BASICS OF ENTERPRISE REPORTING

Reporting Perspectives

- Function level
- Internal/external
- Role based
- Strategic/Operational
- Summary/detail
- Standard/adhoc
- Purpose
- Technology platform-centric

Function level

- Consumed by user within the department or geographic location or region or decision makers at corporate level.

Internal/external

- Consumers of reports may be external to the enterprise.

Role based

- Provide standard format of report to similar roles across the enterprise.

Strategic/Operational

- Strategic reports inform the alignment with the goals.
  - Quarterly revenue report
- Operational reports present transaction facts.
  - Daily cash flow summary

Summary/detail

- Summary reports do not provide transactional level information.

Standard/adhoc

- On demand reports are critical for business decision making

Purpose

- Statutory
  - Bank to reserve bank
  - Audit reports
- Analytical reports
  - ✓Look into a particular area of operation like sales, production etc.
  - ✓Find pattern in historical data

Technology/platform centric

- Reports could be protected to be used by a specific person during specific hours from a specific device.

Report Standardization

- Data Standardization
- Content Standardization
- Presentation Standardization
- Metrics Standardization
- Reporting tool Standardization

Data Standardization

- To provide the data based on roles.

Content Standardization

- Naming the report with proper name.

Presentation Standardization

- Naming convention within the report, date formats, color, logos, fonts, page formats etc.

Metrics Standardization

- Choosing metric that best reflect the status of performance to help teams control the progress toward their goals.

Reporting tool standardization

- For specific requirement particular reporting tool.
- Enterprise deploy specific class of reporting tools for different requirements of departments/locations/audience.

Common report layout types

- Tabular reports
- Matrix reports
- List reports
- Chart reports
- Gauge reports

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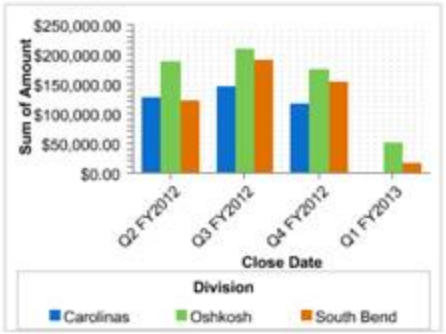
Salesforce Mobile Dashboards

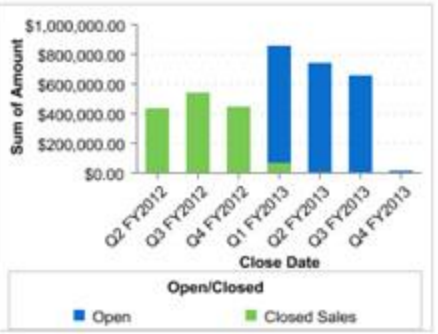
Executive Dashboard

Company Pipeline by Month with Forecast

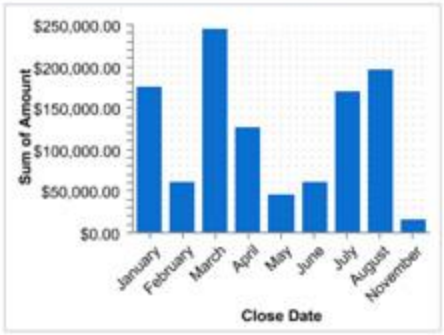
Sales by Division



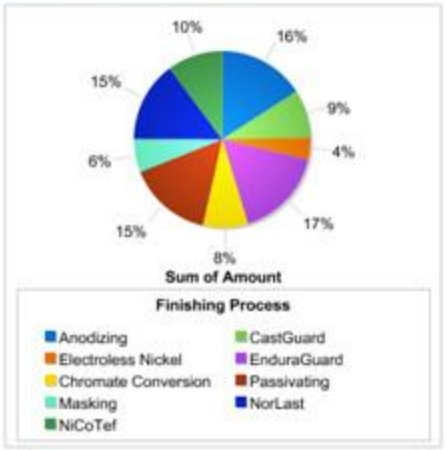
Sales and Opportunities



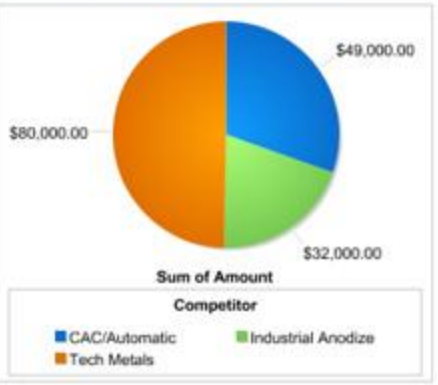
New Business Pipeline by Month



Sales by Finishing Type



Opportunities Lost by Competitor

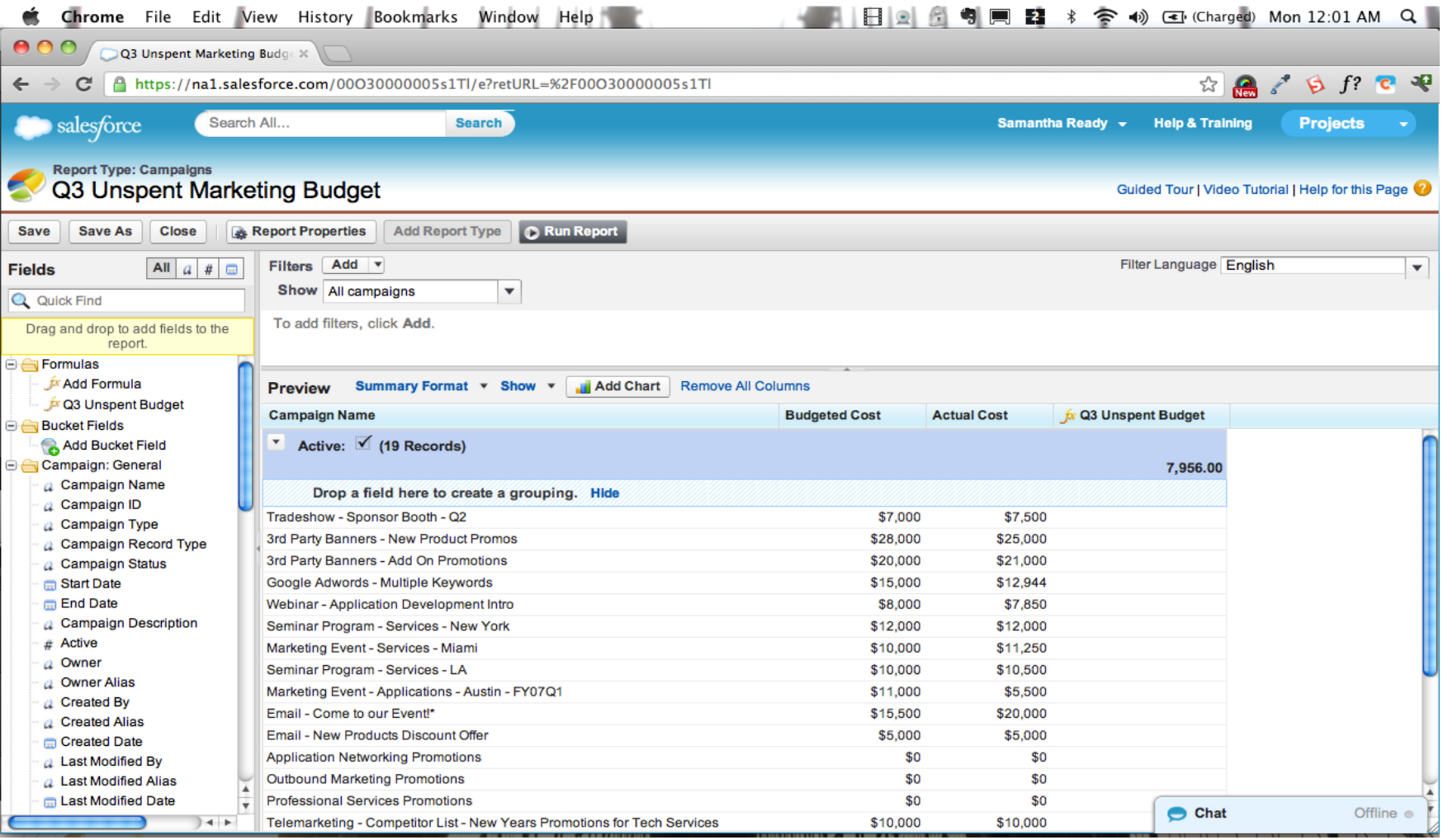


Reason for Opportunity Wins

Sales by Supplier

Gauge report

Table report



Matrix and chart report

List Report

Sales Analysis

Product Total Product Customer Europe

Sales Analysis Reset

Search Display 10 Go

Product	Customer	Time	Sales	Prior Period	Change	Percent Change
Hardware	France	Q1.06	516260	472307	43953	9
Hardware	Spain	Q4.06	133449	118218	15231	13
Hardware	Germany	Q4.06	638662	663524	-24862	-4
Hardware	Italy	Q4.06	300803	278440	22363	8
Hardware	France	Q4.06	607580	428493	179087	42
Hardware	United Kingdom	Q2.06	1590795	1739746	-148951	-9
Hardware	Spain	Q2.06	155819	132341	23479	18
Hardware	Germany	Q2.06	699964	644067	55897	9
Hardware	Italy	Q2.06	298935	260856	38079	15
Hardware	France	Q2.06	552886	516260	36626	7

Spread Sheet row(s) 1 - 10 of 40 Next

Tabular report

- Tabular report have finite number of columns, typically representing fields in a data base. Tabular report has header and footer, and repeating detail rows.
- Data can be grouped on various fields
- Each can have its own header, footer, breaks and subtotal
  - Logging detailed transactions

Matrix report

- It summarizes information for analysis.
- Matrix report columns are not static but are based on group values.
- Matrix, cross –tab or pivot report aggregates data along x-axis and y-axis of a grid to form a summarized table.

List reports

- A list report has a single, rectangular detail area that repeats for every record or group value in the underlying data set.
- Its main purpose is to contain other related data regions and report items and to repeat them for a group of values.

Gauge reports

- These reports are with gauge controls.
- If gauge controls are appropriately designed, one look at the gauge, to say whether the enterprise is doing well, requires attention or is in bad state.
- It depicts the values against a certain threshold.
- Red – Immediate attention
- Amber – Cause for concern but not urgent
- Green – Things are going good

Critical focus areas of enterprise reporting in OLAP world

- Single version of truth
- Role based delivery
- Anywhere/anytime/any device access
- Personalization
- Security
- Alerts
- Reports repository

Balanced Score Card

- The balanced scorecard is designed to identify the financial and non financial measures and attach some targets to them so that at later point in time during review it is possible to decide whether the organization performance has met the set expectations or not.

Perspective of balanced score card

- Financial perspective
- Customer perspective
- Internal business process perspective
- Learning and growth perspective

Financial perspective

- It addresses the question of how share holders view the firm and which financial goals are desired from the share holders perspective.

Customer perspective

- It addresses the question of how the firm is viewed by its customers and whether the firm will be able to fulfill customer expectations.

Internal business process perspective

- It identifies the processes in which the organization must excel to satisfy its shareholders expectation of good financial returns and also keep its customers happy and loyal

Learning and growth perspective

- It identifies the competencies that the employees of the organization must acquire for long term improvement , sustainability and growth.

Balanced Scorecard as Strategy Map

- Four – Box model ↔ Strategy Map
- Each of the four balanced scorecard perspectives can be described in terms of the following parameters:

1. Objectives – What is it that you wish to achieve?
2. Measurement – How do you know if you have been able to achieve that stated objectives?
3. Target – What is the level of performance expected or the level of improvement expected?
4. Initiative – What is it that you would do to achieve your targets and thereby your objectives?

Dashboards

- Dashboards can provide a unique and powerful means to present information. Most dashboards fail to communicate efficiently and effectively, not because of inadequate technology (at least not primarily), but because of poorly designed implementations.

Dashboards

- No matter how great the technology, a dashboard's success as a medium of communication is a product of design, a result of a display that speaks clearly and immediately. Dashboards can tap into the tremendous power of visual perception to communicate, but only if those who implement them understand visual perception and apply that understanding through design principles and practices that are aligned with the way people see and think.

A Flashy Dashboard

Dashboards

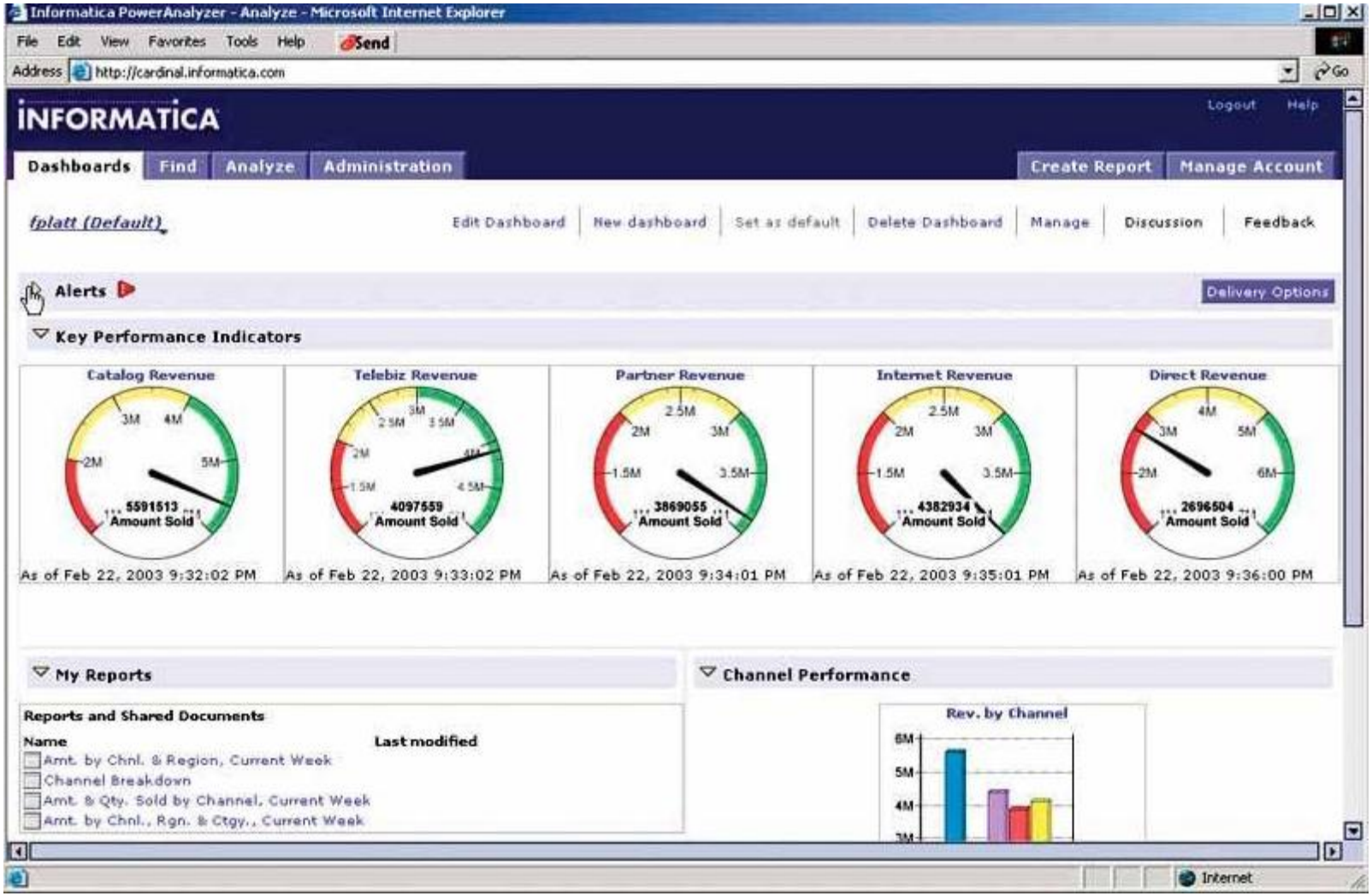
- In a genuine attempt to please their customers, software engineers focus on checking all the items, one by one, off of lists of requested features. This approach makes sense to technology-oriented software engineers, but it results in lumbering beasts. Customers are expert in knowing what they need to accomplish, but not in knowing how software ought to be designed to support their needs. Allowing customers to design software through feature requests is the worst form of disaster by committee.

alerts

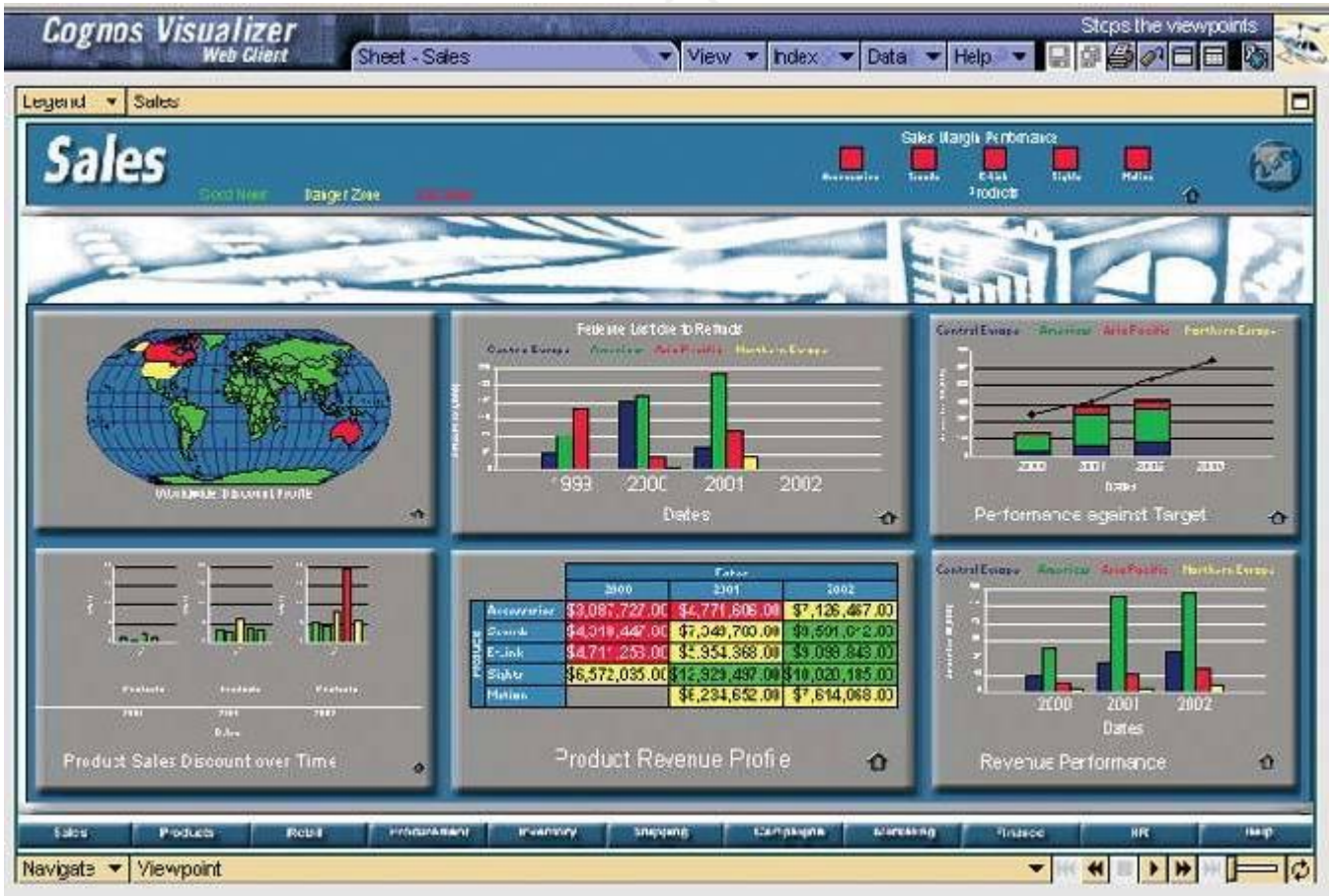

BUSINESS OBJECTS
My Analytics
My Business
My KPIs
Add a page
Delete this page
Customize
Order Size$
Avg. Order Size $
Sales
Online Sales
Order Size Trend
Count
Migrants from Active to Dormant
Profit Trends
Alert
Do Action...
Show:
Default View
Subject
Date
Attrition of Collectors exceeds 4%
Jun 6, 2001
Leavers have exceeded Joiners for Collectors
Jun 6, 2001
Average fullfillment time has doubled for Collectible wines
Jun 6, 2001
Revenue pipe for quarter 5% below target
Jun 6, 2001
Large orders below plan
Jun 6, 2001
Stocks at 5% of re-order level
Jun 6, 2001
Profit trend information updated
Nov 21, 2001
Leavers Trend increasing
Nov 21, 2001
Pareto of computer returns
COMPUTERS RETURNS ACROSS MODELS
DESKTOP MODEL 1
DESKTOP MODEL 2
DESKTOP MODEL 3
100.00%
80.00%
60.00%
40.00%
20.00%
0.00%
A B C D E F G H I O
B A D C G E I H F O
B A D E C G I H J O
A: Setup Difficulty - B: Not Easy to Use - C: Won't Print - D: Not Fast Enough - E: Wrong Manual
F: Won't Start - G: Internet Inoperative - H: Missing Cord - I: Screen Small - J: Too Heavy
K: Incompatible - O: Others


http://127.0.0.1:8968/OWDemo-OWProject-context-root/BIProductKPIs.jsp
ORACLE
DEVELOPER SUITE
10g
Product Category Market Analysis
Jump to
Product Category Market Analysis
Electronics
Hardware
Software
Peripherals
Photo
Sales vs. Percent Margin
Sales Revenue
Margin %
Sales vs. Cost of Sales
Sales Cost
Sales Revenue
% Difference in Sales and Margin
2001
Sales % Change Year Ago
Margin % Change Year Ago
Contribution to 2001 Sales
11.89%
3.422%
25.61%
59.08%
Contribution to 2001 Margin
12.07%
4.028%
15.70%
68.21%
Moving Averages for Sales
2001

Color Indicator in gauge



Look At Visual Appeal



Definition of Dashboard

- ***A dashboard is a visual display of the most important information needed to achieve one or more objectives; consolidated and arranged on a single screen so the information can be monitored at a glance.***

Dashboards

- **Dashboards are visual displays.**

Dashboards

- **Dashboards display the information needed to achieve specific objectives:** To achieve even a single objective often requires access to a collection of information that is not otherwise related, often coming from diverse sources related to various business functions. It isn't a specific type of information, but information of whatever type that is needed to do a job. It isn't just information that is needed by executives or even by managers; it can be information that is needed by anyone who has objectives to meet. The required information can be and often is a set of KPIs, but not necessarily, for other types of information might also be needed to do one's job.

Dashboard

- **A dashboard fits on a single computer screen:** The information must fit on a single screen, entirely available within the viewer's eye span so it can all be seen at once, at a glance. If you must scroll around to see all the information, it has transgressed the boundaries of a dashboard. If you must shift from screen to screen to see it all, you've made use of multiple dashboards. The object is to have the most important information readily and effortlessly available so you can quickly absorb what you need to know.

Dashboard

- **Must the information be displayed in a web browser? :** That might be the best medium for most dashboards today, but it isn't the only acceptable medium, and it might not be the best medium 10 years from now.

Dashboard

- **Must the information be constantly refreshed in real time? :** Only if the objectives that it serves require real-time information. If you are monitoring air traffic using a dashboard, you must immediately be informed when something is wrong. On the other hand, if you are making strategic decisions about how to boost sales, a snapshot of information as of last night, or perhaps even the end of last month, should work fine.

Dashboards

- **Dashboards are used to monitor information at a glance :** Despite the fact that information about almost anything can be appropriately displayed in a dashboard, there is at least one characteristic that describes almost all the information found in dashboards: it is abbreviated in the form of summaries or exceptions.

Dashboards

- This is because you cannot monitor at a glance all the details needed to achieve your objectives. A dashboard must be able to quickly point out that something deserves your attention and might require action. It needn't provide all the details necessary to take action, but if it doesn't, it ought to make it as easy and seamless as possible to get to that information. Getting there might involve shifting to a different display beyond the dashboard, using navigational methods such as drilling down. The dashboard does its primary job if it tells you with no more than a glance that you should act.

Categorizing Dashboards

- Classifying Dashboards by Role
- Classifying Dashboards by Type of data
- Classifying Dashboards by Data domain
- Classifying Dashboards by Type of measures
- Classifying Dashboards by Span of data

Categorizing Dashboards

- Classifying Dashboards by Update frequency
- Classifying Dashboards by Interactivity
- Classifying Dashboards by Mechanisms of display
- Classifying Dashboards by Portal functionality
- Classifying Dashboards by platform

Variables	Values
Role	Strategic, Analytical, Operational
Type of data	Quantitative, Non Quantitative
Data domain	Sales, Finance, Marketing, Manufacturing, Human Resources
Type of measures	Balanced Scorecard, Six Sigma, Non-performance
Span of data	Enterprise-wide, Departmental, Individual
Update frequency	Monthly, Weekly, Daily, hourly, Real time or near real time
Interactivity	Static display, Interactive display (drill-down, filters, etc.)
Mechanisms of display	Primarily graphical, Primarily text, Integration of graphics and text
Portal functionality	Conduit to additional data, No portal functionality
Platform	Server-client, browser

Classifying Dashboards by Role

- ***Dashboards for strategic purposes***
- ***Dashboards for analytical purposes***
- ***Dashboards for operational purposes***

Dashboards for strategic purposes

- The primary use of dashboards today is for strategic purposes. The popular "executive dashboard," and most of the dashboards that support managers at any level in an organization, are strategic in nature. They provide the quick overview that decision makers need to monitor the health and opportunities of the business.

Dashboards for strategic purposes

- Extremely simple display mechanisms work best for this type of dashboard. Given the goal of long-term strategic direction, rather than immediate reactions to fast-paced changes, these dashboards don't require real-time data; rather, they benefit from static snapshots taken monthly, weekly, or daily. They are not designed for the interaction that might be needed to support further analysis, because this is rarely the direct responsibility of the strategic manager.

Dashboards for analytical purposes

- Dashboards that support data analysis require a different design approach. In these cases the information often demands greater context, such as rich comparisons, more extensive history, and subtler performance evaluators. Like strategic dashboards, analytical dashboards also benefit from static snapshots of data that are not constantly changing from one moment to the next. However, more sophisticated display media are often useful for the analyst who must examine complex data and relationships and is willing to invest the time needed to learn how they work.

Dashboards for analytical purposes

- Analytical dashboards should support interactions with the data, such as drilling down into the underlying details, to enable the exploration needed to make sense of it. that is, not just to see what is going on but to examine the causes. The dashboard itself, as a monitoring device that tells the analyst what to investigate, need not support all the subsequent interactions directly, but it should link as seamlessly as possible to the means to analyze the data.

Dashboards for operational purposes

- As with strategic dashboards, the display media on operational dashboards must be very simple. In the stressful event of an emergency that requires an immediate response, the meaning of the situation and the appropriate responses must be extremely clear and simple, or mistakes will be made.

Dashboards for operational purposes

- When dashboards are used to monitor operations, they must be designed differently from those that support strategic decision making or data analysis. The characteristic of operations that uniquely influences the design of dashboards most is their dynamic and immediate nature. When you monitor operations, you must maintain awareness of activities and events that are constantly changing and might require attention and response at a moment's notice.

Dashboards for operational purposes

- In contrast to strategic dashboards, operational dashboards must have the means to grab your attention immediately if an operation falls outside the acceptable threshold of performance. Also, the information that appears on operational dashboards is often more specific, providing a deeper level of detail.

Classifying Dashboards by Type of data

- Dashboards are useful for all kinds of work. Whether you're a meteorologist monitoring the weather, an intelligence analyst monitoring potential terrorist chatter, a CEO monitoring the health and opportunities of a multi-billion dollar corporation, or a financial analyst monitoring the stock market, a well-designed dashboard could serve you well.

Non Quantitative Dashboard Data

- Many people think of dashboards and KPIs as nearly synonymous. It is certainly true that dashboards are a powerful medium for presenting KPIs, but not all quantitative information that might be useful on a dashboard belongs to the list of defined KPIs. In fact, not all information that is useful on dashboards is even quantitative the critical information needed to do a job cannot always be expressed numerically.

Non Quantitative Dashboard Data

- Top 10 customers
- Issues that need to be investigated
- Tasks that need to be completed
- People who need to be contacted

Thirteen Common Mistakes in Dashboard Design

- *Exceeding the boundaries of a single screen*
- *Supplying inadequate context for the data*
- *Displaying excessive detail or precision*
- *Choosing a deficient measure*
- *Choosing inappropriate display media*
- *Introducing meaningless variety*

Thirteen Common Mistakes in Dashboard Design

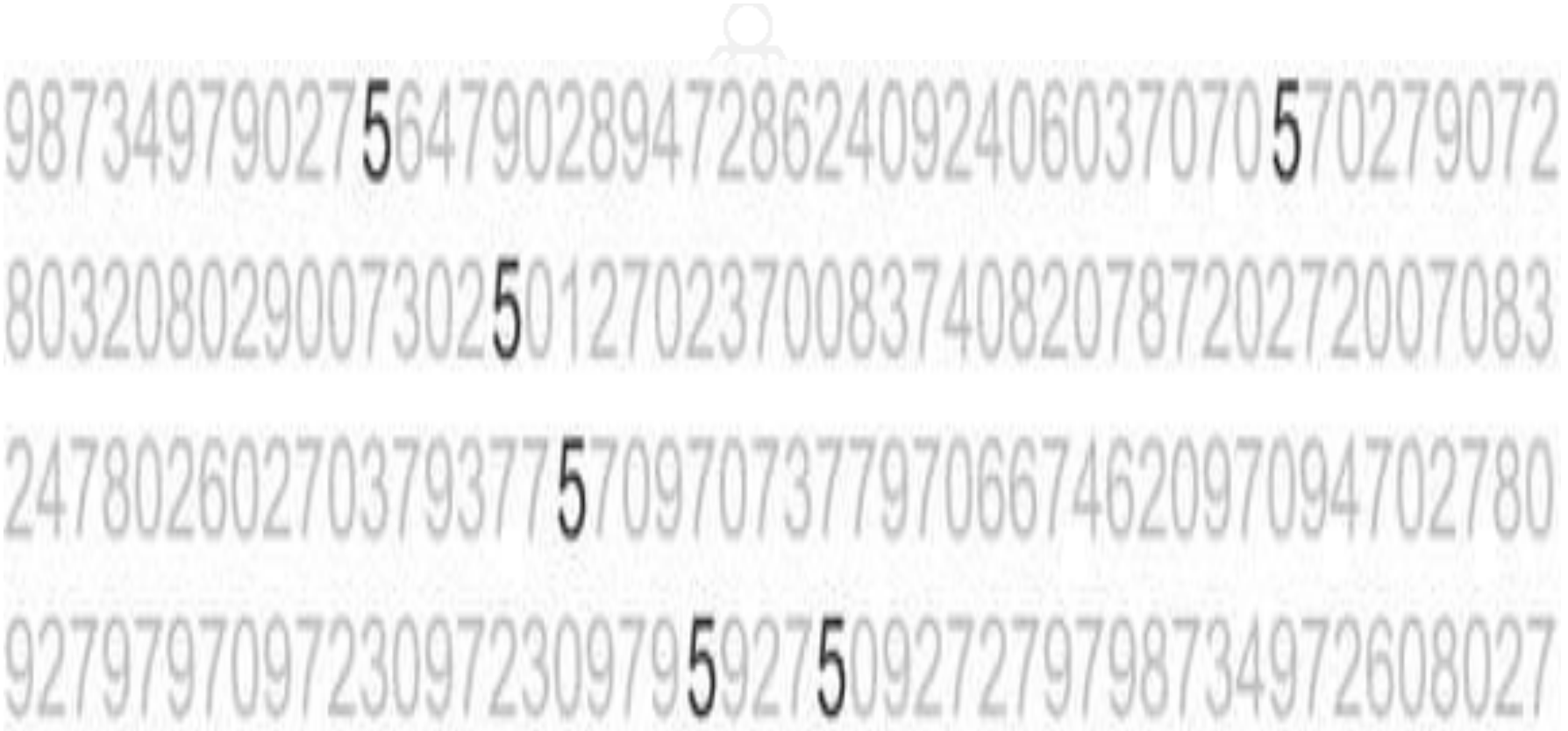
- *Using poorly designed display media*
- *Encoding quantitative data inaccurately*
- *Arranging the data poorly*
- *Highlighting important data ineffectively or not at all*
- *Cluttering the display with useless decoration*
- *Misusing or overusing color*
- *Designing an unattractive visual display*

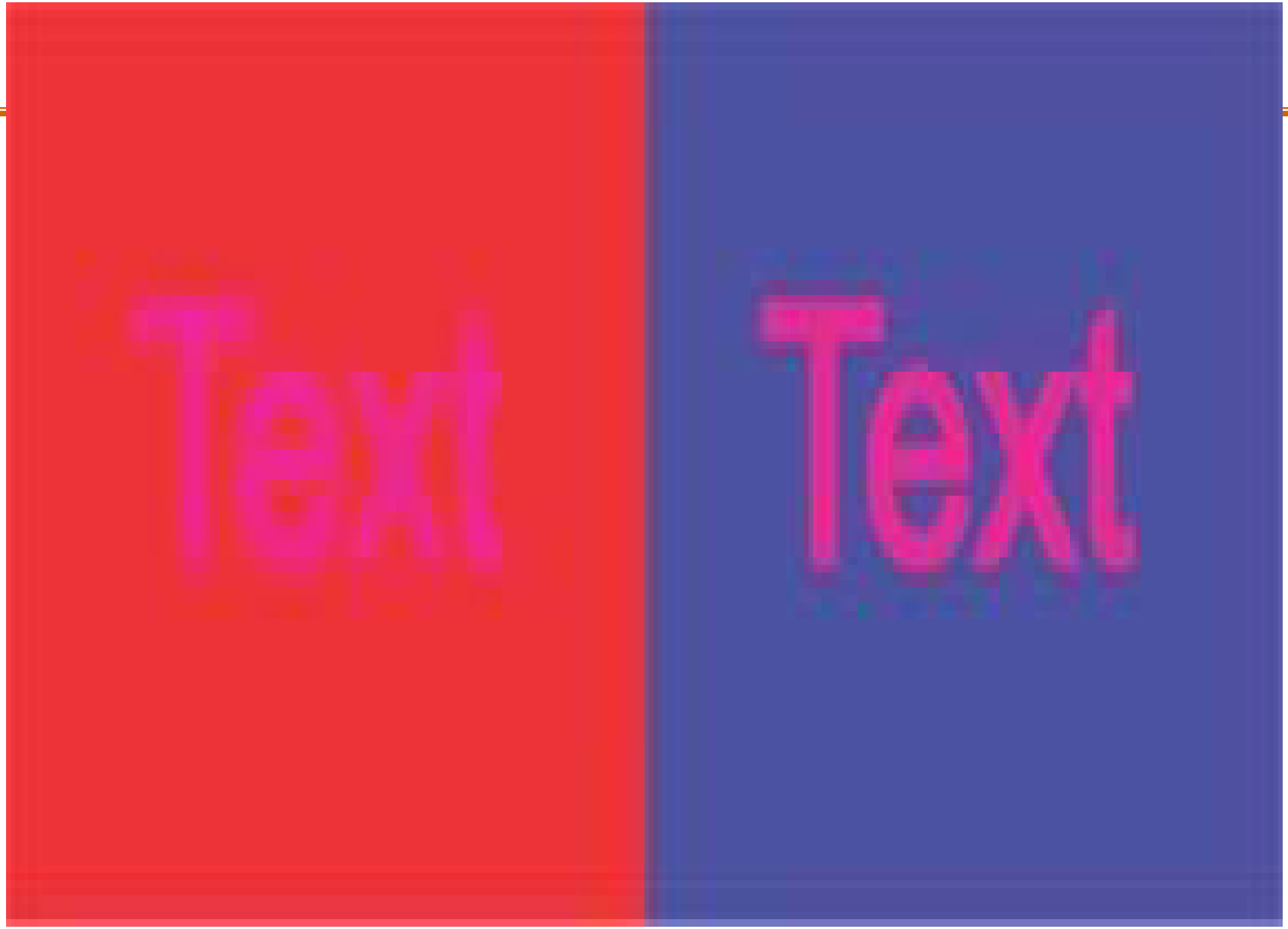
Memory

- Short term memory.
- Long term memory.

Count number of 5

Count number of 5s




Text
Text

Characteristics of good Dashboard design

- Exceptionally well organized
- Condensed, primarily in the form of summaries and exceptions
- Specific to and customized for the dashboard's audience and objectives
- Displayed using concise and often small media that communicate the data and its message in the clearest and most direct way possible

Dashboards

- Dashboards tell people what's happening and should help them immediately recognize what needs their attention. Just like the dashboard of a car, which provides easily monitored measures of speed, remaining fuel, oil level, battery strength, engine trouble, and so on, a business information dashboard provides an overview that can be assimilated quickly, but doesn't necessarily give you all the information you might need to thoroughly respond to any problems or opportunities that are revealed.

DASHBOARD DESIGN BEST PRACTICES

- **Organize the Information to Support Its Meaning and Use**
  - Organize groups according to business functions, entities, and use.
  - Co-locate items that belong to the same group.
  - Delineate groups using the least visible means.
  - Support meaningful comparisons.
  - Discourage meaningless comparisons.

DASHBOARD DESIGN BEST PRACTICES

- **Maintain Consistency for Quick and Accurate Interpretation**
- **Make the Viewing Experience Aesthetically Pleasing**
  - **Choose Colors Appropriately**
  - **Choose High Resolution for Clarity**
  - **Choose the Right Text**
- **Design for Use as a Launch Pad**

How do you create Dashboards

- Step1: Identify the data that will go into an enterprise dashboards.
- Step2: decide on the time frames
- Step3: decide on the comparative measures.
- Step4: decide on the evaluation mechanism.

References

- David Loshin, “Business Intelligence”, Morgan Kaufmann Publishers, 2003
- Mike Biere, “Business Intelligence for the Enterprise”, 2nd edition, IBM Press,2003.
- R N Prasad, Seema Acharya, “Fundamentals of Business Analytics”, Wiley India, 2011