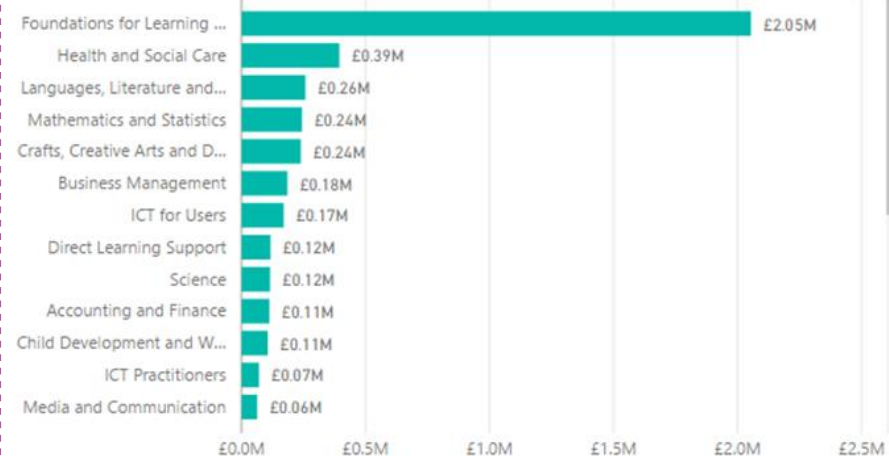
Count of learnrefnumber by c...



Proportion by Completion Status



TotalValue by SectorSubjectAreaTier2Desc



SectorSubjectAreaTier2Desc	Average of TotalValue	Max of TotalValue	Count of learnrefnumber	Median of TotalValue
ICT Practitioners	£305.4	£4,592.6	22	£0.0
History, Philosophy and Theology	£281.7	£4,343.1	19	£246.2
Service Enterprises	£239.1	£749.3	12	£299.7
Business Management	£192.7	£4,592.6	198	£0.0
Accounting and Finance	£71.4	£1,336.0	132	£0.0
Mathematics and Statistics	£71.3	£894.9	186	£0.0
Direct Learning Support	£70.4	£571.3	118	£58.7
Total	£35.4	£5,264.3	8607	£0.0

Branding/Targeting

The image shows a screenshot of the Info Asset Management website with several branding annotations. A blue line points from the 'FLEXIBLE LOGO' callout to the 'IAM' logo in the top right corner. Another blue line points from the 'MAIN COLOR' callout to the blue navigation bar and footer. The website content includes a navigation menu with 'HOME', 'ABOUT US', 'CONTACT US', 'PRODUCTS', 'SERVICES', and 'PRIVACY'. The main heading is 'College Information Asset Manager'. The main text describes the product as a strategic information asset manager. A central image shows a laptop displaying the software interface. Below this is a 'Try CIAM' button. The footer is divided into four columns for different professional groups: IT Professionals, Finance Professionals, Quality Professionals, and Marketing and Student Services Professionals.

FLEXIBLE LOGO

INFO ASSET MANAGEMENT

← → ↻ infoassetmanagement.com/products.html

Facebook Gmail Pinterest File sharing and Archivos - Dropbox Inicie sesión en su ImageShack - All Merging States -

IAM | **INFO ASSET MANAGEMENT**

HOME ABOUT US CONTACT US PRODUCTS SERVICES PRIVACY

College Information Asset Manager

The amount of information within colleges is constantly expanding, and to stay competitive, your data-insight strategy has to keep pace with business change. With multiple sources of data, it can be difficult for your users to get access to the information they need, when they need it. College Information Asset Manager (CIAM) is not just a dashboard but your strategic information asset manager to help you address these challenges here.

Try CIAM

IT Professionals
Because we know as a Technology manager you are busy. CIAM also tracks technical updates for you.
•Use CIAM to understand the technology of your

Finance Professionals
There is a lot of pressure balance the books and as a Finance Director you have a key priority to balance requirements and ensure sustainability. CIAM also tracks technical updates for you

Quality Professionals
Because we know the importance of teaching, learning and outcomes we have developed models to ensure these are triangulated to inform practice
•Use CIAM to understand the trends in

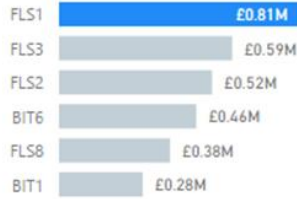
Marketing and Student Services Professionals
CIAM will ensure that you are not just aware of your applications and conversion rates but also aware of other strategic information sets to help with recruitment. Why don't you find more about your tweets...

MAIN COLOR

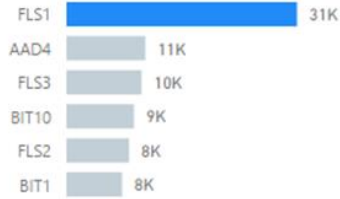
£4.4M
Total Value

123K
Learn Reference Numbers

Provider Monitoring Field/School/Dept



Learn references

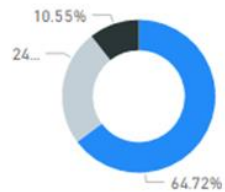


£498,118.0
AimAchValue

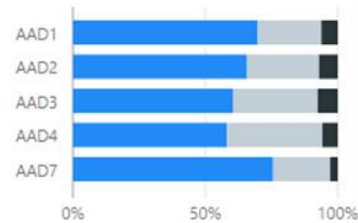
£3,083,448.4
ProgCashValue

£516,150.0
LearningSupportValue

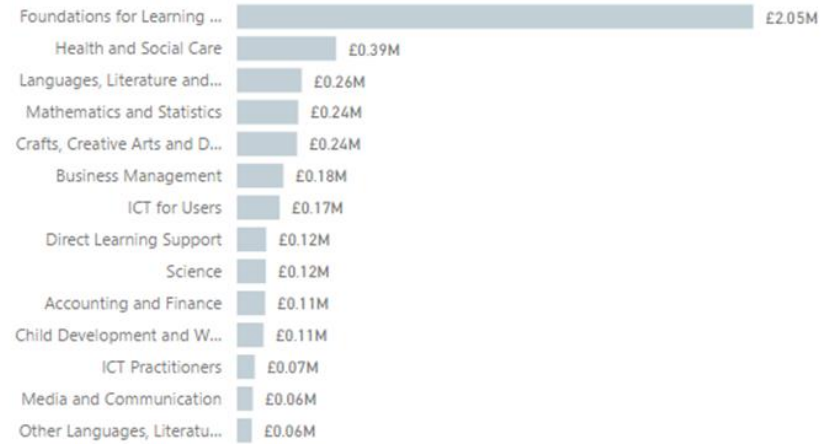
Proportion by Completion Status



- Break in Learn...
- Completed
- Continuing
- Withdrawal



SSA Tier 2 Funding Distribution



SectorSubjectAreaTier2Desc	Average of TotalValue	Max of TotalValue	Count of learnrefnumber	Median of TotalValue
ICT Practitioners	£305.4	£4,592.6	22	£0.0
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Accounting and Finance	£71.4	£1,336.0	132	£0.0
Mathematics and Statistics	£71.3	£894.9	186	£0.0
Direct Learning Support	£70.4	£571.3	118	£58.7
Child Development and Well Being	£65.4	£829.0	120	£0.0
Languages, Literature and Culture of ...	£65.1	£4,592.6	203	£72.7
Health and Social Care	£64.1	£4,592.6	613	£0.0
Science	£62.1	£3,757.6	156	£43.7
Total	£35.4	£5,264.3	8607	£0.0

band

All

KEY METRICS

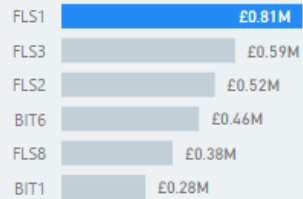
£4.4M

Total Value

123K

Learn Reference Numbers

Provider Monitoring Field/School/Dept



Learn references



£498,118.0

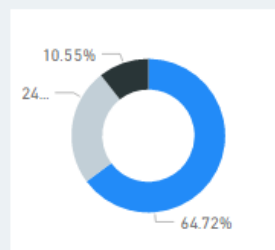
AimAchValue

£3,083,448.4

ProgCashValue

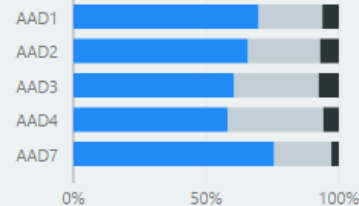
£516,150.0

LearningSupportValue

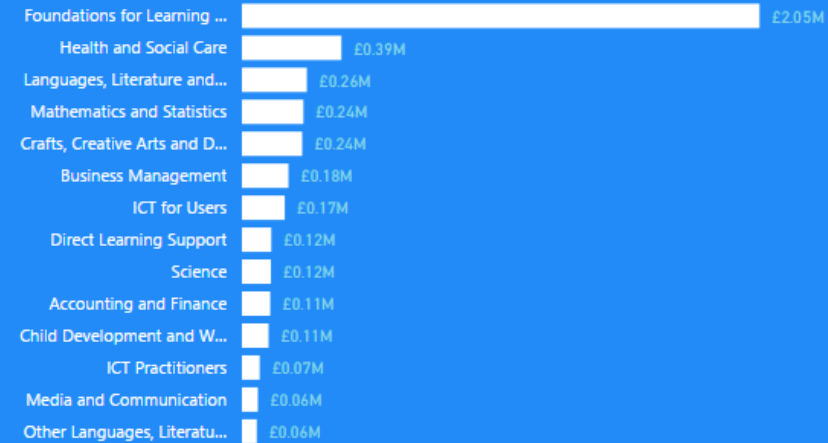


Proportion by Completion Status

- Break in Lear...
- Completed
- Continuing
- Withdrawal



SSA Tier 2 Funding Distribution



SectorSubjectAreaTier2Desc	Average of TotalValue	Max of TotalValue	Count of learnrefnumber	Median of TotalValue
ICT Practitioners	£305.4	£4,592.6	22	£0.0
History, Philosophy and Theology	£281.7	£4,343.1	19	£246.2
Service Enterprises	£239.1	£749.3	12	£299.7
Business Management	£192.7	£4,592.6	198	£0.0
Accounting and Finance	£71.4	£1,336.0	132	£0.0
Mathematics and Statistics	£71.3	£894.9	186	£0.0
Direct Learning Support	£70.4	£571.3	118	£58.7
Child Development and Well Being	£65.4	£829.0	120	£0.0
Languages, Literature and Culture of ...	£65.1	£4,592.6	203	£72.7
Health and Social Care	£64.1	£4,592.6	613	£0.0
Science	£62.1	£3,757.6	156	£43.7
Total	£35.4	£5,264.3	8607	£0.0

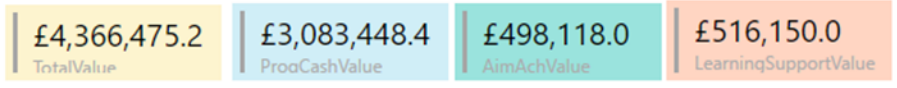
Font
Segoe UI

8 ●
9 ●
14 ●
30 ●

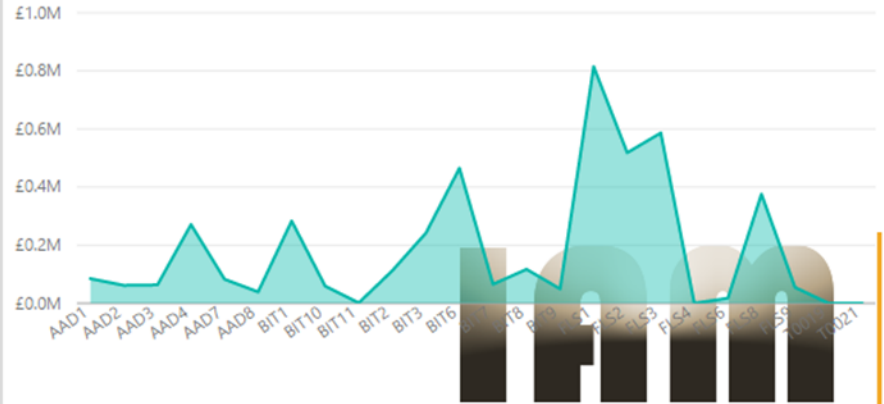
Types
Normal
Bold



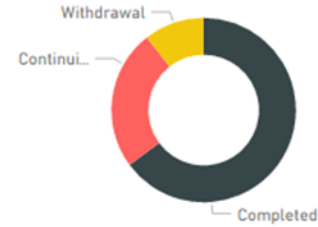
Key Funding Values - College Overview



Provider Monitoring

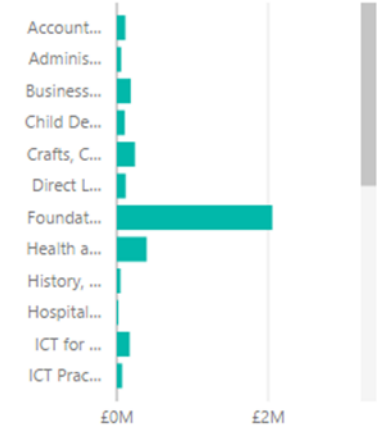


Proportion by Completion Status



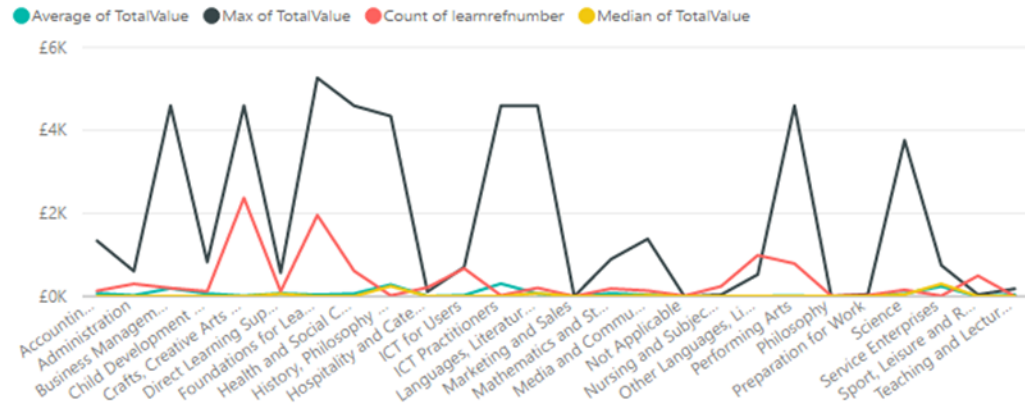
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SSA Tier 2 Funding Distribution

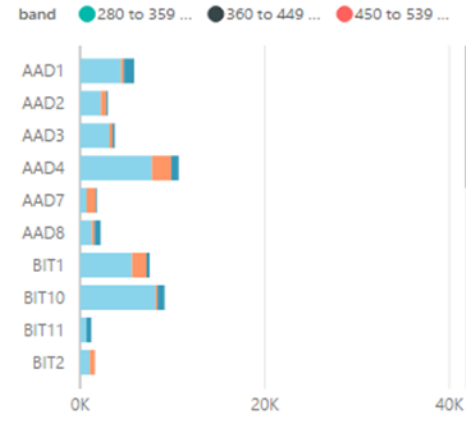


INFO ASSET MANAGEMENT

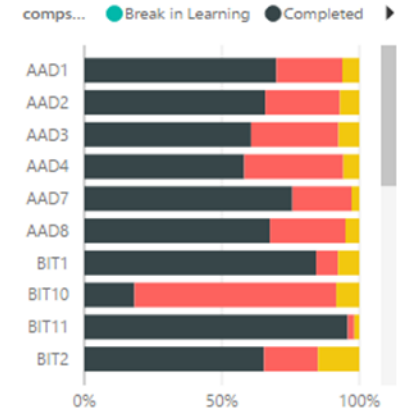
SSA Tier 2 by Funding and Learner Number



Funding by School and Band



Learner Proportion by School/Dept

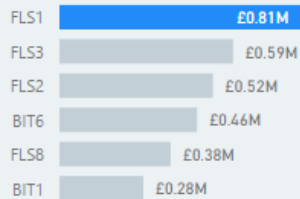


KEY METRICS

£4.4M
Total Value

123K
Learn Reference Numbers

Provider Monitoring Field/School/Dept



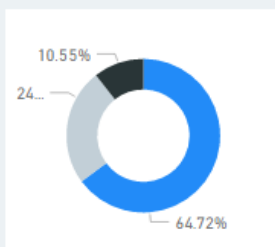
Learn references



£498,118.0
AimAchValue

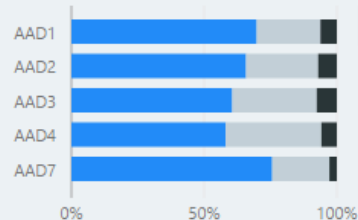
£3,083,448.4
ProgCashValue

£516,150.0
LearningSupportValue

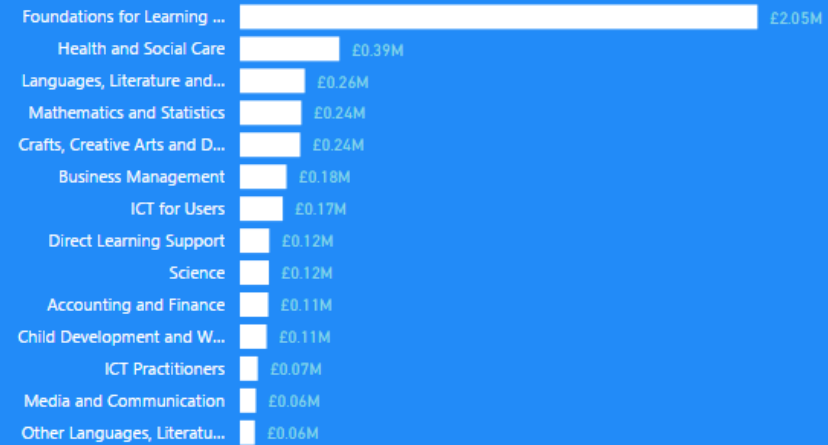


Proportion by Completion Status

- Break in Lear...
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- Withdrawal



SSA Tier 2 Funding Distribution

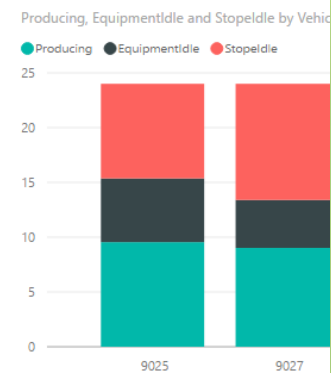
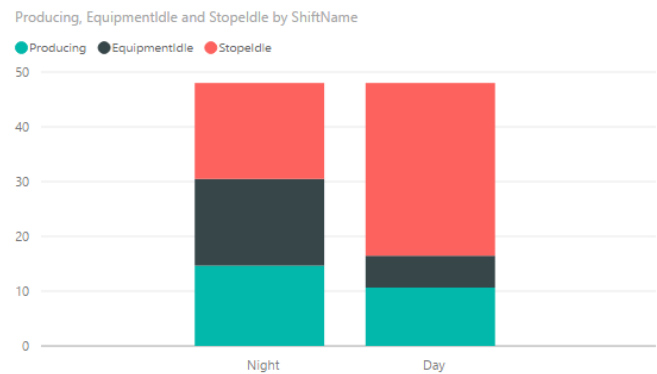
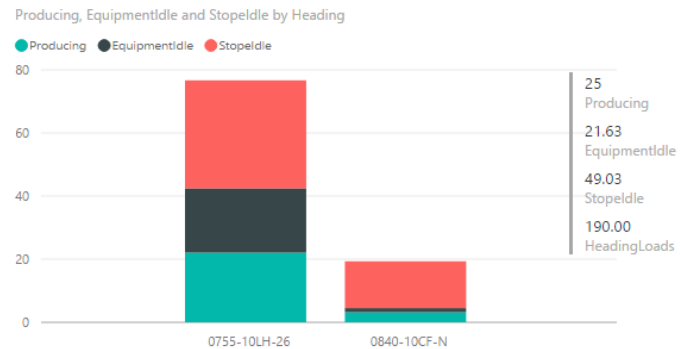
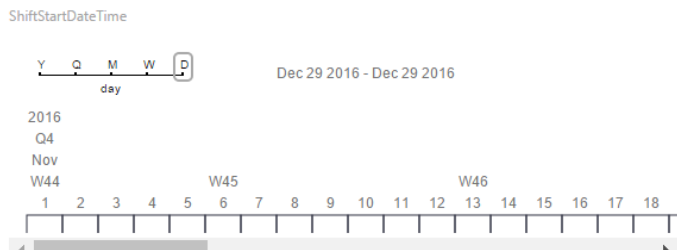


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Science	£62.1	£3,757.6	156	£43.7
Total	£35.4	£5,264.3	8607	£0.0

Polling Question

Selecting the right visual is the most important aspect of a report.

- a) True
- b) False



Wrangler

1 PAGE ONE

ShiftStartDateTime

11/1/2016 1/5/2017

6.14K

HeadingLoads

1,019

Producing

1.97K

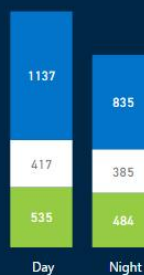
StopIdle

801.81

EquipmentIdle

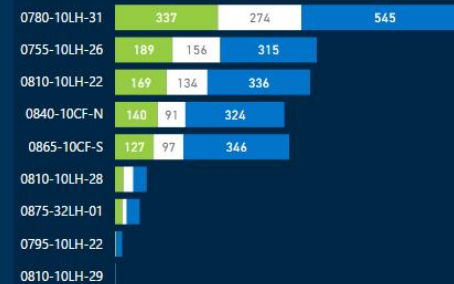
Shift Name Details

Producing EquipmentIdle StopIdle



Producing, EquipmentIdle and StopIdle by Heading

Producing EquipmentIdle StopIdle



Producing, EquipmentIdle and StopIdle by VehicleNumber

Producing EquipmentIdle StopIdle



Magasins

All



Panier moyen

82.70 €

Nombre d'articles moyens

3.94

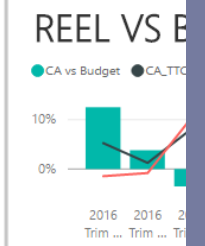
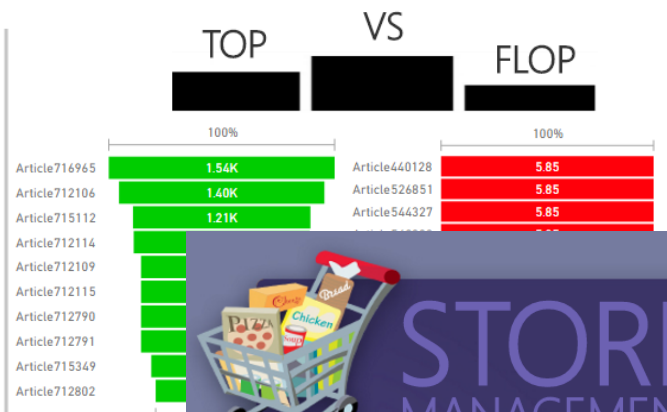
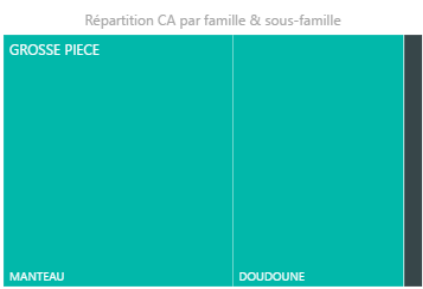
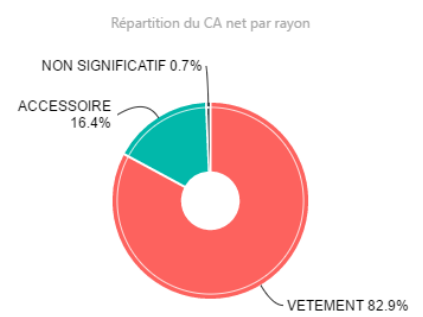
CA par m²

310.14 €

Date

1/1/2016 12/31/2016

RAYON, FAMILLE & SOUS-FAMILLE



STORE MANAGEMENT

Date

1/1/2016 12/31/2016

Magasins

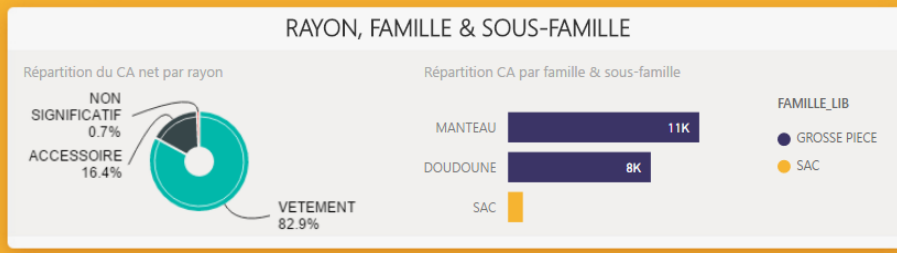
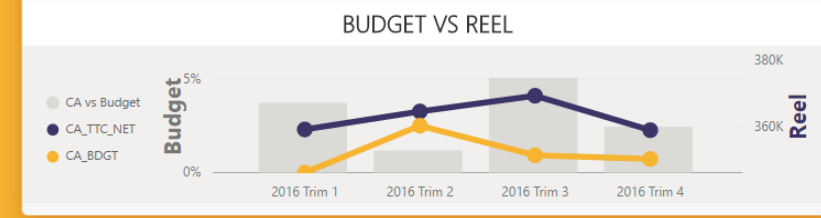
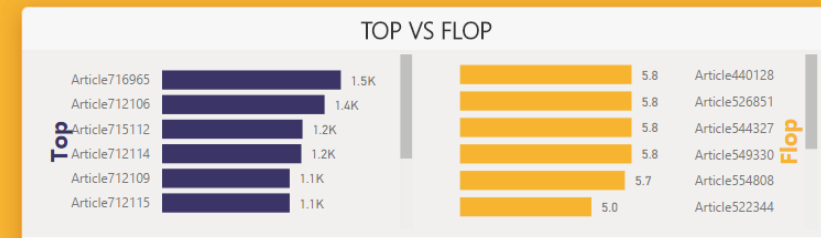
All

Powerful Report of Store Management developed in Power BI

82.70 €
Panier moyen

3.94
Nombre d'articles moyens

310.14 €
CA par m²

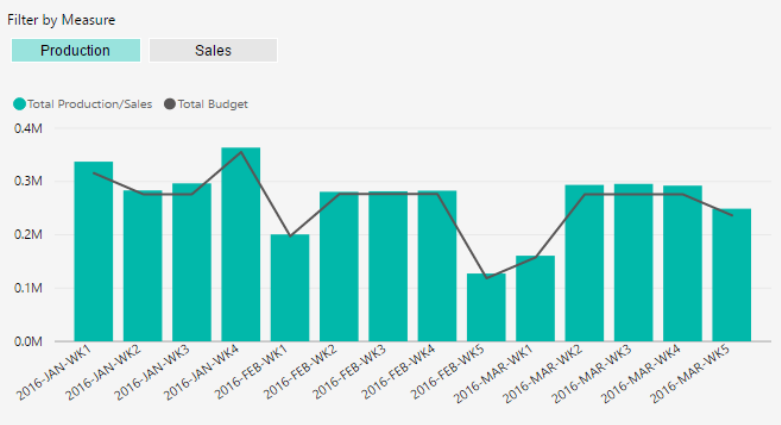
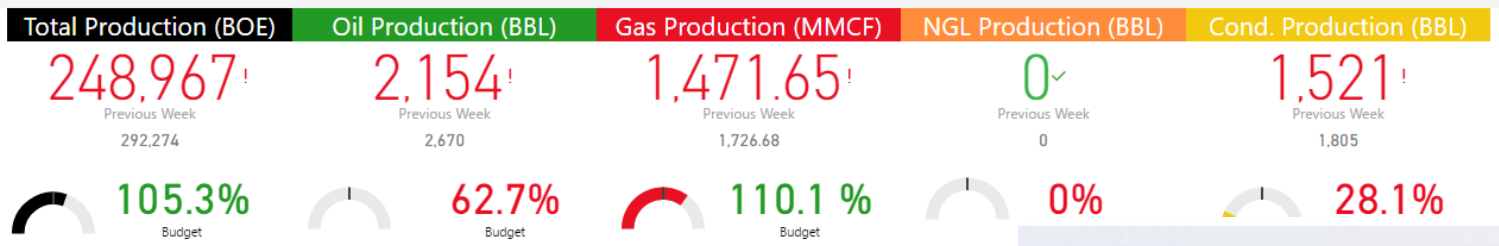


Production



Filter by District: DISTRICT3 | DISTRICT4 | DISTRICT5 | DISTRICT6 | DISTRICTP | DISTRICTR

Operating Week: 2016-MAR-WK5



Hitachi Solutions | PRODUCTION

Operating Week: 2016-MAR-WK5 | District: All

Total Production (BOE)	Oil Production (BBL)	Gas Production (MMCF)	NGL Production (BBL)	Cond. Production (BBL)
517.52K	165K	2.10K	0	3,138
Previous Week: 603,767	Previous Week: 190,379	Previous Week: 2,458.96	Previous Week: 0	Previous Week: 3,594
106% Budget	105% Budget	113% Budget	0% Budget	34% Budget

Production Sales Me...: All

Legend: Total Production/Sales (Teal), Total Budget (Grey)

Week	Total Production/Sales (M)	Total Budget (M)
2016-JAN-WK1	0.55	0.55
2016-JAN-WK2	0.50	0.50
2016-JAN-WK3	0.50	0.50
2016-JAN-WK4	0.55	0.55
2016-FEB-WK1	0.45	0.45
2016-FEB-WK2	0.50	0.50
2016-FEB-WK3	0.50	0.50
2016-FEB-WK4	0.50	0.50
2016-FEB-WK5	0.25	0.25
2016-MAR-WK1	0.35	0.35
2016-MAR-WK2	0.55	0.55
2016-MAR-WK3	0.55	0.55
2016-MAR-WK4	0.55	0.55
2016-MAR-WK5	0.50	0.50

Prospect	Gain (M)	Prospect	Loss (M)
Prospect33	0.17M	Prospect91	5.7
Prospect2	0.06M	Prospect106	12.7
Prospect81	0.05M	Prospect115	40.2
Prospect95	0.03M	Prospect4	45.9
Prospect76	0.02M	Prospect54	73.4

Polling Question

A report that follows these best practices will:

- a) Clearly convey information without distraction
- b) Lower the risk of misinterpretation
- c) Provide consumer with the ability to make better informed decisions
- d) All of the above

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[Guy in a Cube](#)

[sqlbi Visual Reference Guide](#)

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