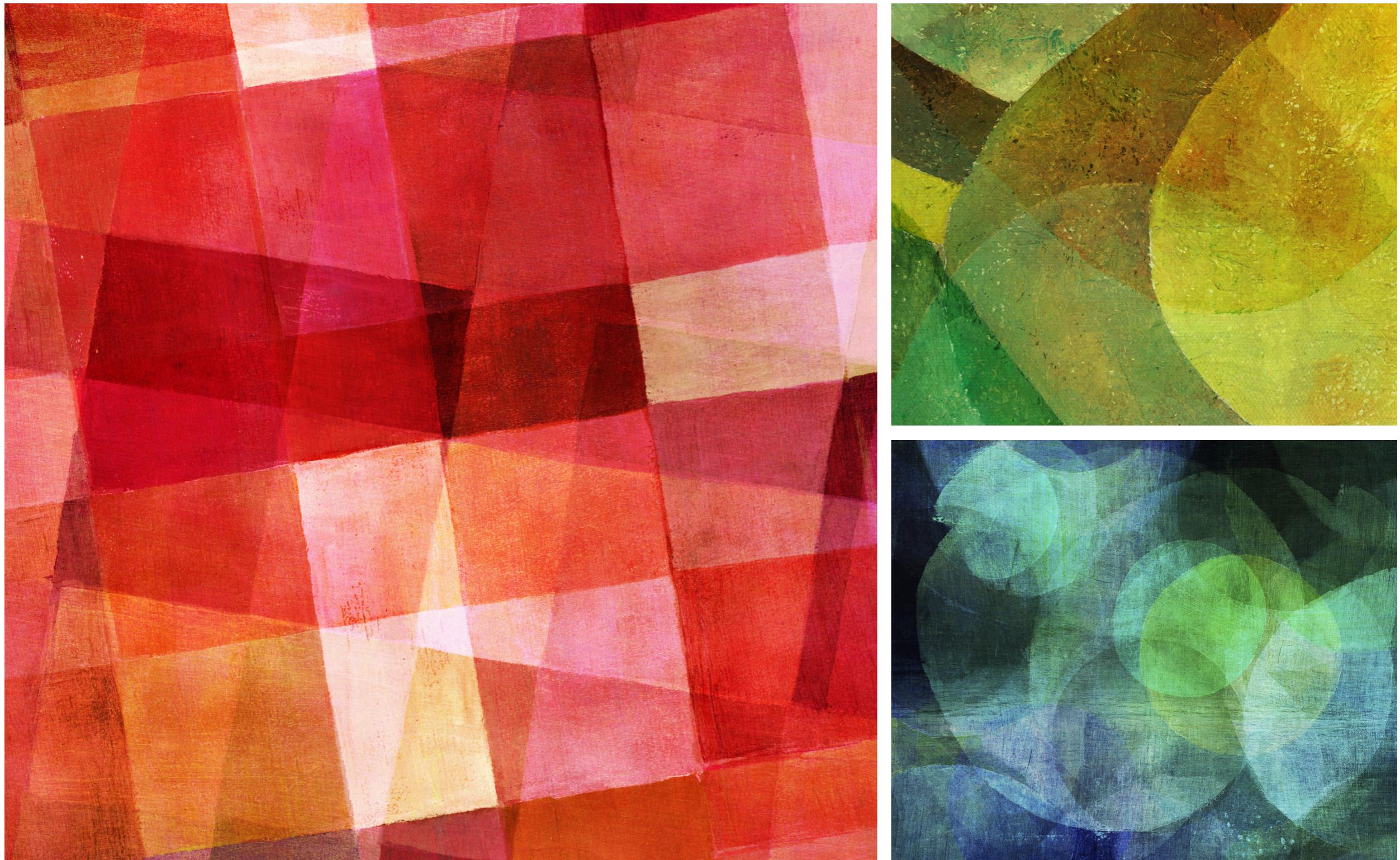


# 15

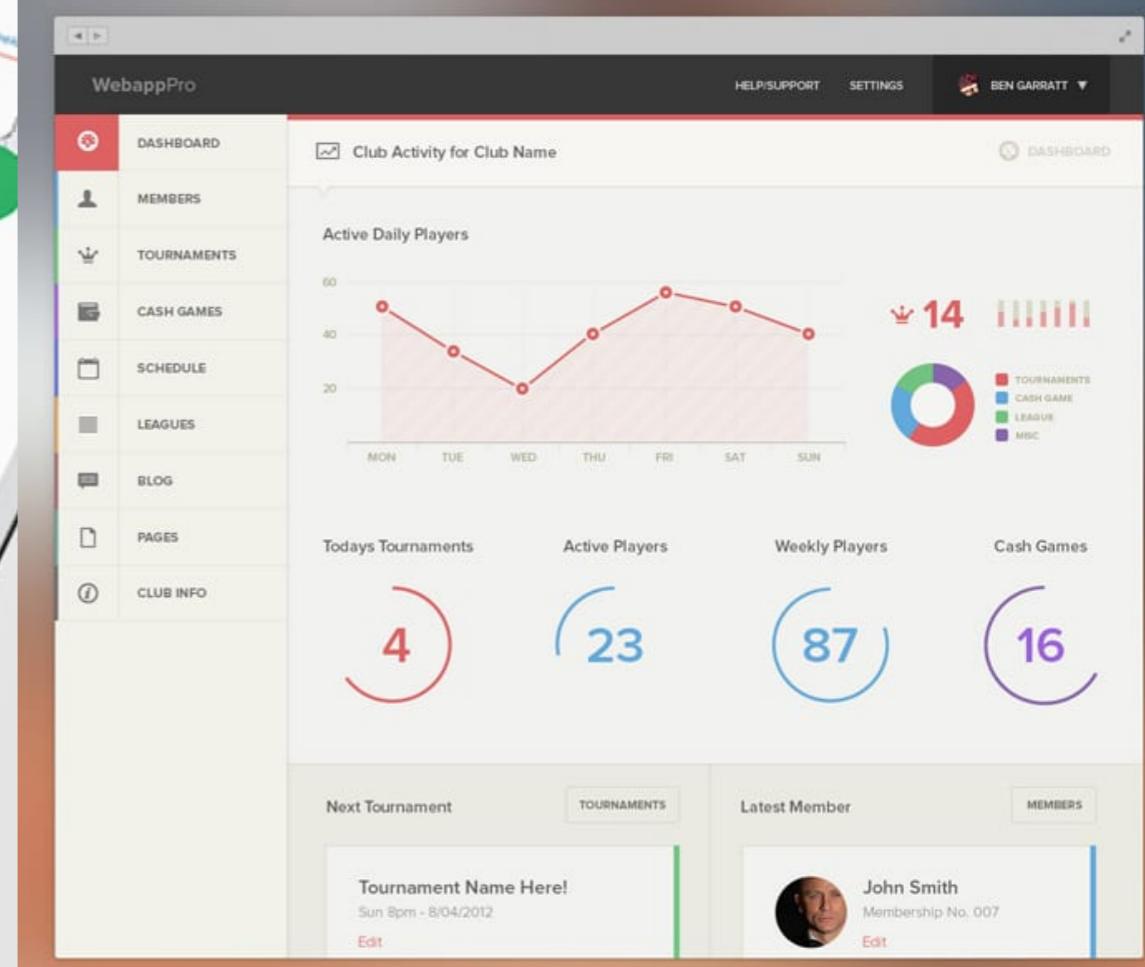
## DASHBOARDS

Profa. Raquel C. de Melo Minardi



*Information dashboard design: the effective visual communication of data*

Stephen Few



**CELEQUEST™**

Activity Server

Account Setting

Help

Signed in as jmiller

Sign Out

**Navigation Tree**

Dashboards

Dashboards

All Dashboards

Executive Sales

Bookmarked Dashboards

Activity Dashboards | Executive Sales

Edit Dashboard

Save As

Add Bookmark

Alerts

**Sales Speedometer**

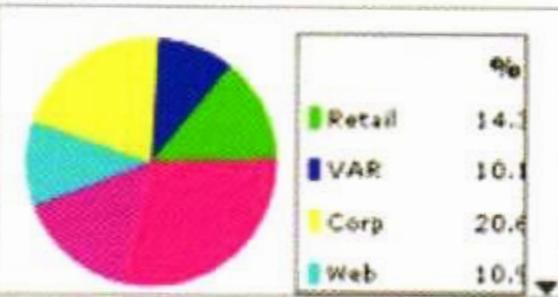
\$2250000      \$4500000

Goal Achieved

Detail View

**Sales Over Time****Pricing Compliance****Regional Sales Barchart****Regional Sales Detail**

SUPPLIERNAME	TOT...	QUANTITY	TOTALVALUE	SALES_PLAN
Central	15	835	667524.36	1000000
North East	26	1446	1094308.41	1500000
North West	13	747	1076353.00	1000000
South East	26	1401	503485.99	800000
South West	20	1140	1390860.00	1500000

**Channel Sales Piechart****Channel Sales Detail**

CUSTOMERNAME	TOTA...	QUANTITY	TOTALVALUE	SALES_PLAN
Corp	19	1061	973119.16	2000000
Direct	14	788	741878.31	1000000
Retail	16	883	676686.27	800000
Telesales	29	1614	1345278.01	1500000
VAR	10	551	479959.87	700000
Web	12	672	517610.14	750000



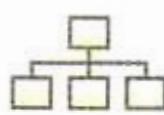
Welcome, Jeffrey

[E-mail this Page](#) | [Print this page](#)

Tools



Message Center (2)



Cockpit Map



Cockpit Pop-up



Download to PDA



View Charts

Total

Sub-business

Sub-business

Sub-business

Sub-business

## Total Performance Summary

Last Update 1/21/02 7:59:16am

### Sell

Metric	Alerts	Result	Alert Spec	Last Update
QTD Sales (\$MM)	2	● \$ 153.0	\$ 166.0	1/21/02
QTD Average Daily Order Rate (ADOR) (\$MM)	1	● \$ 16.1	\$ 11.9	1/21/02
Previous Day's Orders (\$MM)	0	● \$ 26.2	\$ 11.9	1/21/02
QTD % e-Orders	3	● 53.0%	59.0%	1/21/02
Current Qtr Price vs Target (\$/lb)	6	● \$ 1.27	\$ 1.20	1/21/02

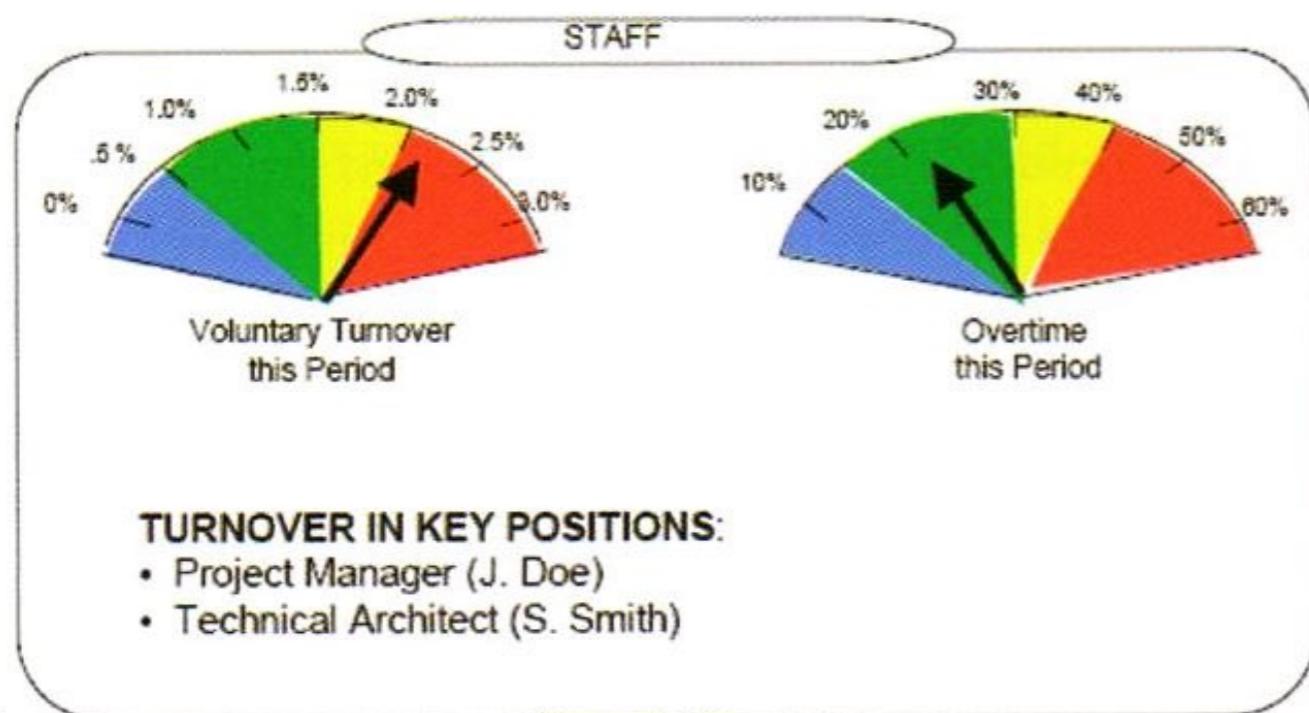
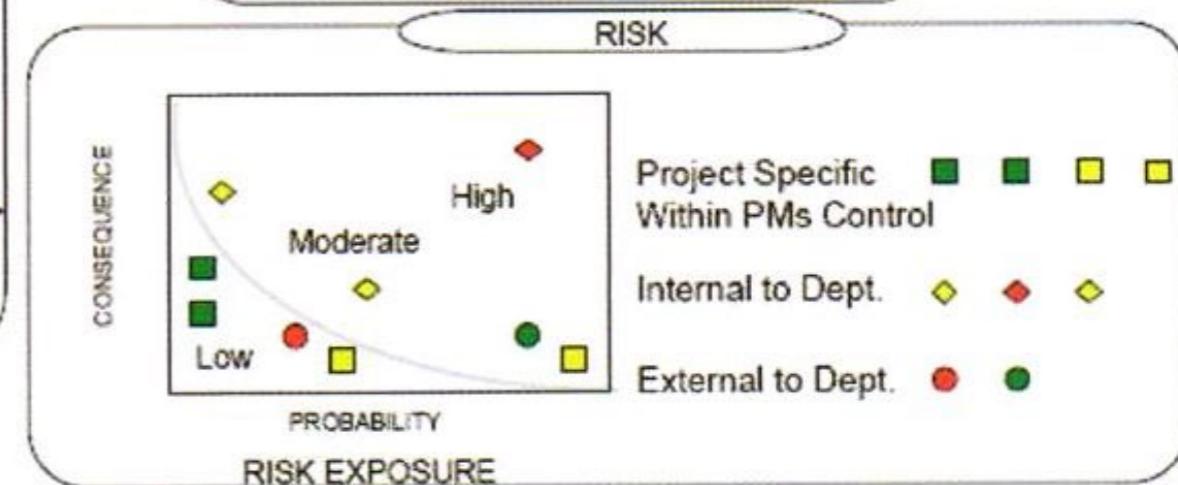
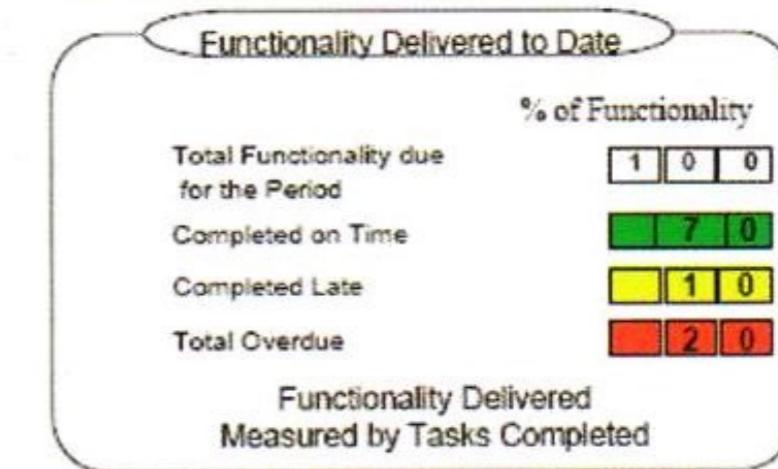
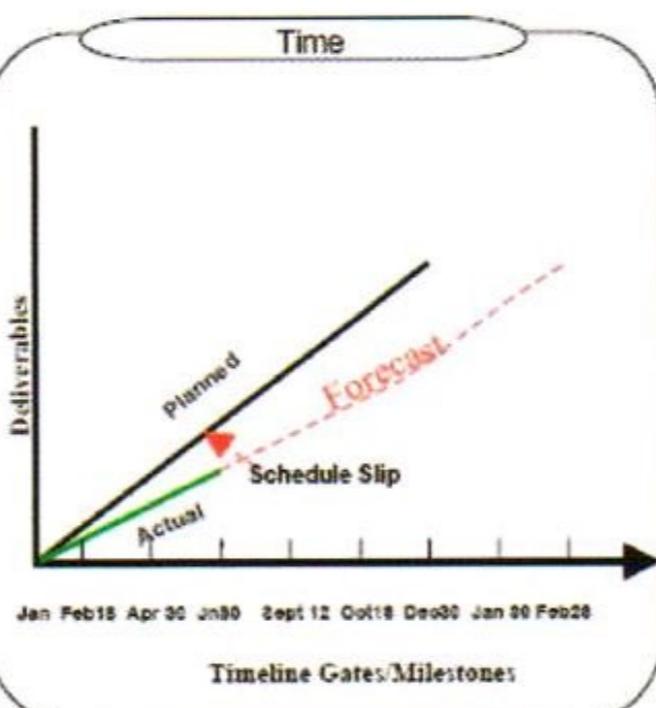
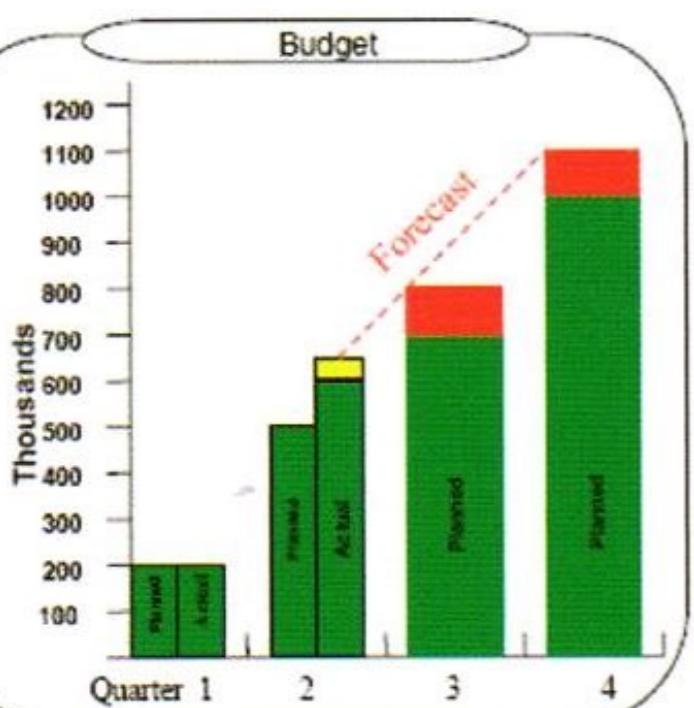
### Make

Metric	Alerts	Result	Alert Spec	Last Update
Span in Days	2	● 5	6	1/18/02
Finished Good Inventory	0	● NA	NA	1/17/02
% Make To Inventory (MTI) of Total Inventory	0	● NA	NA	1/17/02
QTD Digitization Savings (\$MM)	7	● \$ 13.2	\$ 20.3	1/21/02

### Buy

Metric	Alerts	Result	Alert Spec	Last Update
YTD Indirect Conversion Cost % Change	1	● -14%	-15%	1/17/02
YTD Indirect Short Term Cost % Change	2	● -22%	-15%	1/17/02
Realized Direct e-Auction Savings YTD (\$MM)	2	● \$ 5.4	\$ 1.3	1/21/02
Closed Direct e-Auctions YTD (\$MM)	4	● \$ 142.0	\$ 55.0	1/21/02

## Project # 3 For the Period Ending June 30<sup>th</sup> ( 2nd Quarter )



**HEALTH OF OVERALL PORTFOLIO BY PROJECT**

Project Identifier	Current Health of Project	Potential Emerging Issue(s)	Continued Business Fit	Interdependent Project #s
Project 1	OK	Caution	OK	NA
Project 2	OK	Caution	OK	Project 3
Project 3	Caution	OK	OK	Project 2, 4
Project 4	Ahead	OK	Alert	Project 3
Project 5	...	...	...	NA
Project 6	...	...	...	NA

## Executive Dashboard

Home

Highlights

Growth

Deposit Mix

Deposits

Loans

Channels

Past Due

Risk

Mk. Share

Profitability

### Past Due Loans as a % of Total Loans

June 30, 2003

Channel      Loan Type      Balance

ALL      ALL      ALL

Less than 30 days



30-60 Days



More than 60 Days

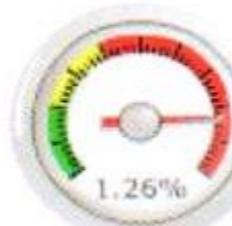
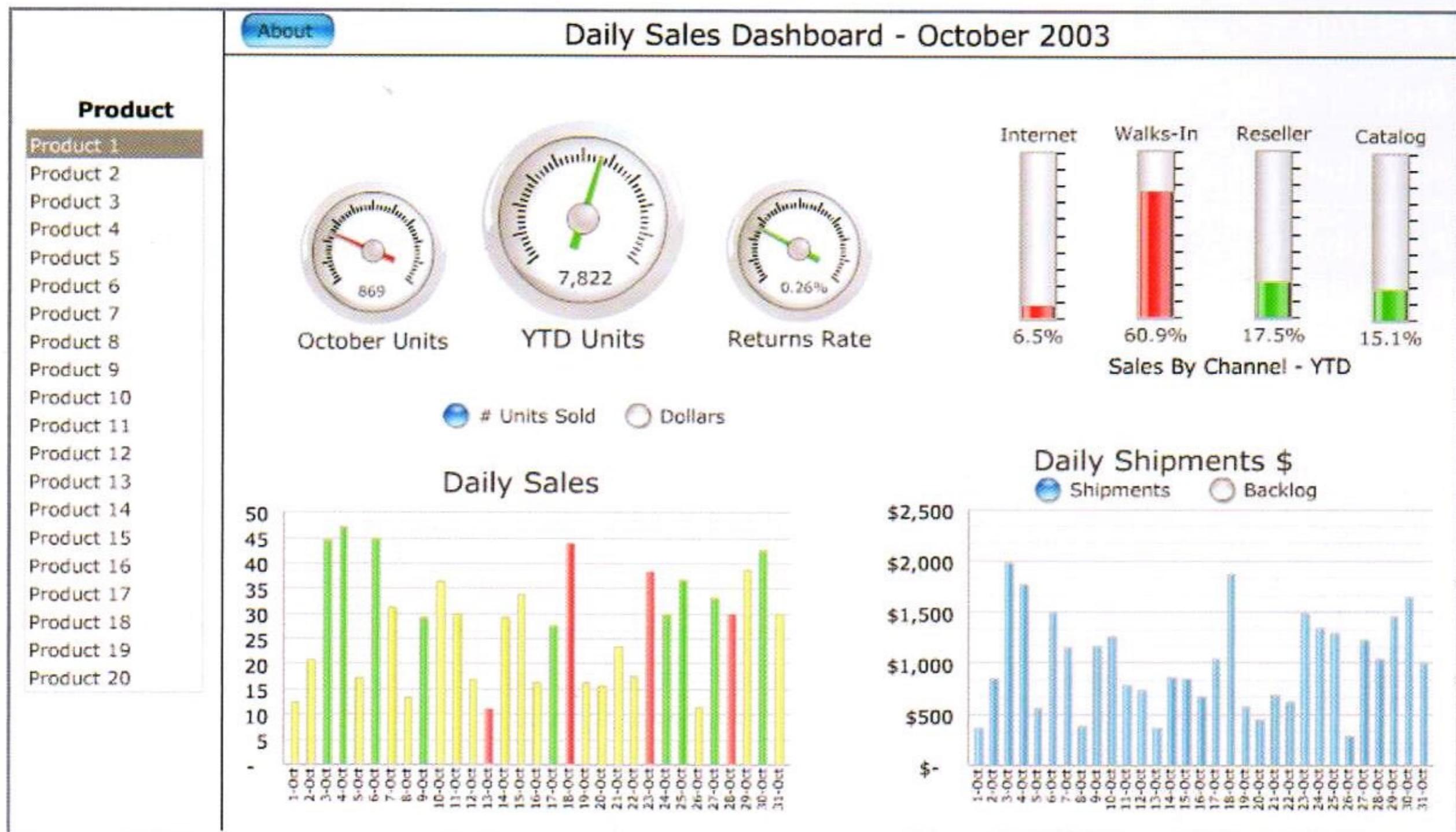


Figure 3-1. This dashboard fragments the data in a way that undermines the viewer's ability to see meaningful relationships.





## Product and Service Intelligence



Product Performance Analytics

Product Management Analytics

[Product Headlines](#) | [Product Ladders](#) | [Product Insight](#) | [Promotion](#) | [Pricing](#) | [Basket](#)
[Promoted Products - Profit](#)[Top 10 Products](#)[PC Sales](#)

No. Transactions

Last Year: 5,360 This Year:

59.8%

Profit

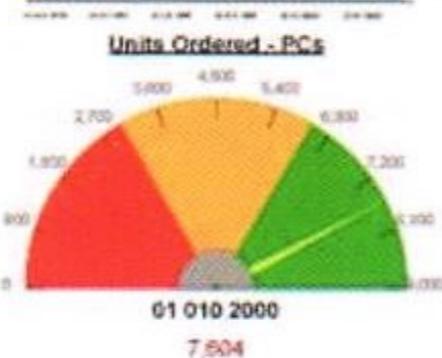
Last Year: 3,742,467 This Year:

(12.4%)

Value Invoiced

Last Year: 63.3% This Year:

Product Tracker



**1 QUESTION MARK**  
product(s) exhibit  
**greater than average**  
growth but **lower than average**  
volume share  
within the **Laptops**  
range.

**1 STAR** product(s)  
exhibit **greater than average**  
growth and  
**greater than average**  
volume share within the  
**Laptops** range.

Low Volume

High Growth

High Volume

**3 DOG** product(s)  
exhibit **lower than average**  
growth and  
**lower than average**  
volume share within the  
**Laptops** range.

**4 CASH COW** product(s)  
exhibit **lower than average**  
growth but  
**greater than average**  
volume share within the  
**Laptops** range.

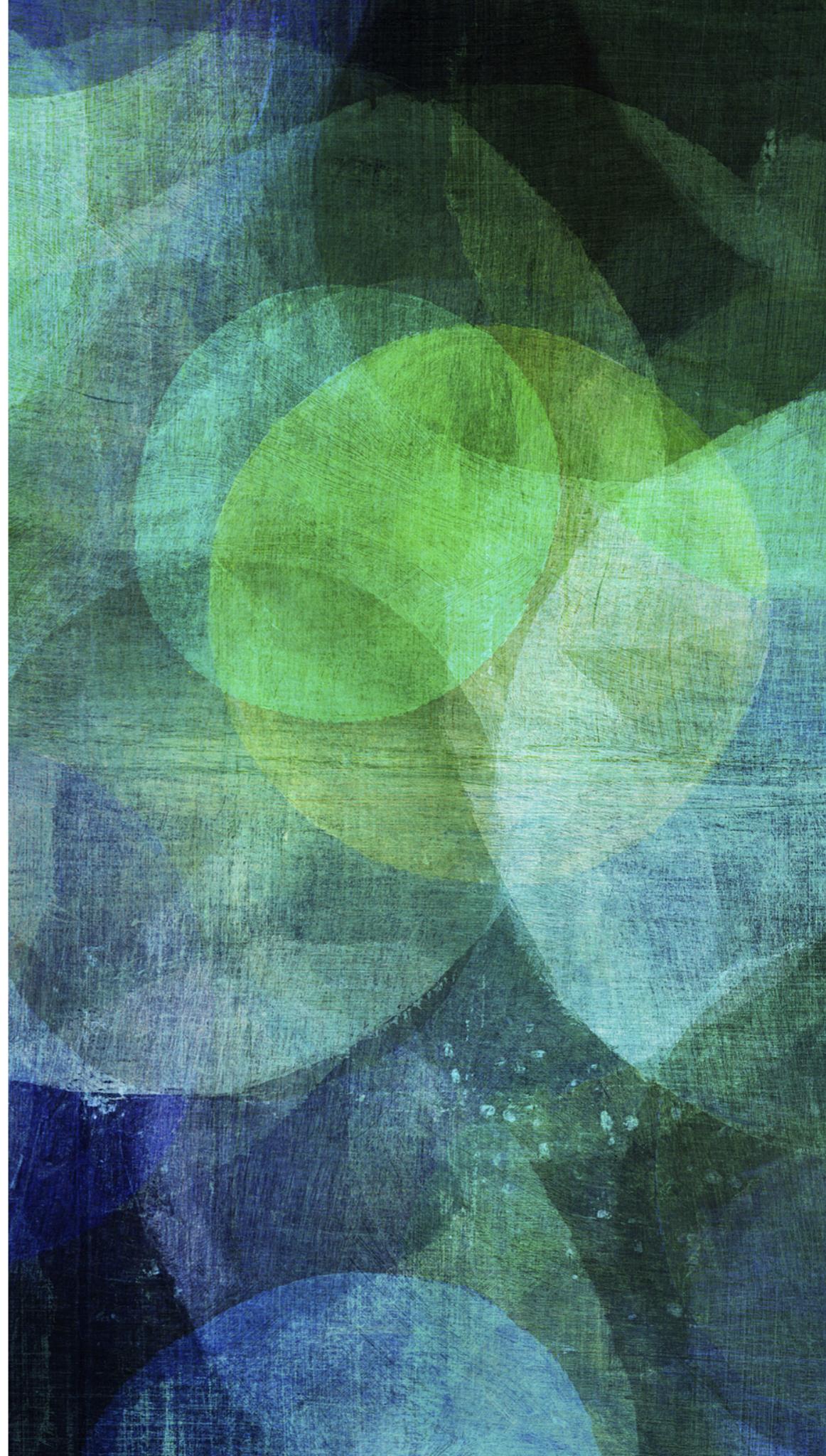
### Top 10 Products by Units Sold - Current Full Year

Rank	Description	Units Ordered	% Contribution
1	IMAC/350 64MB 6GB CD BLUE	3,232	26.7 %
2	S700 MONITOR 17in FST.28.8	2,876	23.8 %
3	DESKPRO EP PIII 450 64MB	835	6.9 %
4	DESKPRO EN6600 P3 500 10G	791	6.5 %
5	FS-3750TN 16MB 18PPM 1200	784	6.5 %
6	HL-2060N 16MB 20PPM NETWO	745	6.2 %
7	HL-1680E (8MB) 16PPM	738	6.1 %
8	MVC-FD91 CAMERA 14X ZOOM	700	5.8 %
9	XEROX DOCUPRINT NO60	696	5.8 %
10	VECTRA VL8 P3 500 128.95	695	5.7 %
Contribution:		12,092	20.9 %
Remainder:		45,700	79.1 %

Figure 3-3. This dashboard demonstrates the effectiveness that is sacrificed when scrolling is required to see all the information.

# DEFINIÇÃO

---



## Representação visual

das

informações mais importantes necessárias para atingir um ou mais objetivos

que

cabe inteiramente em uma tela de computador

de forma a poderem

ser monitoradas simultaneamente

# REPRESENTAÇÃO VISUAL

---

- A informação é apresentada visualmente através de uma combinação entre texto e gráficos
- A apresentação gráfica pode comunicar os dados com maior eficiência
- Entendimento de como funciona a percepção visual

# INFORMAÇÃO PARA ATINGIR METAS

---

- A resolução de problemas requer comumente uma coleção de dados normalmente oriundos de diversas fontes e de visões complementares

# CABE EM UMA ÚNICA TELA

---

- Toda a informação apresentada deve caber em uma única tela de forma que possa ser analisada simultaneamente
  - Não deve ser necessário rolar a tela
  - Não deve ser necessário alternar entre telas
- O objetivo é ter toda a informação mais importante prontamente disponível

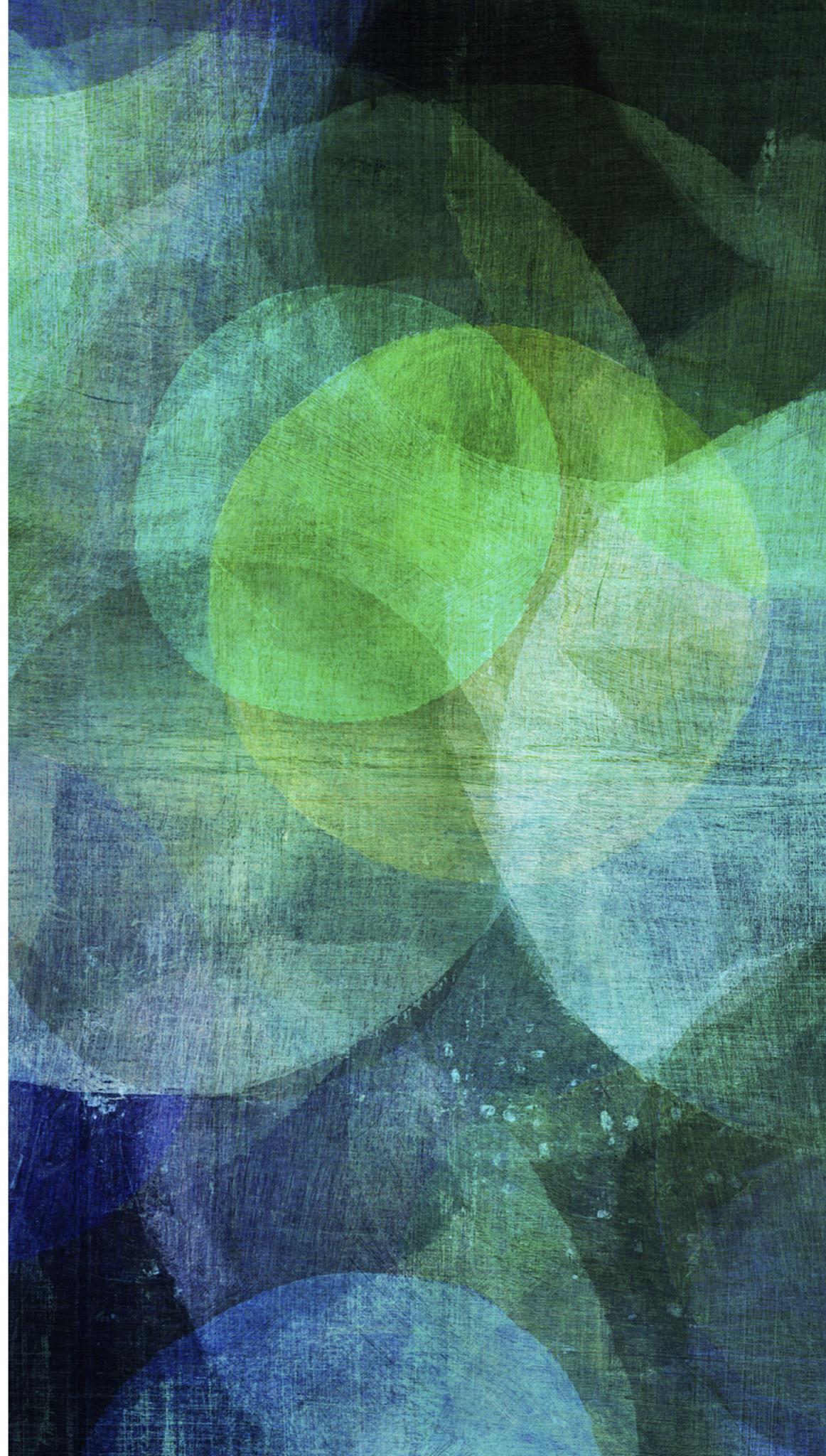
# COMPONENTES (VISUALIZAÇÕES E TEXTO)

---

- Os componentes de um dashboard deve ser:
  - Pequenos
  - Concisos
  - Claros
  - Intuitivos

# CATEGORIAS

---



- Papel
- Tipo de dados
- Frequência de atualização
- Interatividade
- Funcionalidade de portal

# PAPEL

---

- **Estratégico:** apresentação dos principais indicadores para tomada de decisão
- **Analítico:** demanda contexto da informação mais riqueza de comparações, histórico dos dados
- **Operacional:** natureza dinâmica e de tempo real

# TIPOS DE DADOS

---

- Quantitativos
- Não quantitativos

# EXEMPLOS DE DADOS QUANTITATIVOS

---

- **Vendas:** reservas, cobranças, vendas antecipadas, encomendas, preços de vendas
- **Marketing:** market share, sucesso de campanhas, demografia de clientes
- **Financeiro:** renda, despesa, lucro
- **Suporte técnico:** número de chamadas, casos resolvidos, satisfação do cliente, duração de chamadas
- **Indústria:** número de itens produzidos, tempo de produção, número de defeitos
- **Recursos humanos:** satisfação dos empregados, rotatividade, número de posições em aberto, medidas de desempenho
- **Servidores web:** número de visitantes, número de acessos a páginas, tempo de duração das visitas

# DADOS QUANTITATIVOS E O TEMPO

---

- Medidas quantitativas podem ser expressas em diferentes intervalos de tempo:
  - Ano atual até a data de hoje
  - Semana atual até a data de hoje
  - Quinzena atual até a data de hoje
  - Ontem
  - Mês atual até a data de hoje
- O intervalo ideal depende da natureza dos objetivos que o dashboard suporta

# A IMPORTÂNCIA DE PERMITIR COMPARAÇÕES

---

- As métricas podem ser exibidas individualmente mas as comparações enriquecem o cenário:
  - Métricas em um ponto passado
    - O mesmo dia no ano passado
  - Métricas em algum ponto do passado:
    - O fim do ano passado
  - Alvo atual para a métrica:
    - Lucro esperado

# A IMPORTÂNCIA DE PERMITIR COMPARAÇÕES

---

- As métricas podem ser exibidas individualmente mas as comparações enriquecem o cenário:
- Relacionamento com um alvo futuro:
  - Percentual vendido em relação a meta anual
- Predição do valor de uma métrica:
  - Comparação do valor atual com o valor esperado
- Comparação com a norma:
  - Número de dias que são necessários para entregas

# A IMPORTÂNCIA DE PERMITIR COMPARAÇÕES

---

- As métricas podem ser exibidas individualmente mas as comparações enriquecem o cenário:
- Projeções futuras:
  - Com base no crescimento do número de unidades vendidas ao mês, projeção da quantidade de vendas no próximo ano
- Métricas alheias:
  - Comparação com métricas dos concorrentes
- Métricas relacionadas:
  - Número de pedidos comparado ao lucro

- Uma vez que dashboards devem possibilitar a análise dos dados com relativa rapidez, representações visuais de avaliações das comparações são muito úteis
  - Medidas em faixa de alerta podem ser indicadas em vermelho

- Há espaço para dados qualitativos em dashboards?
- Que tipo de dados?

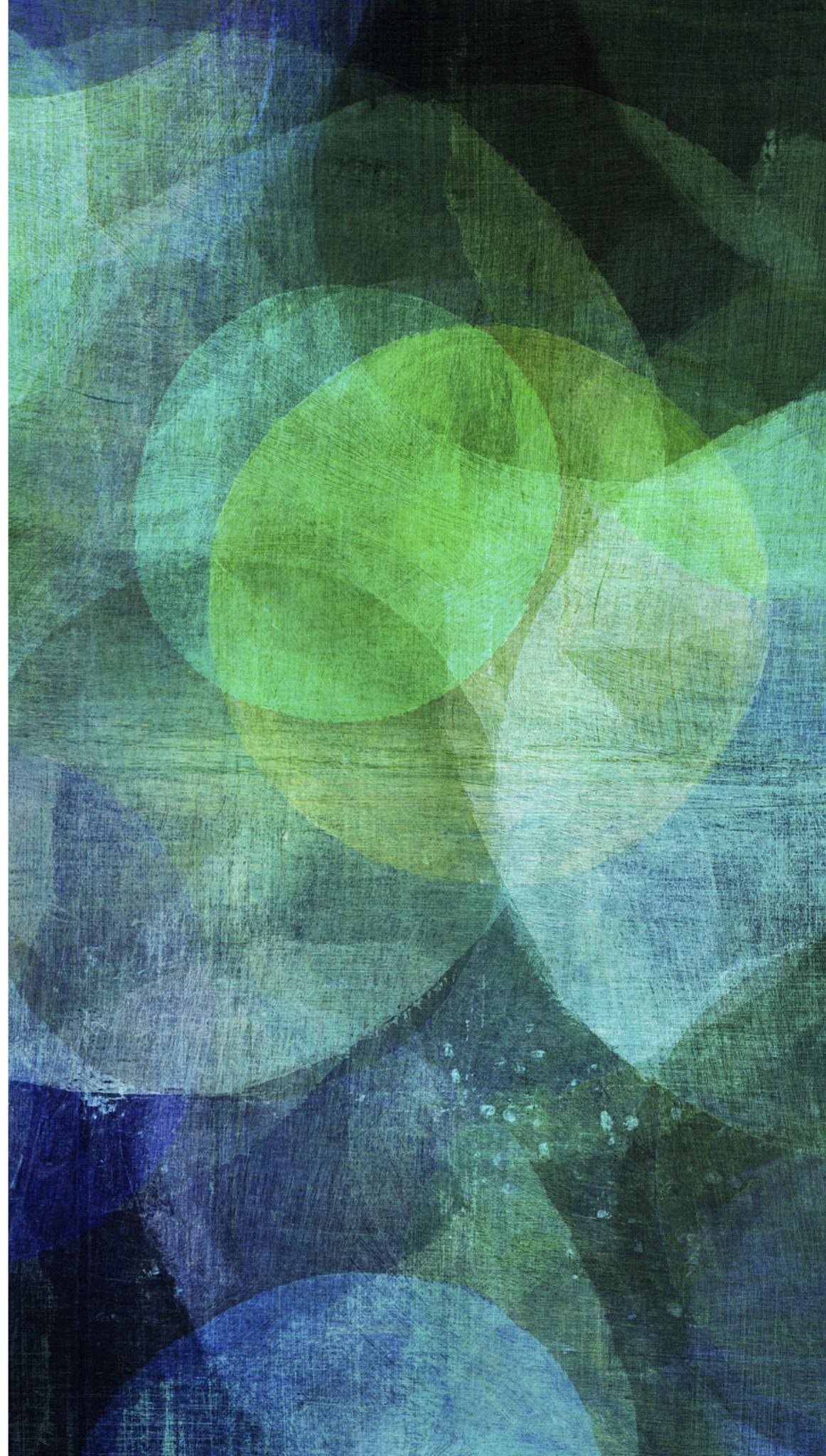
# EXEMPLOS DE DADOS QUALITATIVOS

---

- Os  $n$  melhores clientes
- Questões que devem ser investigadas
- Tarefas a serem completadas
- Pessoas que devem ser contatadas
- Datas de entrega
- Pessoas responsáveis por tarefas

# ERROS FREQUENTES

---



# DESAFIO FUNDAMENTAL NO DESENHO DE DASHBOARDS

---

- Apresentar grande **quantidade de informação** em um **pequeno espaço** resultando em uma **visualização facilmente comprehensível**

# EXCEDER OS LIMITES DA TELA

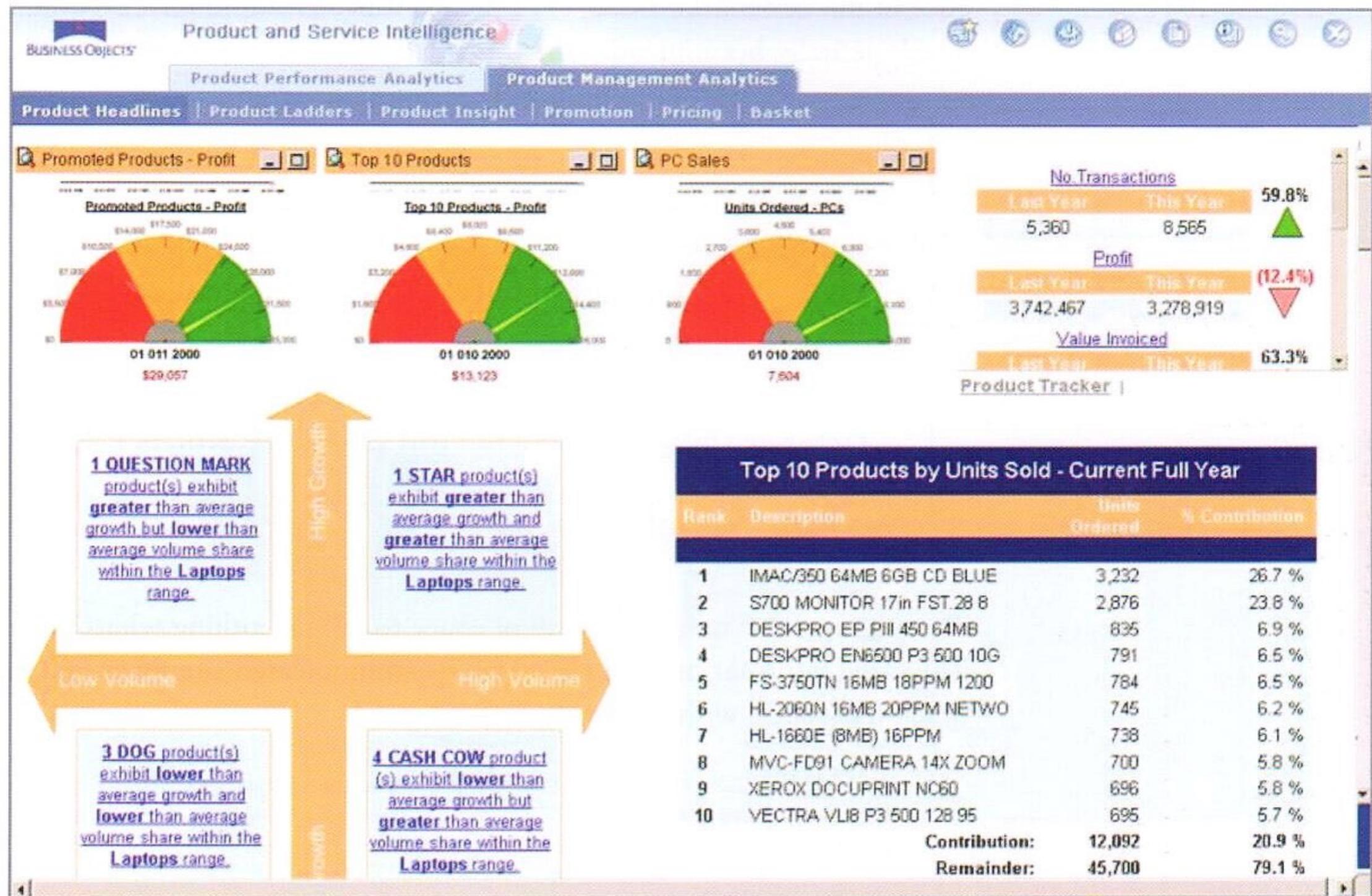
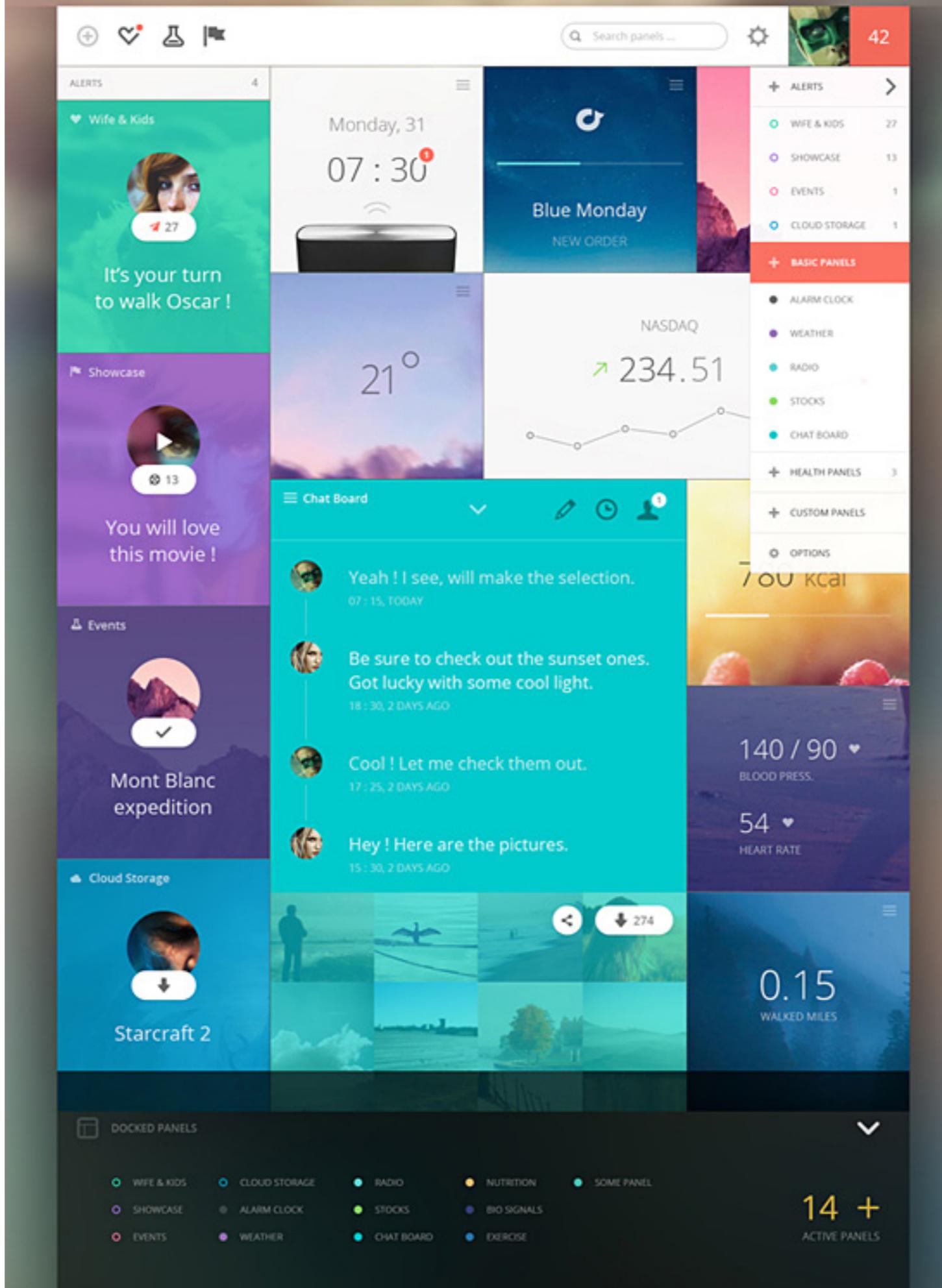


Figure 3-3. This dashboard demonstrates the effectiveness that is sacrificed when scrolling is required to see all the information.







Newton Barley

Search for a job, task or resume

[OPEN](#) [APPLY](#) [EDIT](#) [DELETE](#)

## Customer Service Representative

San Francisco, CA · [Preview this post](#)

[SUMMARY](#) [APPLICANTS](#) [JOB BOARD](#) [INTERVIEWS](#) [ACTIVITY](#) [BROADCAST](#) [NOTIFICATIONS](#)

3,154 APPLICANTS

1,546 INTERVIEWS

912 FORWARDS

TOTALS - Out of 5,231 views

Wednesday, December 3  
362 Applicants / 37 Interviews



APPLICANTS/DAY

Day	Applicants
S	~50
M	~250
T	~300
W	~400
T	~200
F	~250
S	~100
S	~350
M	~300
T	~250
W	~200
T	~150
F	~150
S	~50

[JOB DESCRIPTION](#) [EDIT](#)

POSITION TITLE Customer Service Representative

LOCATION San Francisco, CA

EMPLOYMENT TYPE Full-time

EXPERIENCE Mid-level

STATUS Open

DESCRIPTION The Customer Service Representative is responsible for interacting with and providing quality assistance to all radical customers, responsible for keeping up-to-date on the various product shizzle; helping the bidness reduce customer service wait times while doing a backhand spring and eating a ham sandwich.

HIRING LEAD  Tom Tizzy

APPROVED SALARY \$58,000

[Post to Facebook](#)

[Tweet this Job](#)

[Post to LinkedIn](#)

[Link to this Job](#)

Lorum ipsum dolor sit amet, consectetur adipiscing elit. Integer mollis neque eget vestibulum.

<http://loremipsum.dol/sit amet...> [Copy](#)

[Use the Button Widget](#)

This widget embeds the buttons for sharing the job for submitting a resume on your website.

```
<script type="text/javascript"> a...</script>
```

[Copy](#)

[Upload Resumes by Email](#)

You can automatically upload multiple resumes to this job by emailing the address below.

tomtizzy@gmail.com

# FRAGMENTAR OS DADOS EM MÚLTIPLAS TELAS

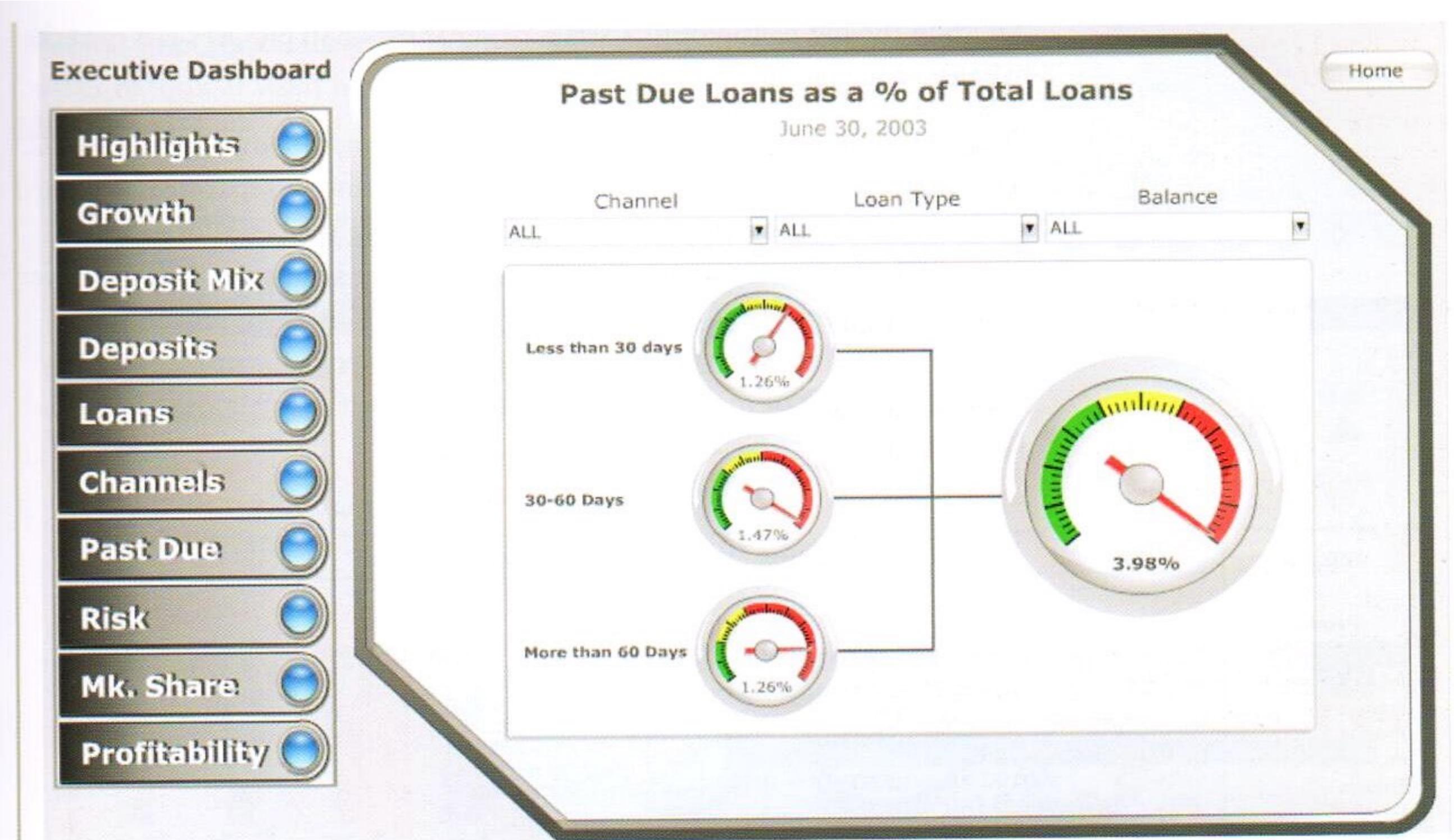


Figure 3-1. This dashboard fragments the data in a way that undermines the viewer's ability to see meaningful relationships.



IMO Report

Contract Report

Users

CRM

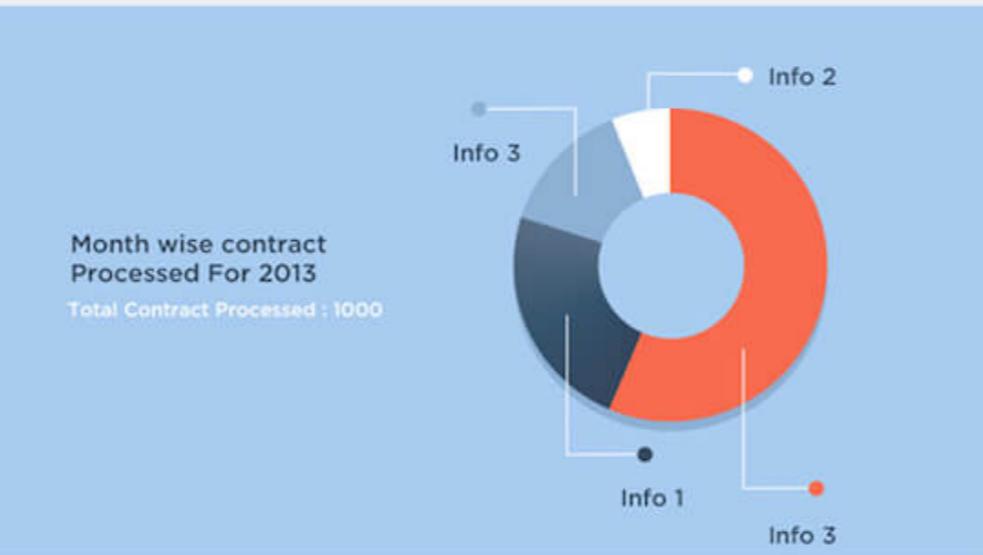
MDM

Plan Builder

Disco

## Champs of The Month

Average time of processing one contract



Data Created ▾ Store Name ▾ Channel Name ▾ Manager Name ▾ Location ▾ Status ▾



	Date Created	Store Name	Channel Name	Manager Name	Location	Status
01/12/13	Store Name	Channel Name	Manager Name	Location	Active	
01/12/13	Store Name	Channel Name	Manager Name	Location	Active	
01/12/13	Store Name	Channel Name	Manager Name	Location	Active	

REFINE

MY REPORTS

DELIVERY

## SELECT REPORTS

 Master Report My Report 1 My Report 2 My Report 3 My Report 4

## DOWNLOAD OPTIONS

 CSV Download Email

## Email Options

 PDF  CSV abc@email.com ▾ abc@email.com ▾

## Schedule

 Schedule Time

11:30 AM ▾

Frequency

Daily ▾

## FTP OPTION

 FTP Dump

Login

Password

Path

# NÃO FORNECER OU FORNECER O CONTEXTO DE FORMA INADEQUADA

---



October Units



YTD Units



Returns Rate

Figure 3-4. These dashboard gauges fail to provide adequate context to make the measures meaningful.

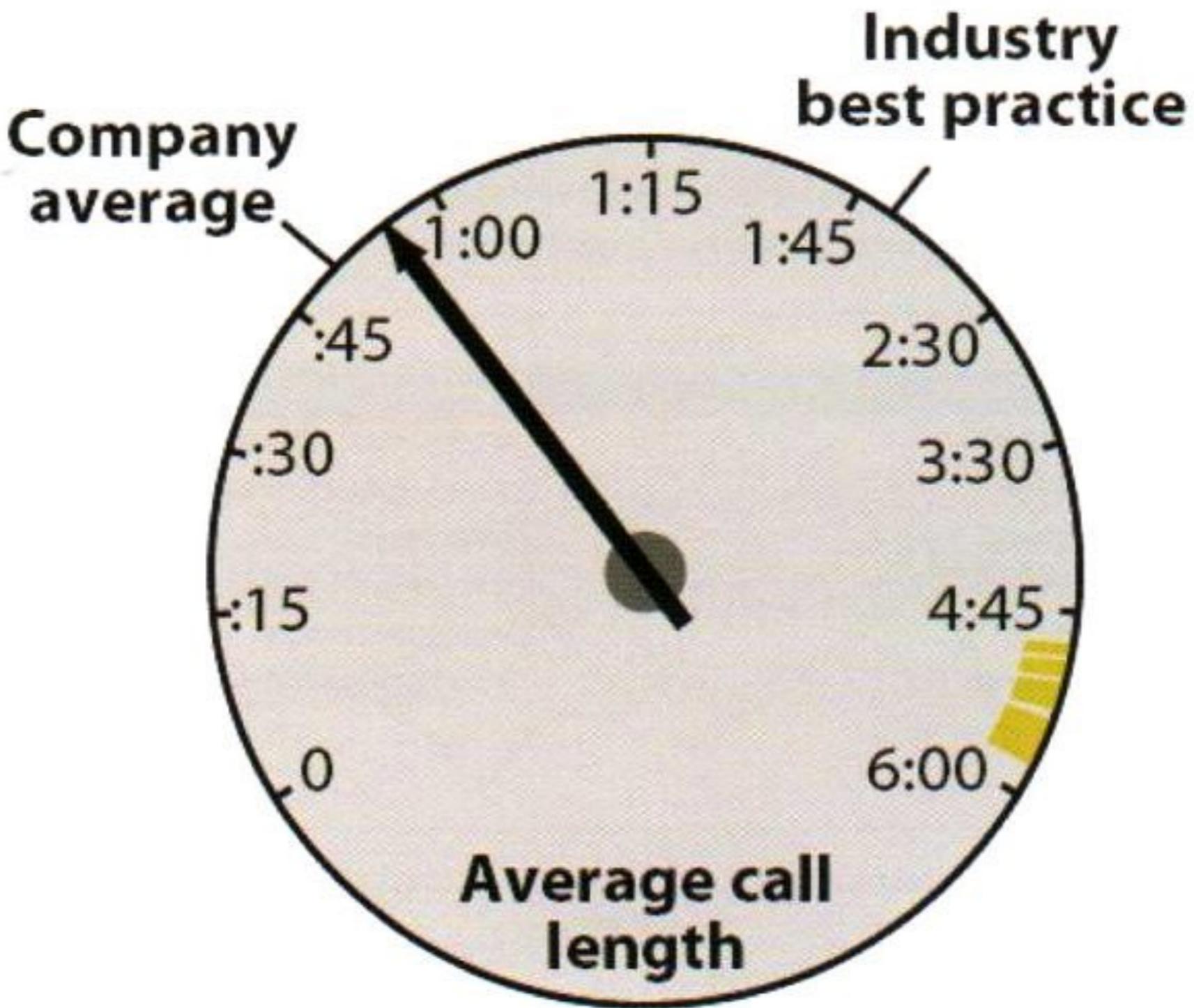


Figure 3-5. This dashboard gauge (found in a paper entitled “Making Dashboards Actionable,” written by Laurie M. Orlov and published in December 2003 by Forrester Research, Inc.) does a better job than those in Figure 3-4 of using a gauge effectively.

myHealth App

Dashboard

- Log
- Steps
- Calories
- Distance
- Time
- Friends
- Reports

Search  +

username 2

Dashboard

Steps 7.2% of 5823

Calories 31% of 2184

Distance 52% of 3.5mi

Time 35% of 1.5hr

Steps taken this week

Day	Steps
Sun	~4500
Mon	~8500
Tues	~3500
Weds	~6500
Thurs	~8500
Fri	~1000
Sat	0

Goal 44%

Recent Comments

Tell me, why this strong young colt, foaled in some peaceful valley of Vermont, far removed from all beasts of prey—why is it that upon the sunniest day, if you but shake a fresh buffalo robe behind him, so that

Look ye, carpenter, I dare say thou callest thyself a right good workmanlike workman, eh? Well, then, will it speak thoroughly well for thy work, if, when I come to mount this leg thou makest

Truly, sir, I begin to understand somewhat now. Yes, I have heard something curious on that score, sir; how that a dismasted man never entirely loses the feeling of his old spar

It was a humorously perilous business for both of us. For, before we proceed further, it must be said that the

reply

Friends

- Anaida Parghel [AnaidaParghel](#)
- Lucia Gómez [luciagomez](#)
- Gerald Gardner [Gerald\\_Gardner](#)
- Douglas Rice [DouglasR](#)
- Lauren Hall [haller](#)

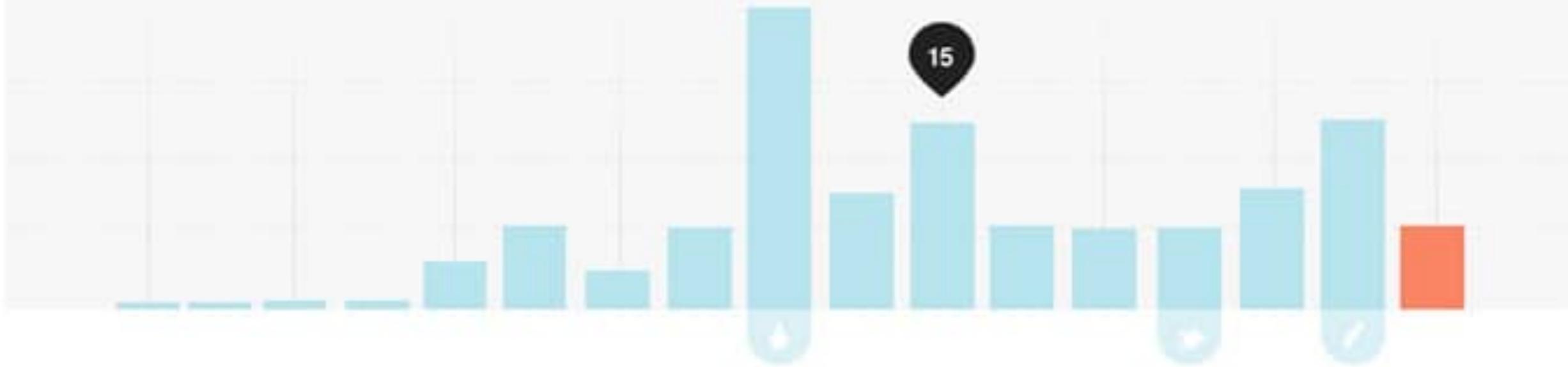
Motivational Tracks

- Fancy Iggy Azalea
- Rude Magic!
- Problem Ariana Grande
- Summer Calvin Harris
- Am I Wrong Nico & Vinz

## Wedding Photography

VIEW

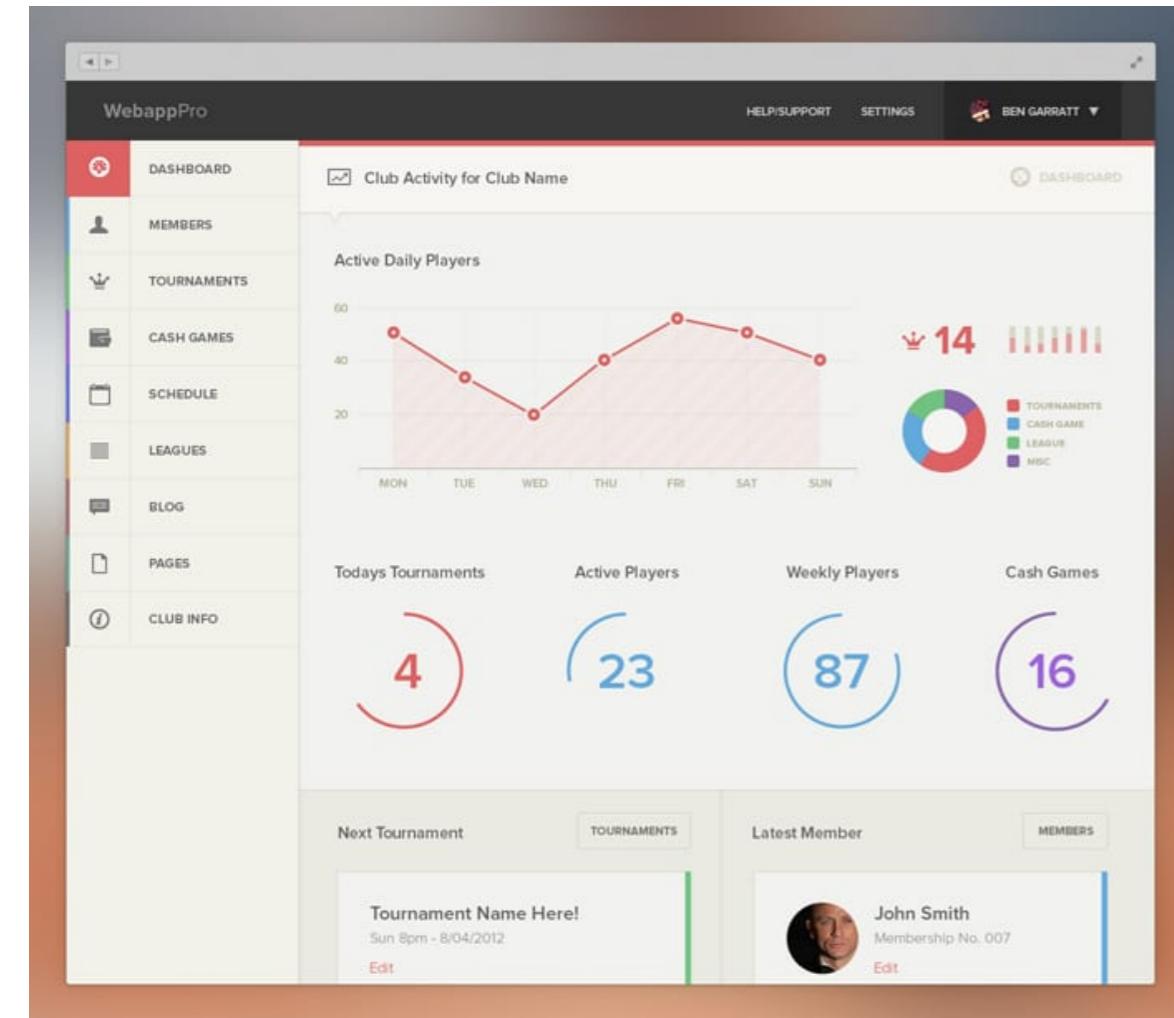
EDIT

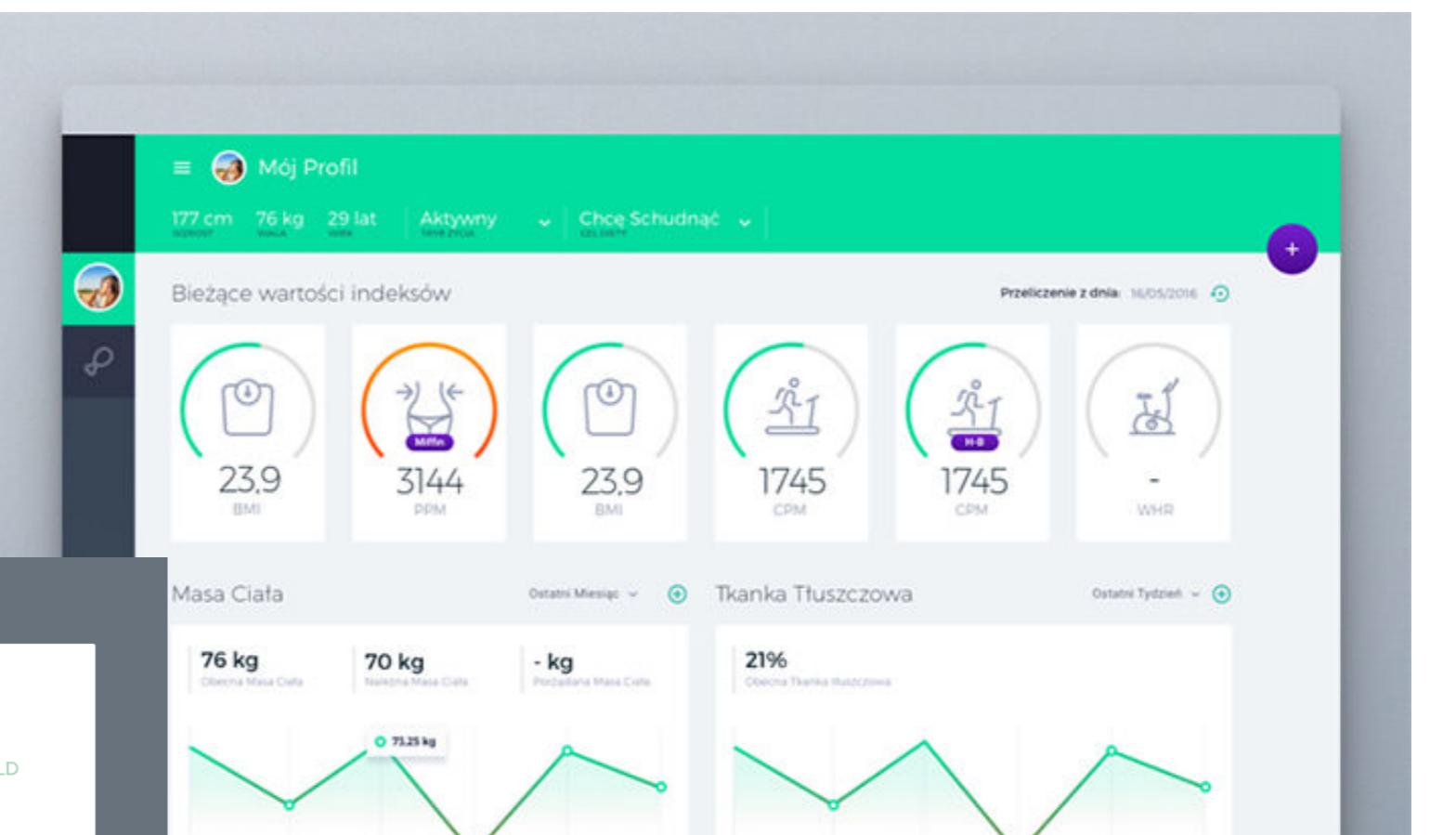


## Stats

Movers shakers, milk shakers, and quakers.

 232  
Total Views 12  
Total Favorites 4  
Achievements 232  
Total Views





BOARD  
COUNTS  
COMPANIES  
  
COUNT USERS  
  
Bruce Wayne  
Lex Luthor  
Thor Odinson  
Jean Cassidy  
Clark Kent

# EXIBIR DETALHES OU PRECISÃO EXCESSIVOS

The screenshot shows the Celequest Activity Dashboard interface in Microsoft Internet Explorer. The dashboard includes a navigation tree, a header with activity server and account setting links, and a sign-in status. The main content area features several data visualizations and tables.

**Active Alert Messages:** A table listing six alerts. The last three alerts, which occurred on 03/15/2004 at 17:10:08, 17:10:01, and 17:09:59 respectively, are highlighted with a red border.

Subject	Importance	Alert Activated
8/16/2003 Yield Drop in ESS on 60-00...	Normal	03/15/2004 17:10:08
8/16/2003 Yield Drop on 60-0001663 ...	High	03/15/2004 17:10:08
8/13/2003 Yield Drop in ESS on 60-0002000...	Normal	03/15/2004 17:10:01
8/13/2003 Critical Component Failure (60-0...	High	03/15/2004 17:10:00
8/13/2003 Impacted Boards for 11-0000040...	High	03/15/2004 17:09:59
8/1/2003 Yield Drop in ESS on 60-000...	Normal	03/15/2004 17:09:46

**Board Yield Barchart:** A bar chart showing yield values for various product numbers. The Y-axis ranges from 0 to 110. The X-axis lists product numbers: 40-0, 60-0, 60-0, 60-0, 60-0, 60-0, 60-0. The legend indicates five yield metrics: Yield\_1Yr (dark blue), Yield\_3Days (red), Yield\_30Days (green), Yield\_Today (light blue), and Yield\_Change\_1Day (orange).

**Board Yield Change Barchart:** A bar chart showing yield change values for the same product numbers. The Y-axis ranges from -9 to 3. The X-axis lists the same product numbers. The legend indicates four yield change metrics: Yield\_Change\_1Day (orange), Yield\_Change\_1Yr (green), Yield\_Change\_3Days (red), and Yield\_Change\_30Days (light blue).

**Tests Breakdown Pie:** A pie chart showing the distribution of test results across four categories. The categories and their percentages are: 40-00003 (0%), 60-00007 (17.2%), 60-00020 (49.4%), and 60-00016 (33%).

**Board Yield Table Summary:** A table showing a summary of board yields. The columns include PRODUCT\_NUM, PRODUCT\_DESC, YIELD\_TODAY, YIELD..., and several other yield metrics. The last three rows, corresponding to the alerts in the alert list, are highlighted with a red border.

PRODUCT_NUM	PRODUCT_DESC	YIELD_TODAY	YIELD...	YIELD...	YIELD...	YIELD...	YIELD_CHAN...	YIELD...
40-0000364-05	PCBA,ER05,AP7420	100.0000000000	100.0000	100.0000	100.0000	0.0000	0.0000000000	0.0000
60-0000720-01	ASSY,16 PORT CARD,SI,SW12000	89.4308943100	89.6000	98.0535	98.0535	-8.4535	-0.1691056900	-8.4535
60-0001624-06	ASSY,CP,FULL LENGTH	100.0000000000	100.0000	99.1549	99.1549	0.8451	0.0000000000	0.8451
60-0001663-03	ASSY, INNER BOX W/MB, SW3600	100.0000000000	100.0000	99.1111	99.1111	0.8889	0.0000000000	0.8889

Figure 3-6. This dashboard shows unnecessary detail, such as times expressed to the second and measures expressed to 10 decimal places.

# ESCOLHER UMA MÉTRICA RUIM

---

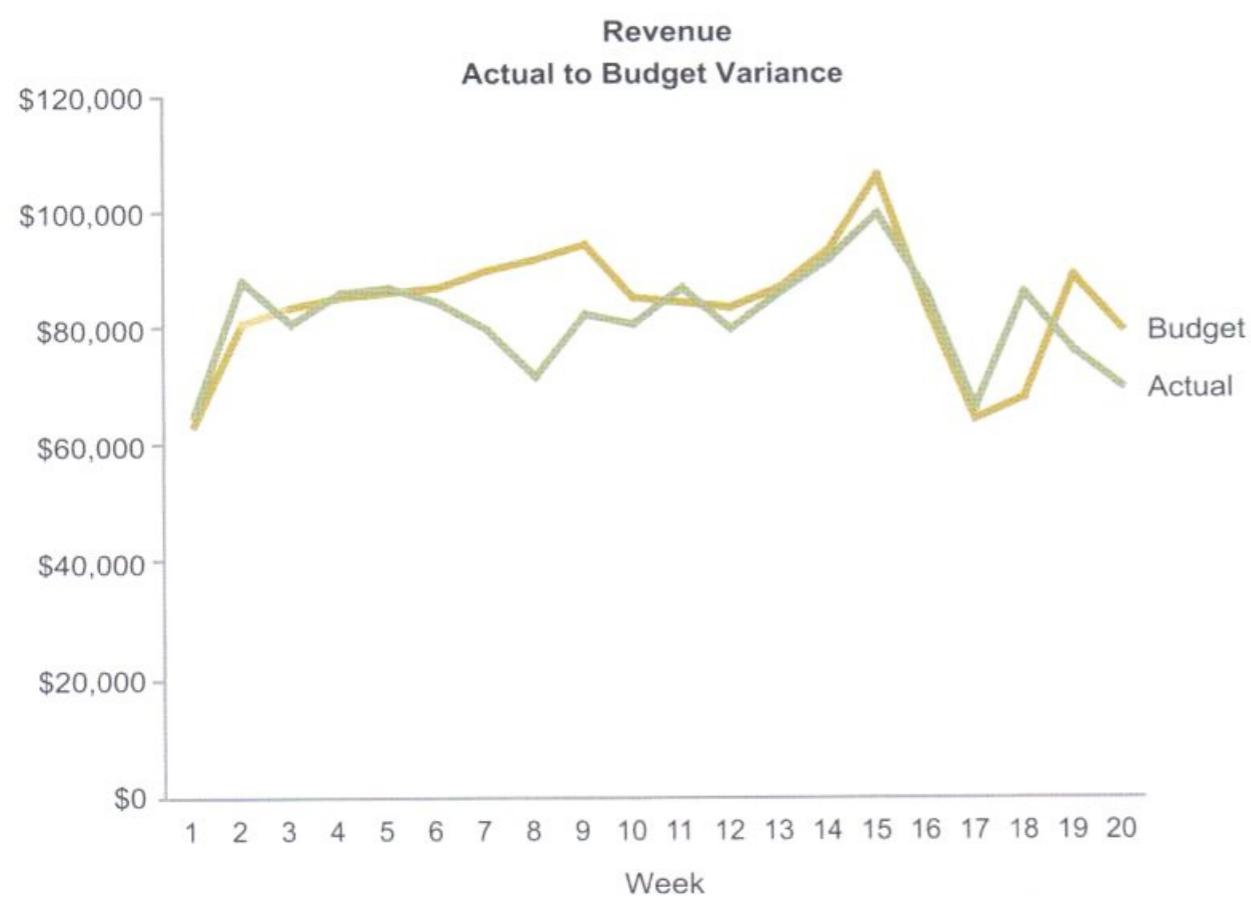


Figure 3-7. This graph illustrates the use of measures that fail to directly express the intended message.

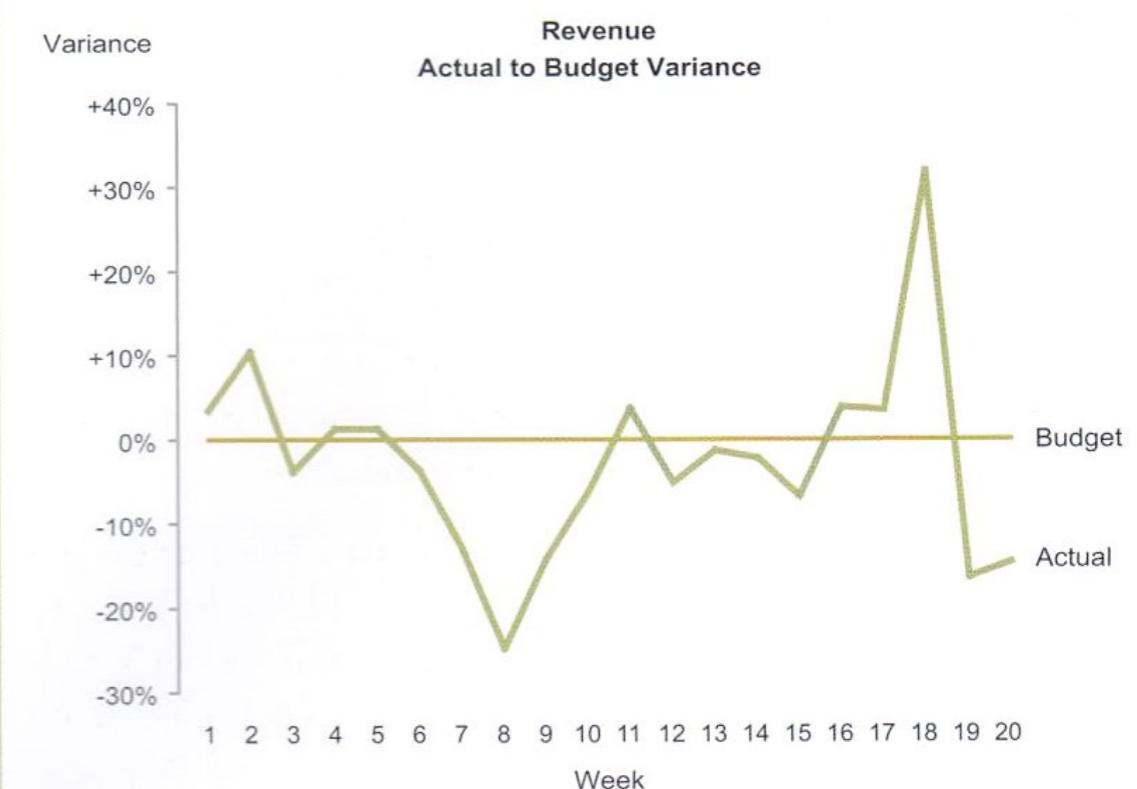


Figure 3-8. This graph is designed to emphasize deviation from a target, which it accomplishes in part by expressing the difference between budgeted and actual revenues using percentages.

# USAR REPRESENTAÇÕES VISUAIS INADEQUADAS

---

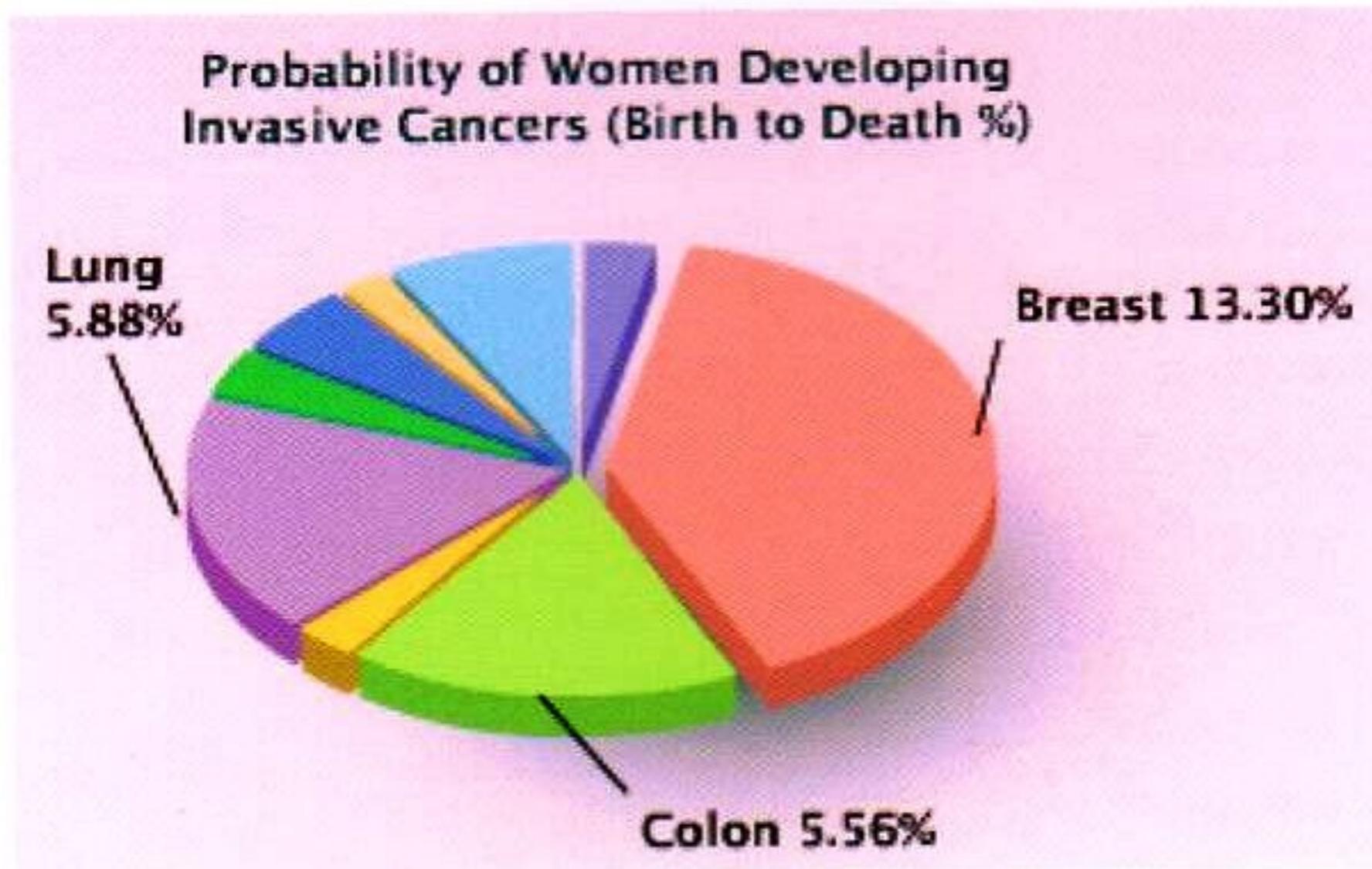


Figure 3-9. This chart illustrates a common problem with pie charts.

# USAR REPRESENTAÇÕES VISUAIS INADEQUADAS

---

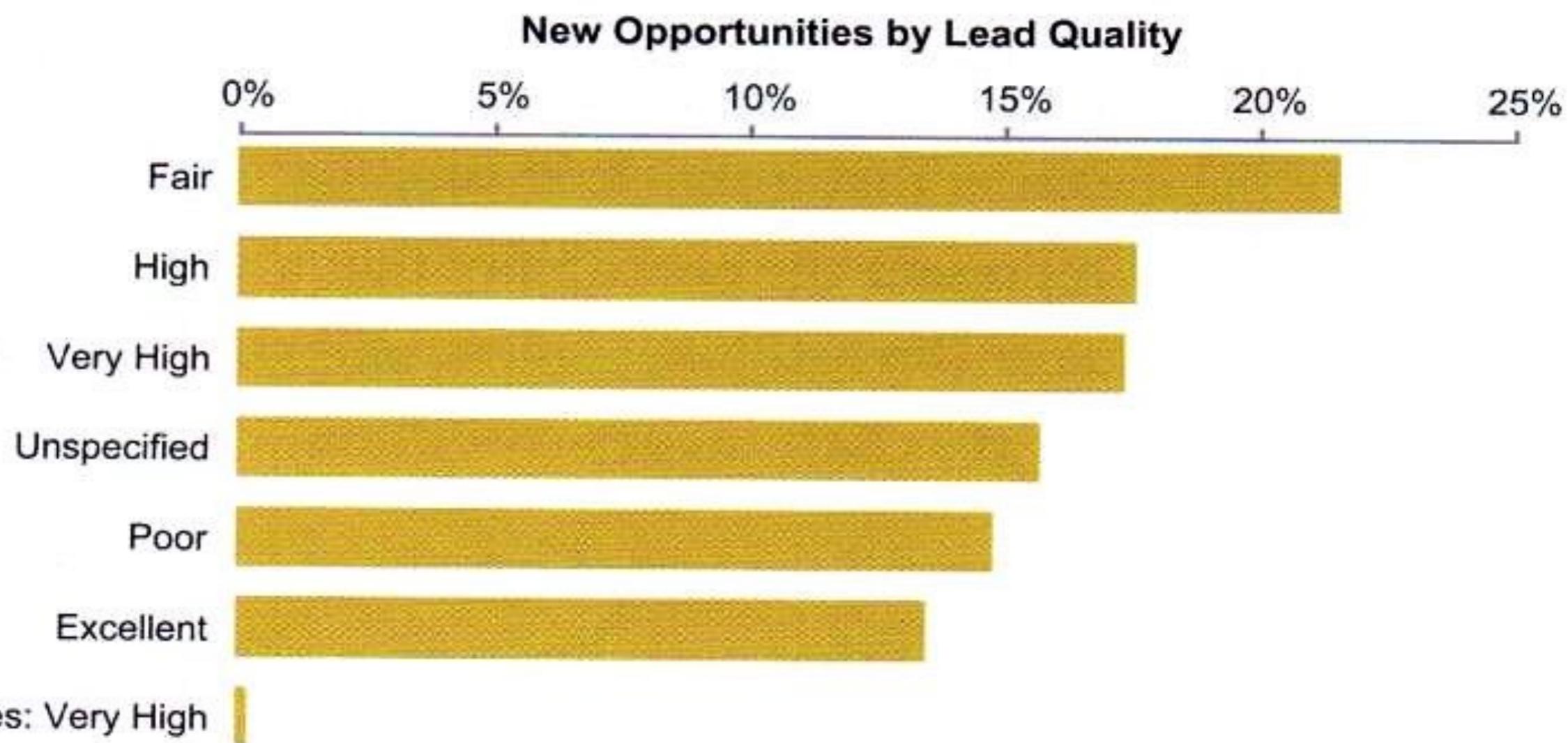


Figure 3-11. This horizontal bar graph does a much better job of displaying part-to-whole data than the preceding pie charts.

# USAR REPRESENTAÇÕES VISUAIS INADEQUADAS

---



Figure 3-12. This graph uses the two-dimensional area of circles to encode their values, which needlessly obscures the data.

# USAR REPRESENTAÇÕES VISUAIS INADEQUADAS

---

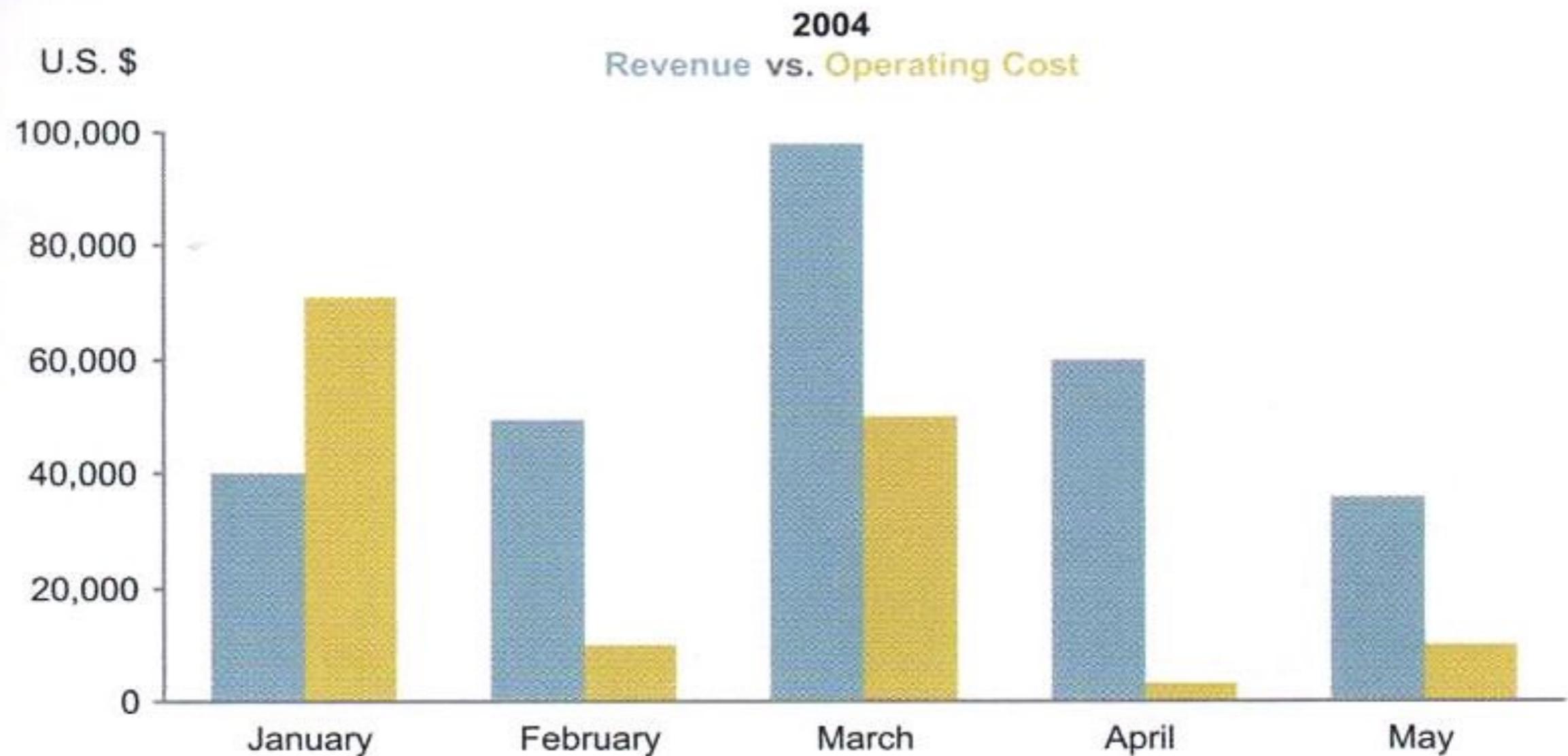


Figure 3-13. This bar graph does a good job of displaying a time series of actual versus budgeted revenue values.

# USAR REPRESENTAÇÕES VISUAIS INADEQUADAS

---

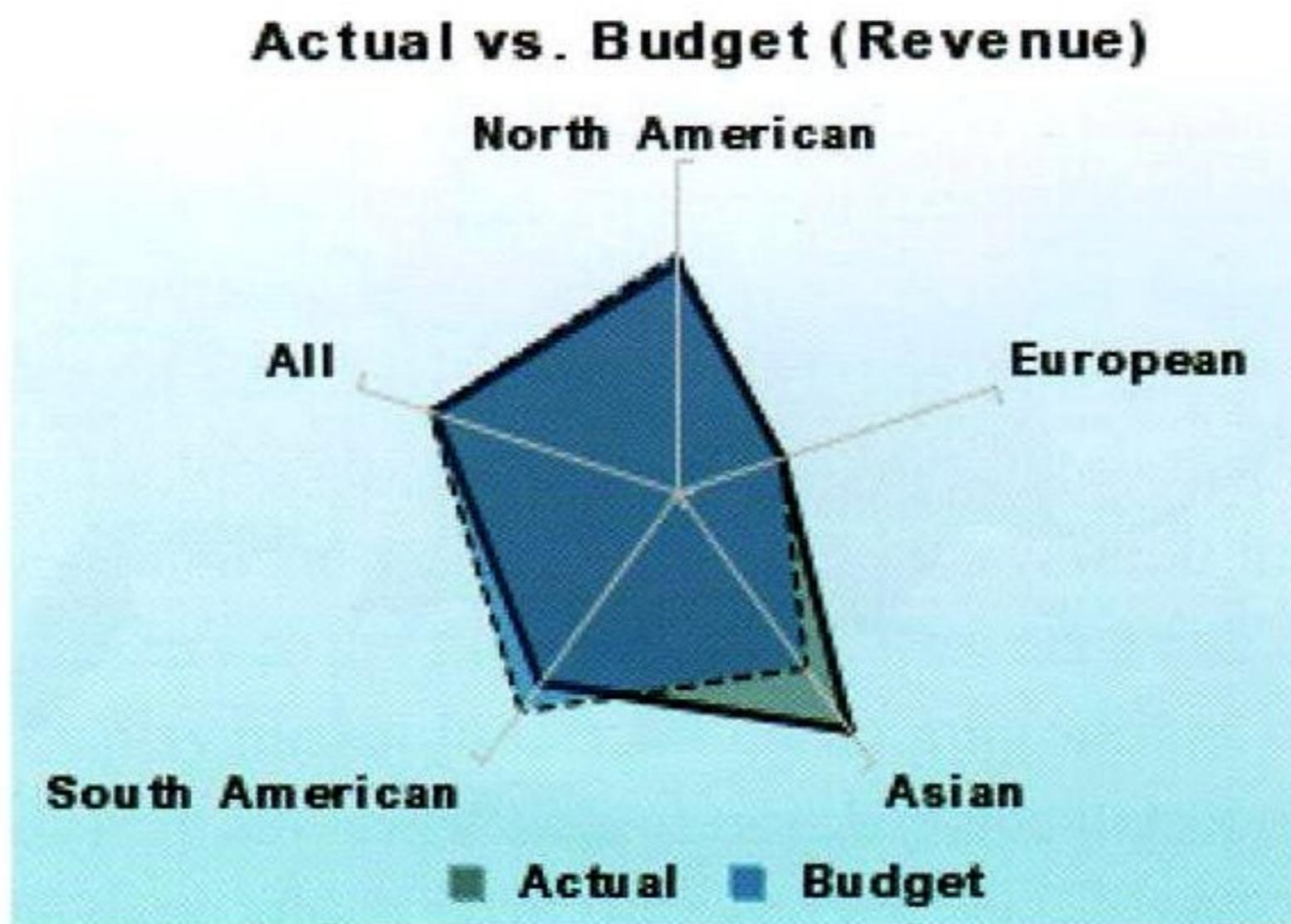


Figure 3-14. This radar graph obscures the straightforward data that it's trying to convey.

# USAR REPRESENTAÇÕES VISUAIS INADEQUADAS

---

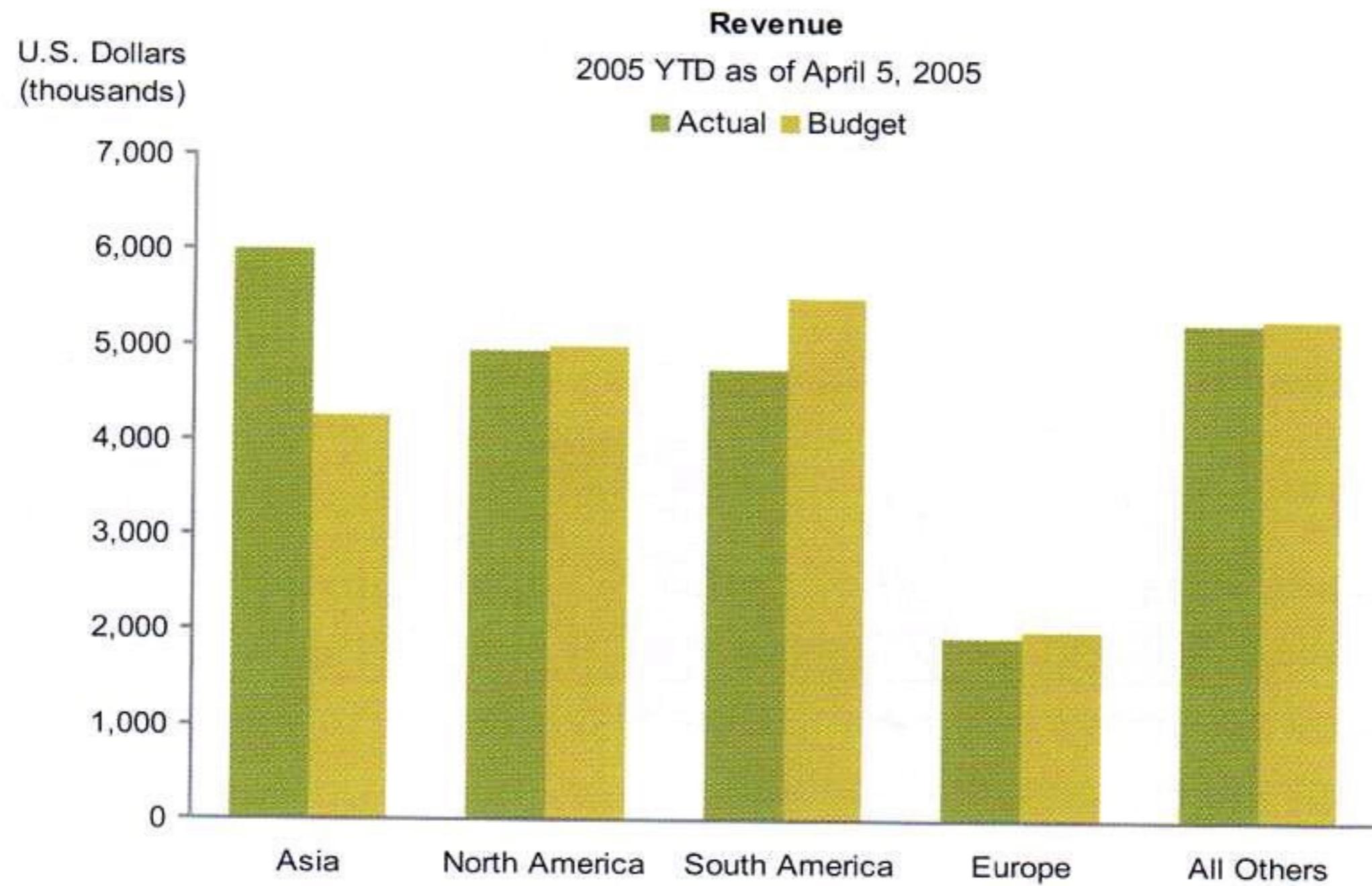


Figure 3-15. This bar graph effectively compares actual to budgeted revenue data.

# USAR REPRESENTAÇÕES VISUAIS INADEQUADAS

---

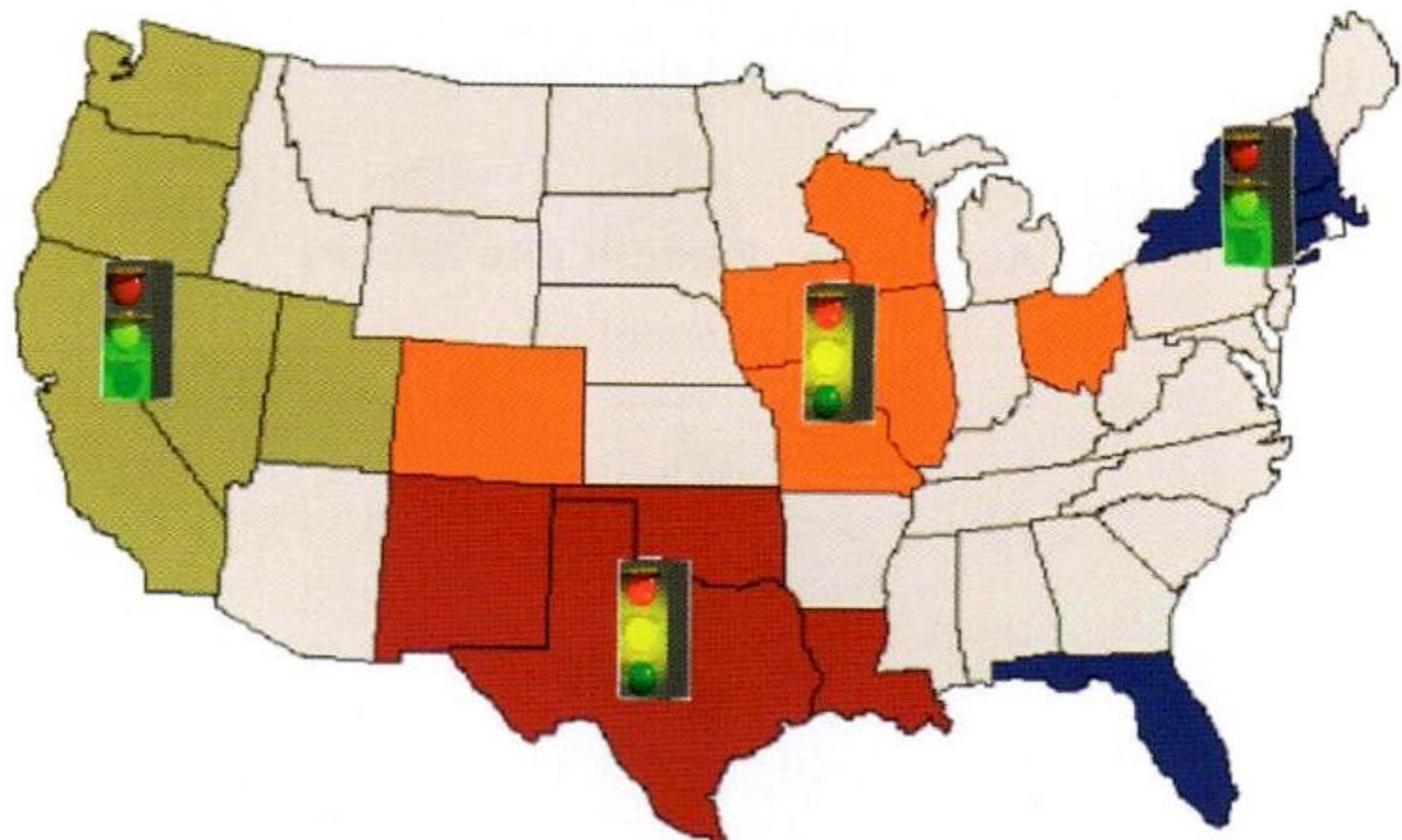


Figure 3-16. This display uselessly encodes quantitative values on a map of the United States.

# USAR VARIAÇÕES DESNECESSÁRIAS NAS REPRESENTAÇÕES

---

- Usar técnicas de visualização variadas para um mesmo propósito desnecessariamente

# USO DE REPRESENTAÇÕES VISUAIS POBRES

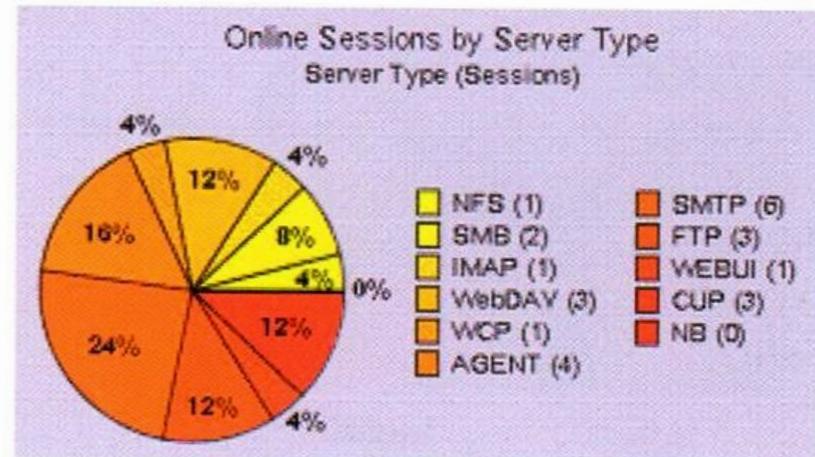
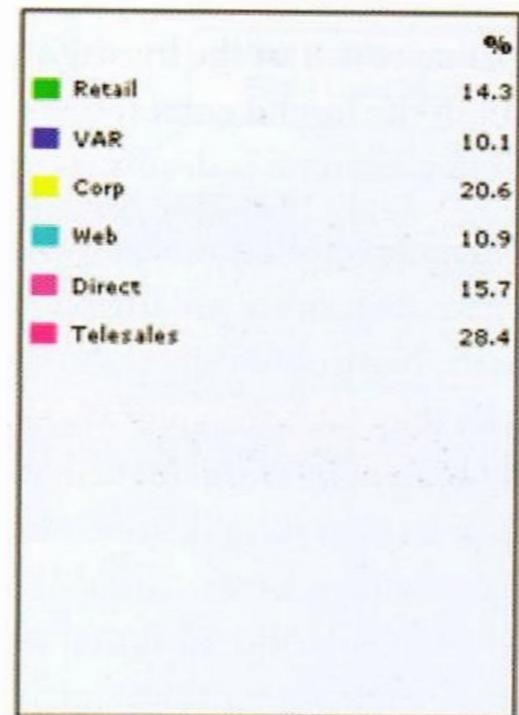
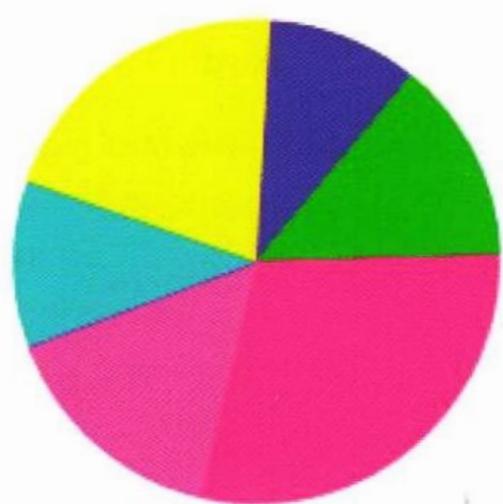


Figure 3-20. This pie chart uses colors for the slices that are too much alike to be clearly distinguished.

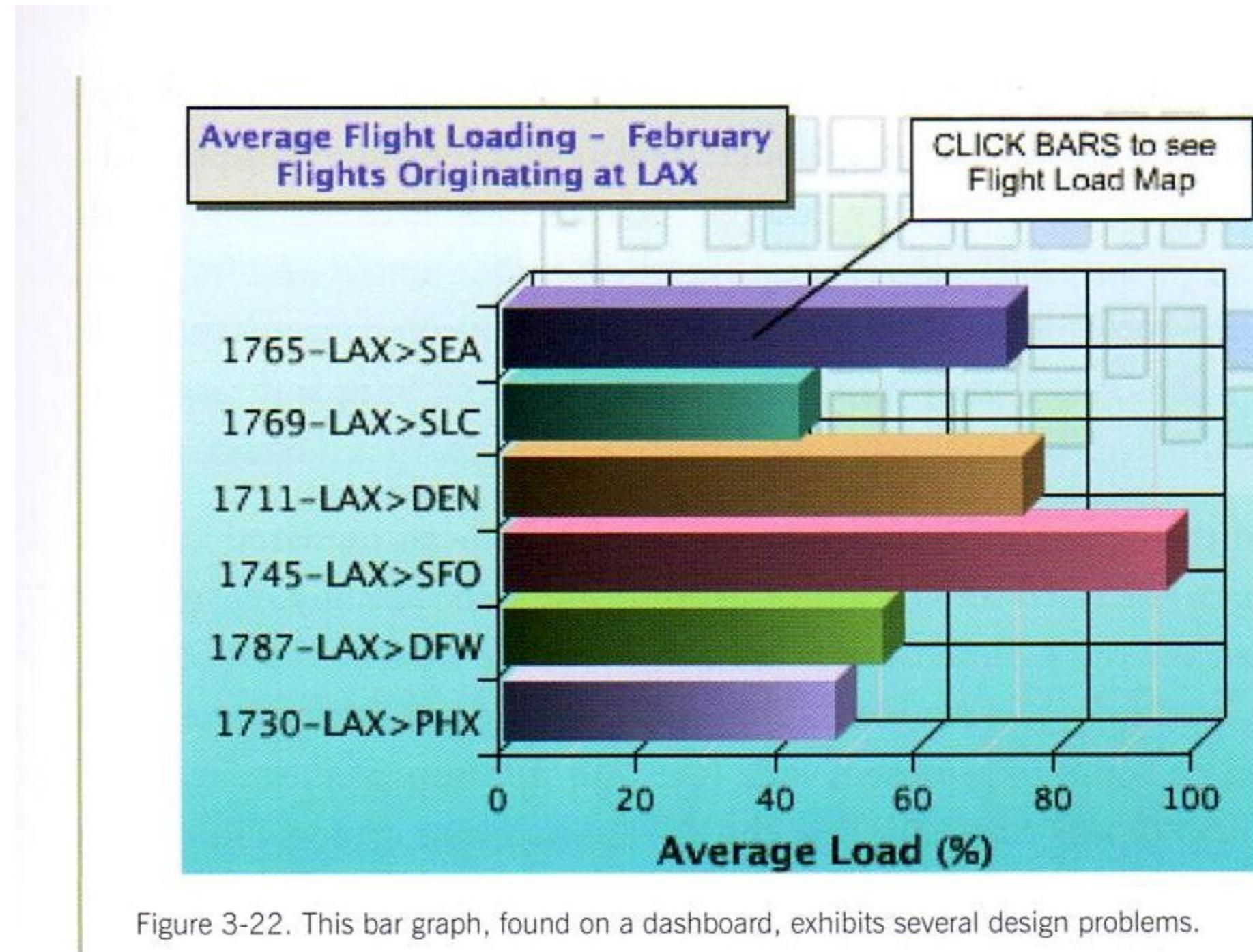
Figure 3-19. This pie chart illustrates several design problems.



Figure 3-21. These dashboard meters have definitely taken the dashboard metaphor too far.

# USO DE REPRESENTAÇÕES VISUAIS POBRES

---



# USO DE REPRESENTAÇÕES VISUAIS POBRES

---

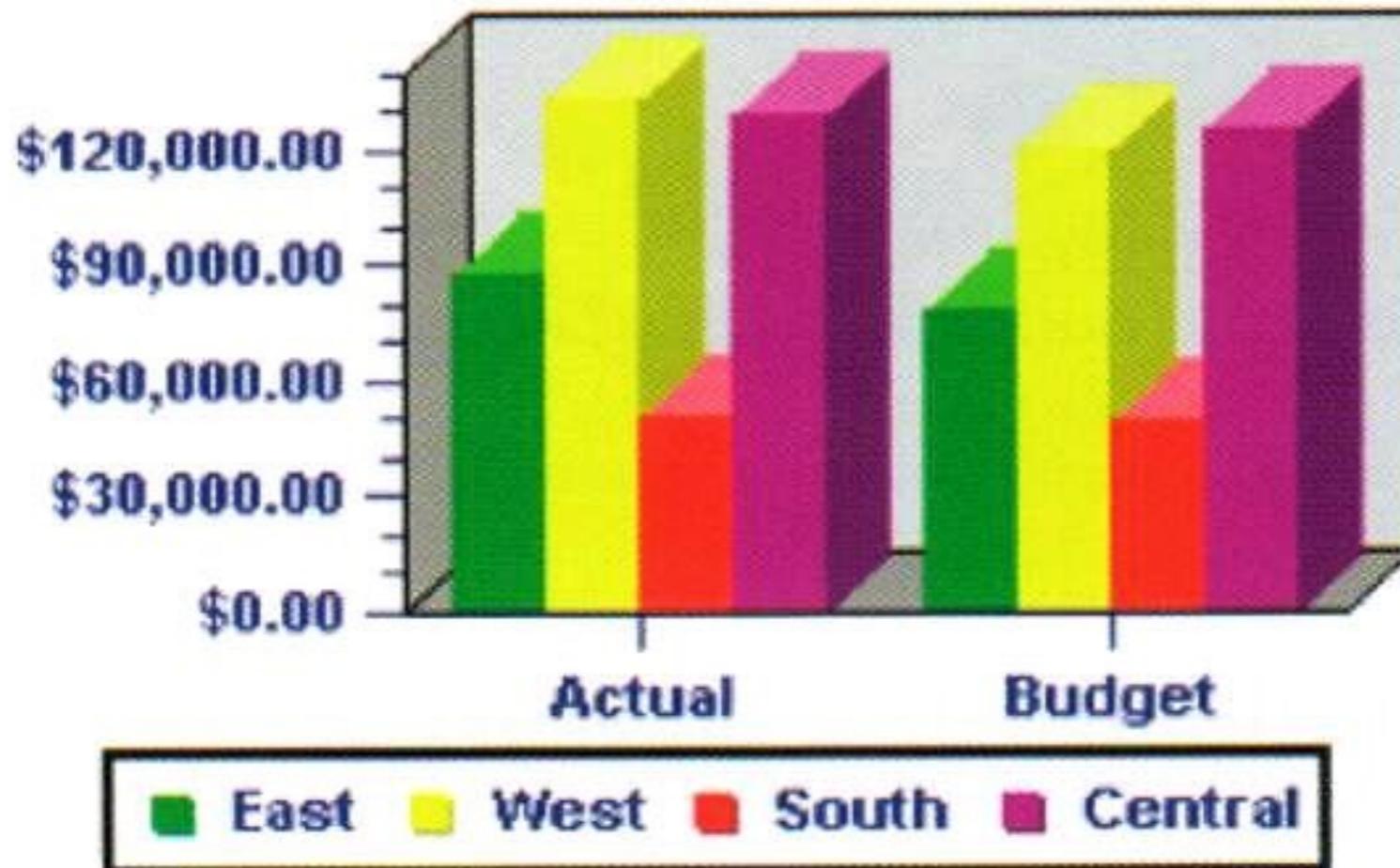
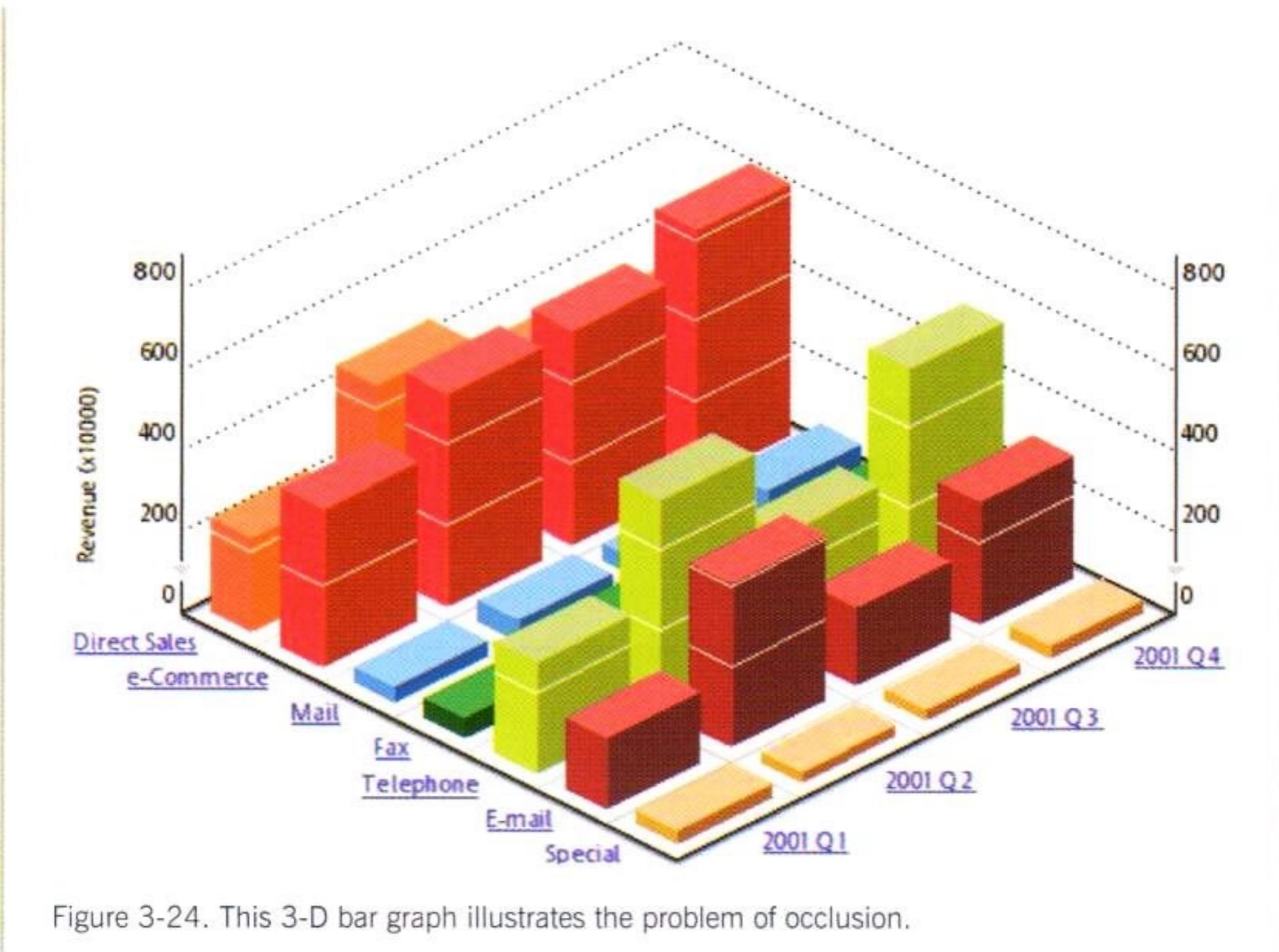


Figure 3-23. This bar graph, found on a dashboard, was poorly designed in a number of ways.

# USO DE REPRESENTAÇÕES VISUAIS POBRES



# POSICIONAMENTO POBRE DOS COMPONENTES

---

- Há várias técnicas para posicionamento dos componentes de forma a
  - Enfatizar elementos mais importantes
  - Permitir a comparação entre dados de componentes de forma eficaz

# NÃO REALÇAR OS DADOS IMPORTANTES DE FORMA EFETIVA

---

- É preciso usar atributos pré-atentivos para chamar a atenção do usuário para características importantes ou alarmantes

# USO DE OBJETIVOS VISUAIS PURAMENTE DECORATIVOS

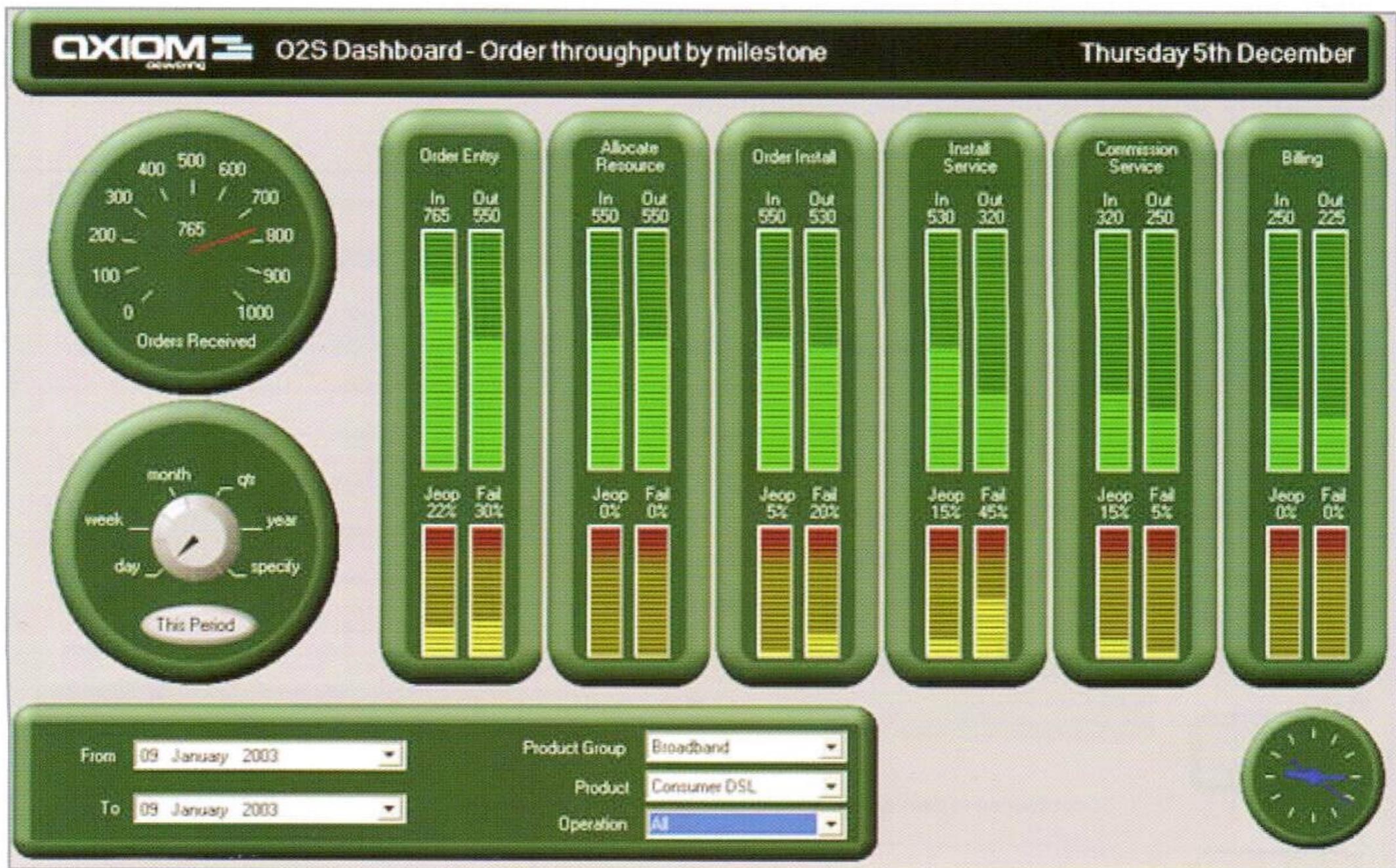


Figure 3-28. This dashboard is trying to look like something that it is not, resulting in useless and distracting decoration.

# USO INCORRETO DAS CORES

---

- Assim como em qualquer visualização, o uso das cores deve ser adequado, especialmente para pessoas daltônicas

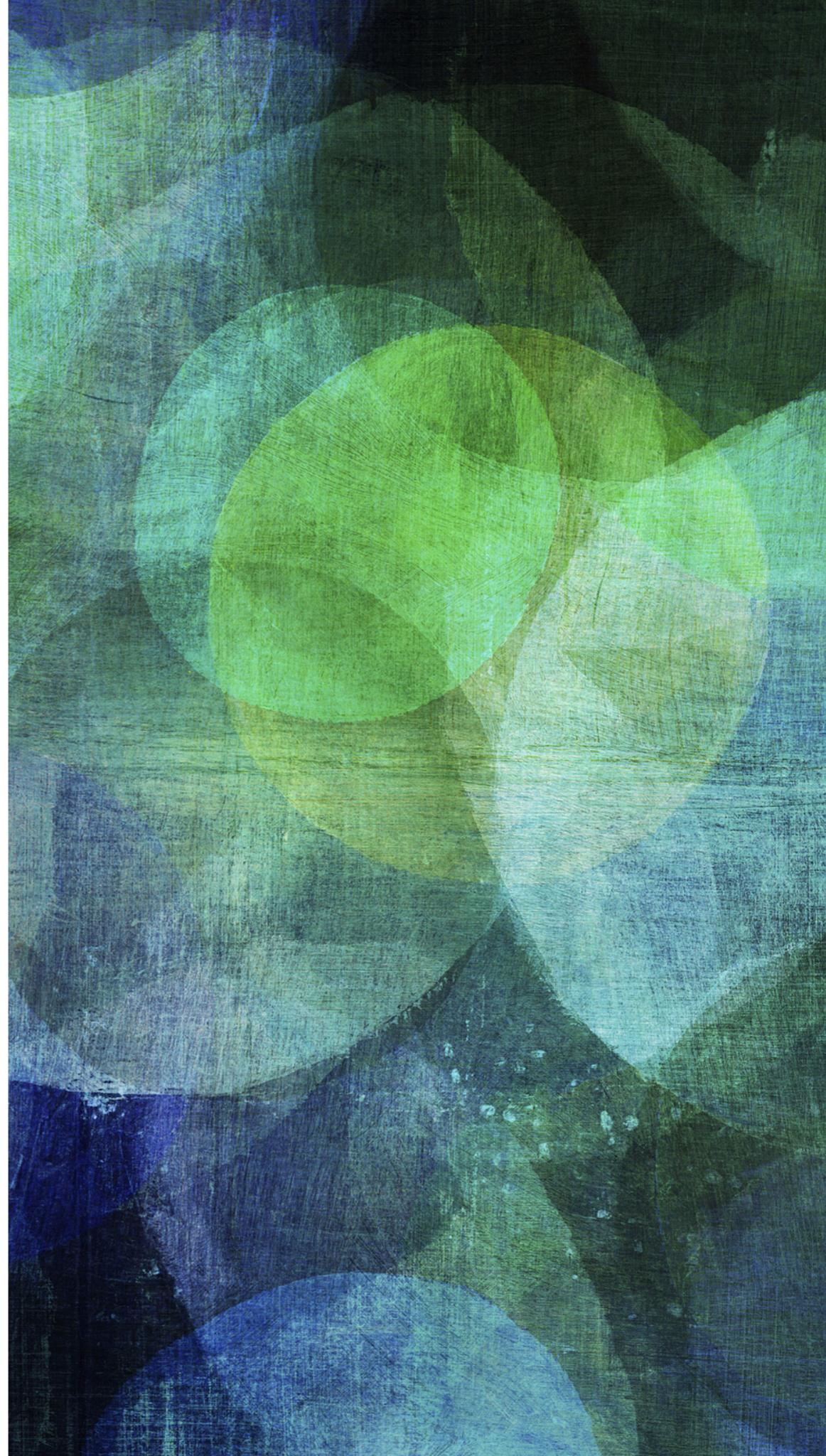
# DESIGN NÃO ATRAENTE

---

- A satisfação do usuário com relação a beleza de uma ferramenta é atualmente uma característica muito importante

# FUNDAMENTOS

---



# LIMITAÇÕES DA MEMÓRIA

---

- Temos três tipos de memória:
  - Icônica (registro sensorial)
  - Curto prazo (memória de trabalho)
  - Longo prazo
- A memória de trabalho:
  - É temporária
  - Tem capacidade limitada
- O fato de toda a informação necessária estar disponível na tela reduz as limitações de memória

# CODIFICAÇÃO DOS DADOS PARA PERCEPÇÃO

---

- Uso de atributos pré-atentivos
  - Cor
  - Intensidade
  - Posição
  - Forma
  - Movimento

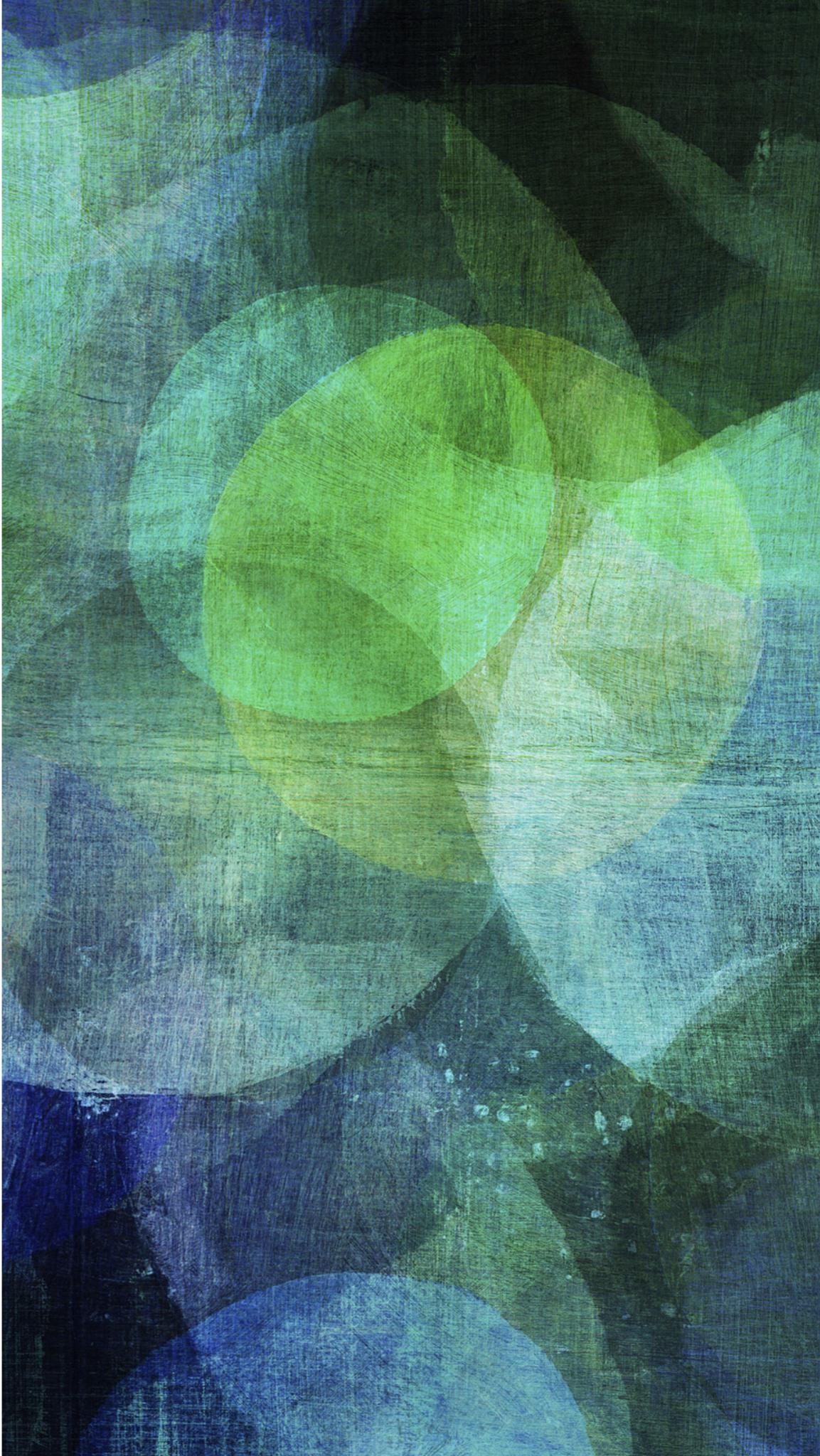
# PRINCÍPIOS GESTALT

---

- Fechamento
- Similaridade
- Proximidade

# PRINCÍPIOS GESTALT

---



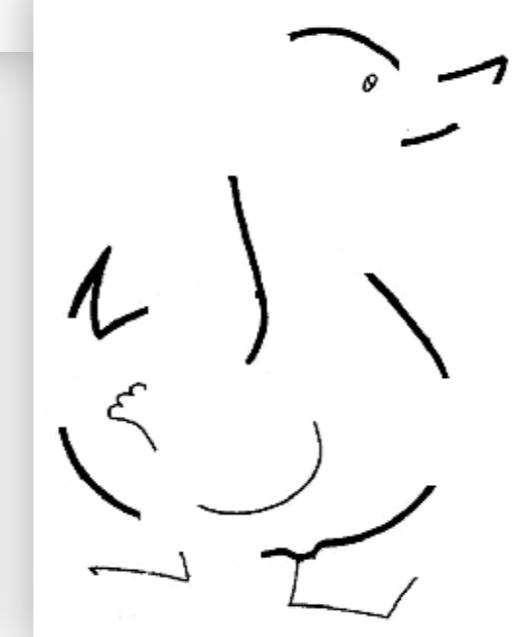
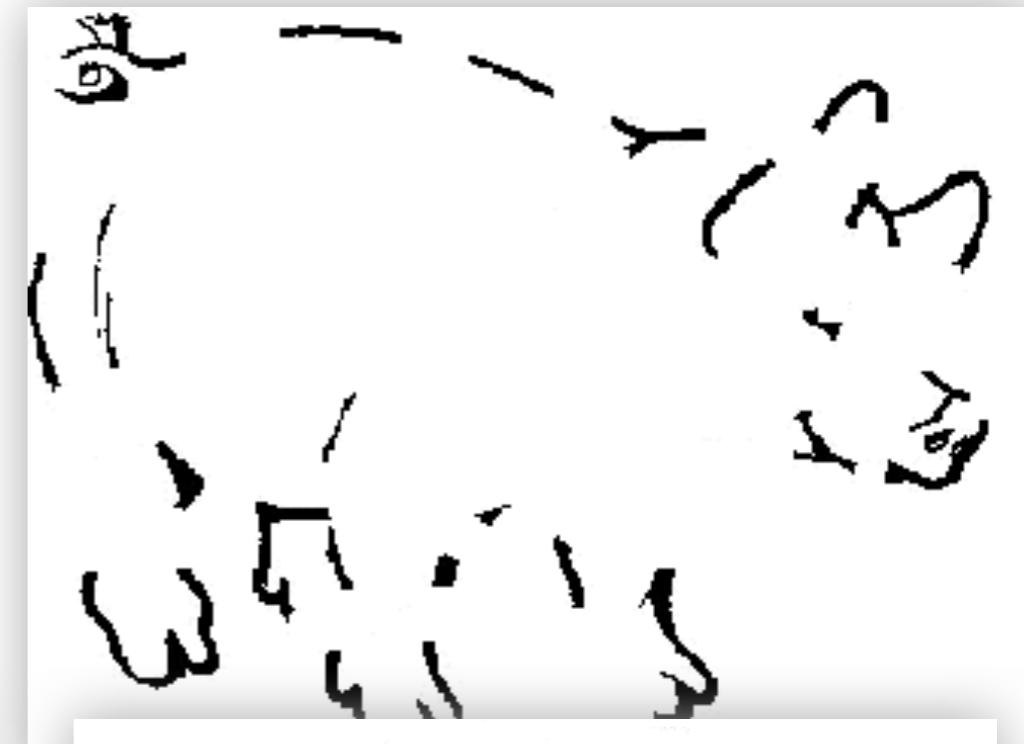
# PRINCÍPIOS GESTALT

---

- Gestalt significa essência ou forma de um objeto
- Estudos da psicologia que tiveram início na década de 20 sobre a nossa capacidade visual de reconhecimento de figuras ao invés de simples coleções de linhas e formas

# LEI DO FECHAMENTO

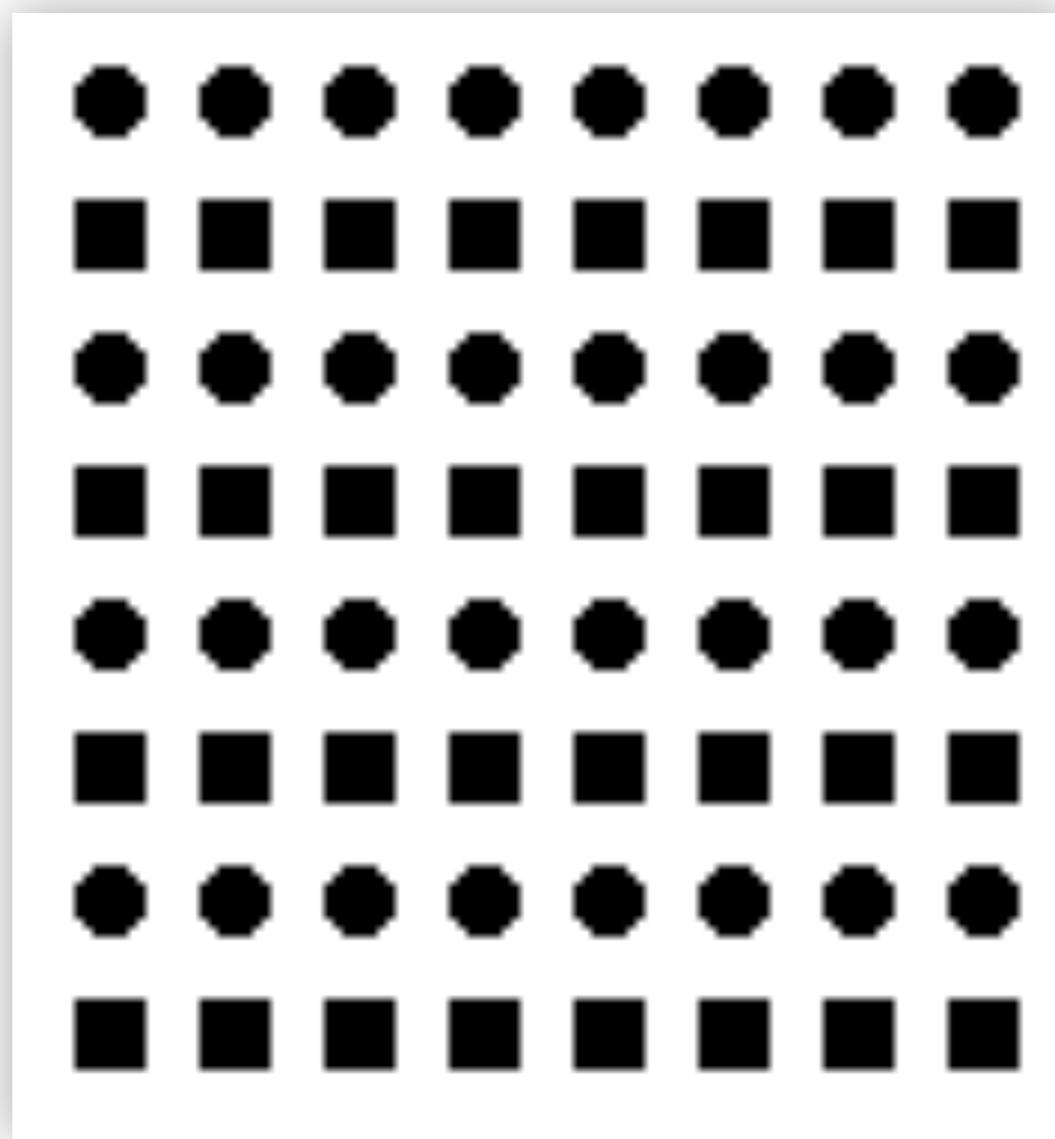
- A mente pode utilizar elementos da sua experiência mesmo sem a percepção de elementos visuais para completar uma figura



# LEI DA SIMILARIDADE

---

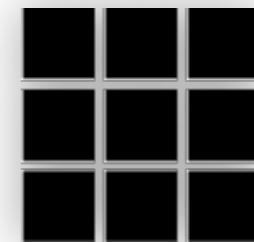
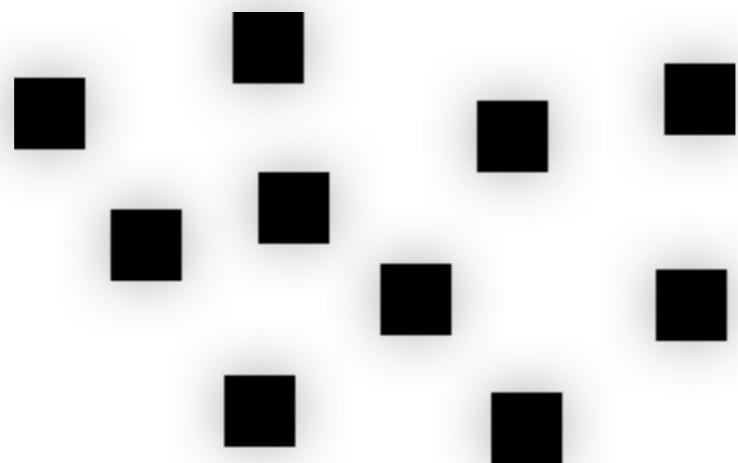
- A mente agrupa elementos similares em entidades coletivas
- Esta similaridade pode ser baseada em forma, cores, tamanho ou brilho



# LEI DA PROXIMIDADE

---

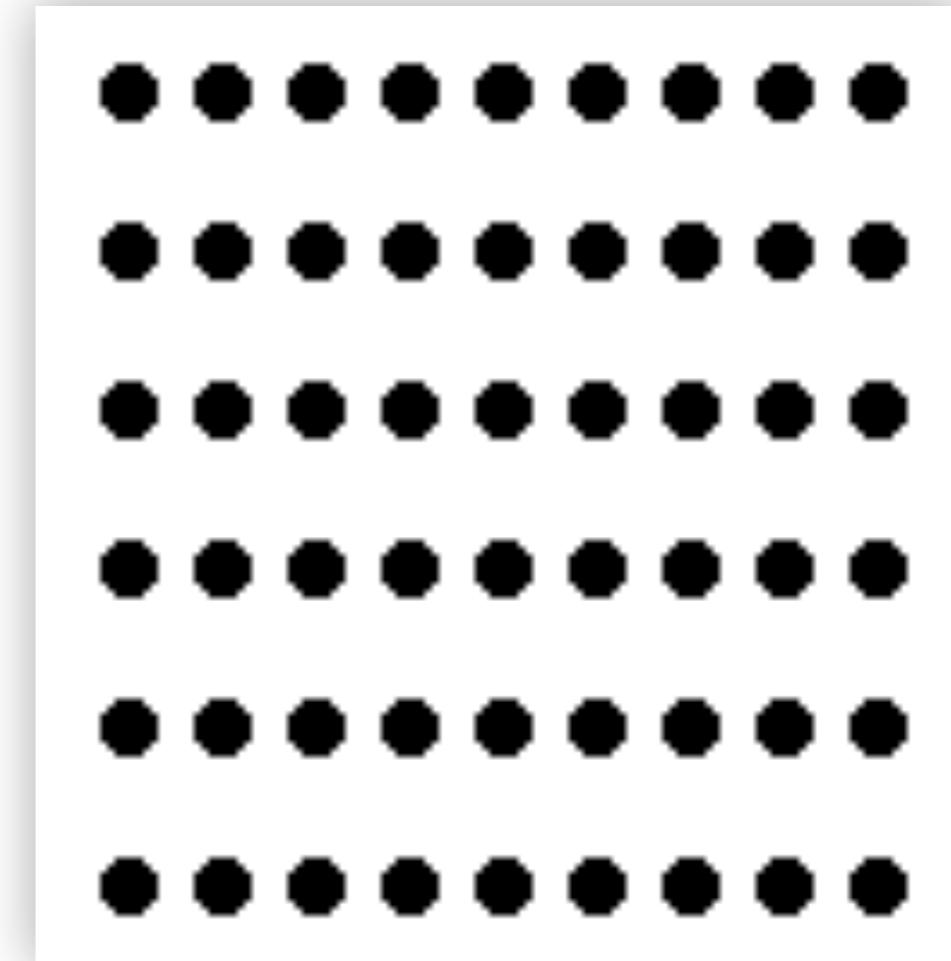
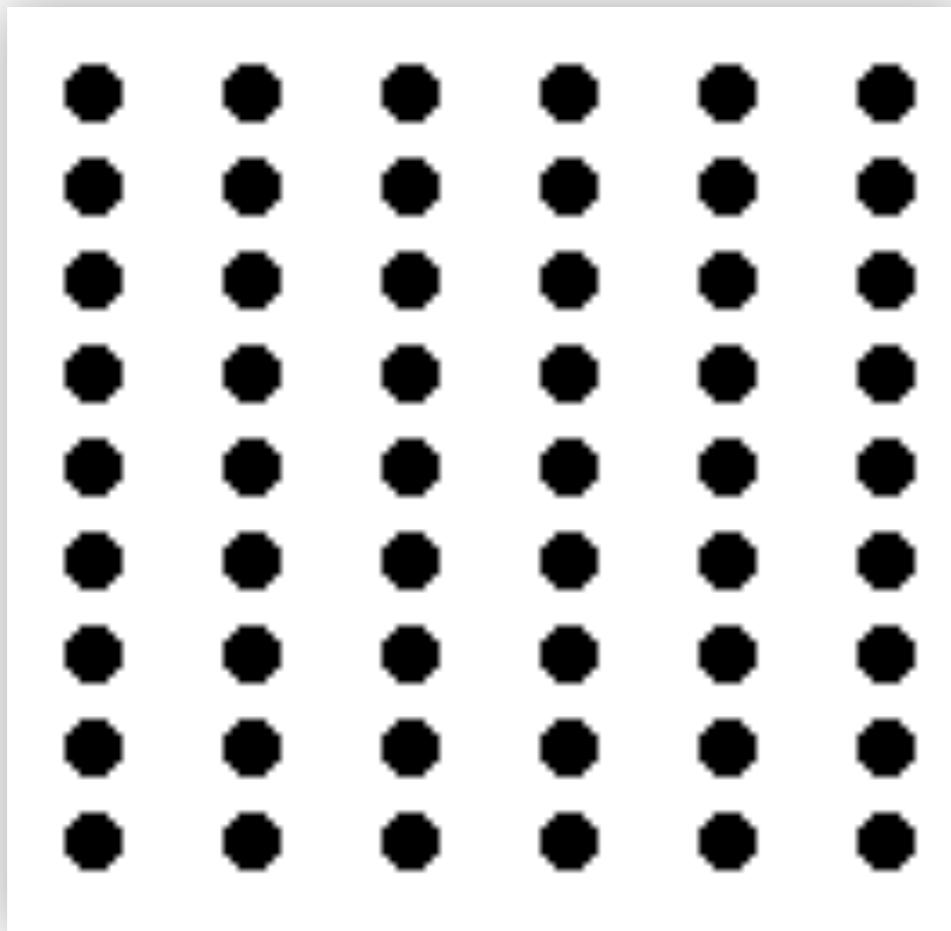
- Proximidade espacial ou temporal de elementos induz a mente a percebê-los coletivamente



# LEI DA PROXIMIDADE

---

- Características mais próximas são mais rapidamente associadas



# LEI DA PROXIMIDADE

---

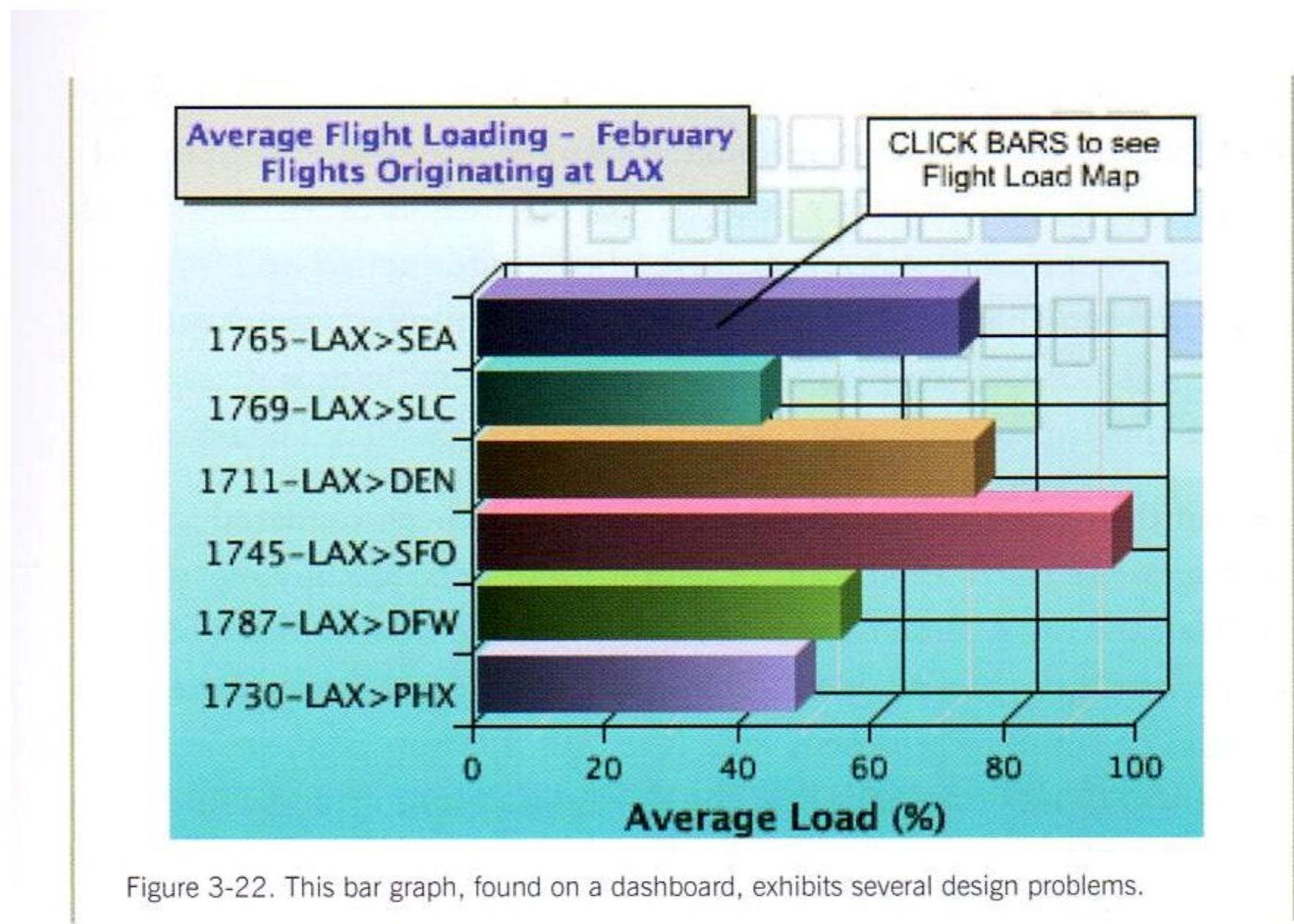
- O que você vê?
- Pares de linhas próximas ou pares de linhas distantes?



# PRINCÍPIO DA RAZÃO DATA-INK

---

- Razão entre os pixels úteis que representam dados e os que não representam dados deve ser maximizada



# PRINCÍPIO DA RAZÃO DATA-INK

---

1. *Reduza os pixels úteis que não representem dados*

- A. *Elimine os pixels desnecessários*
- B. *Tire a ênfase e regularize os que restarem*

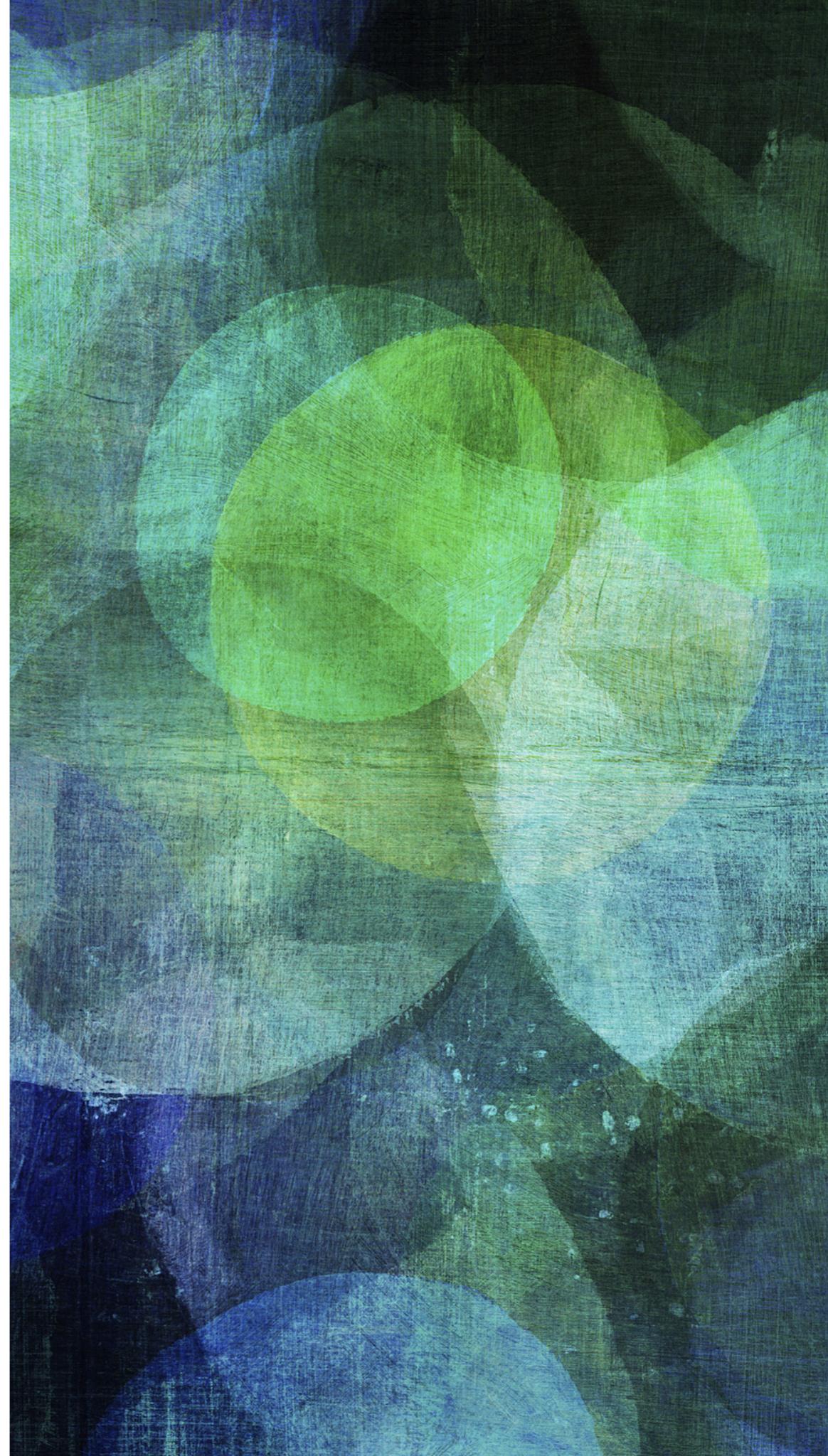
2. *Melhore os pixels que representam dados*

- A. *Elimine os pixels desnecessários*
- B. *Realce os mais importantes*

# BIBLIOTECA IDEAL DE REPRESENTAÇÕES

---

*Gráficos*



# BULLET CHARTS

---

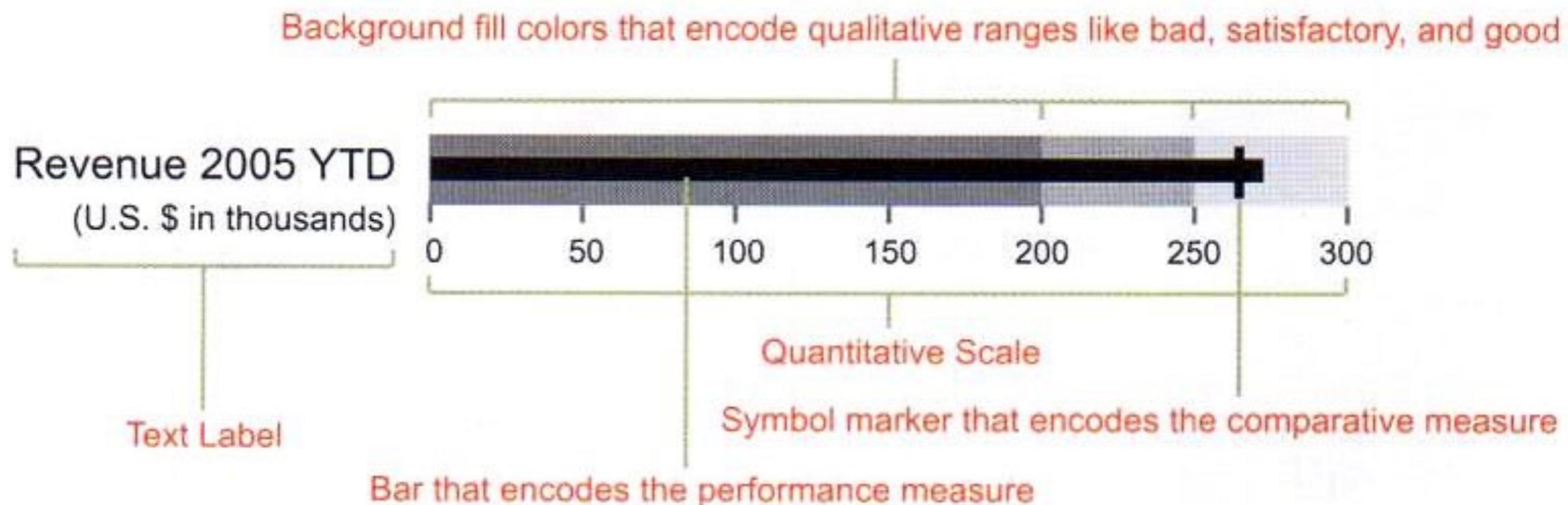


Figure 6-7. A simple bullet graph with each of its components labeled.

## 2005 YTD

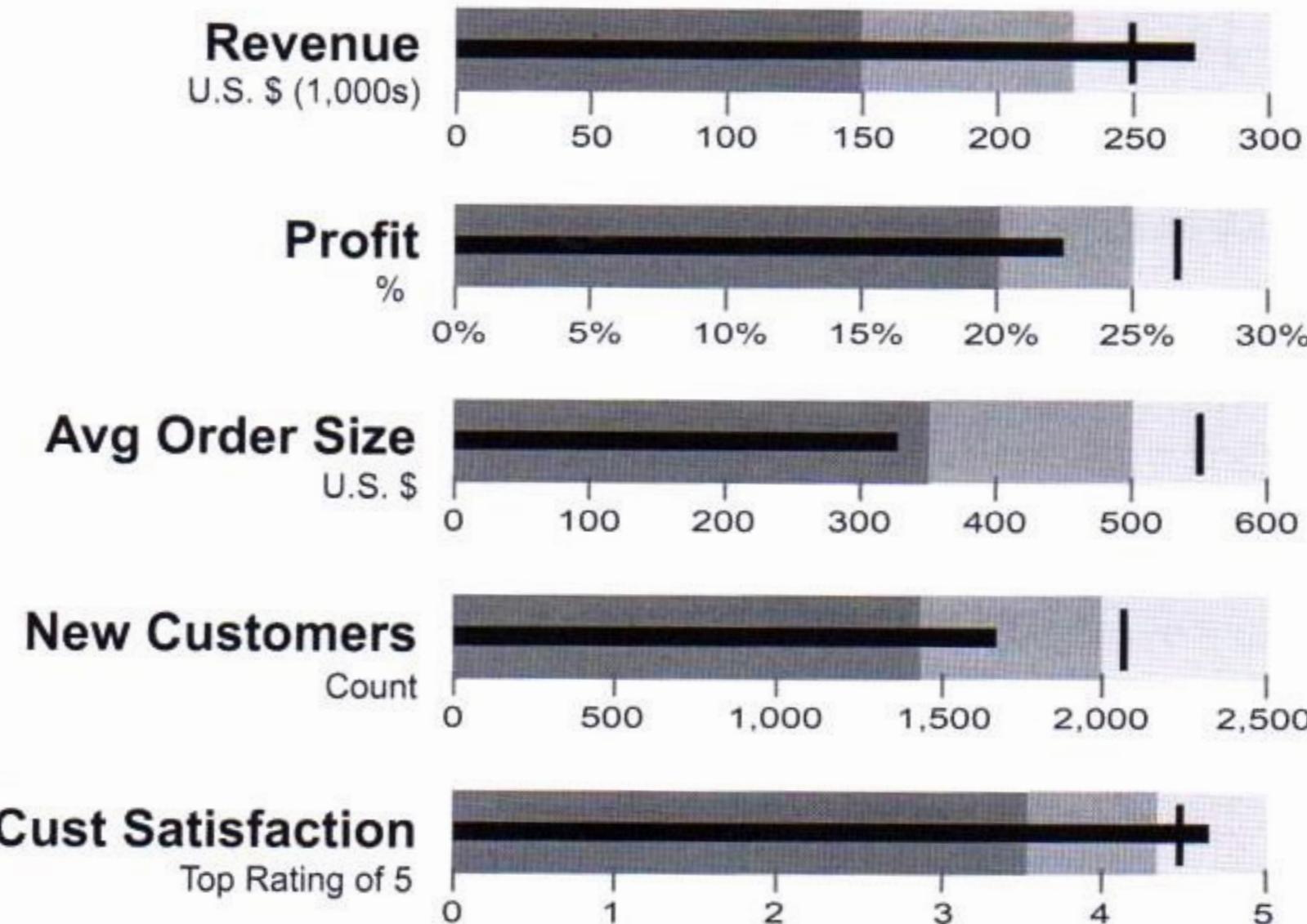
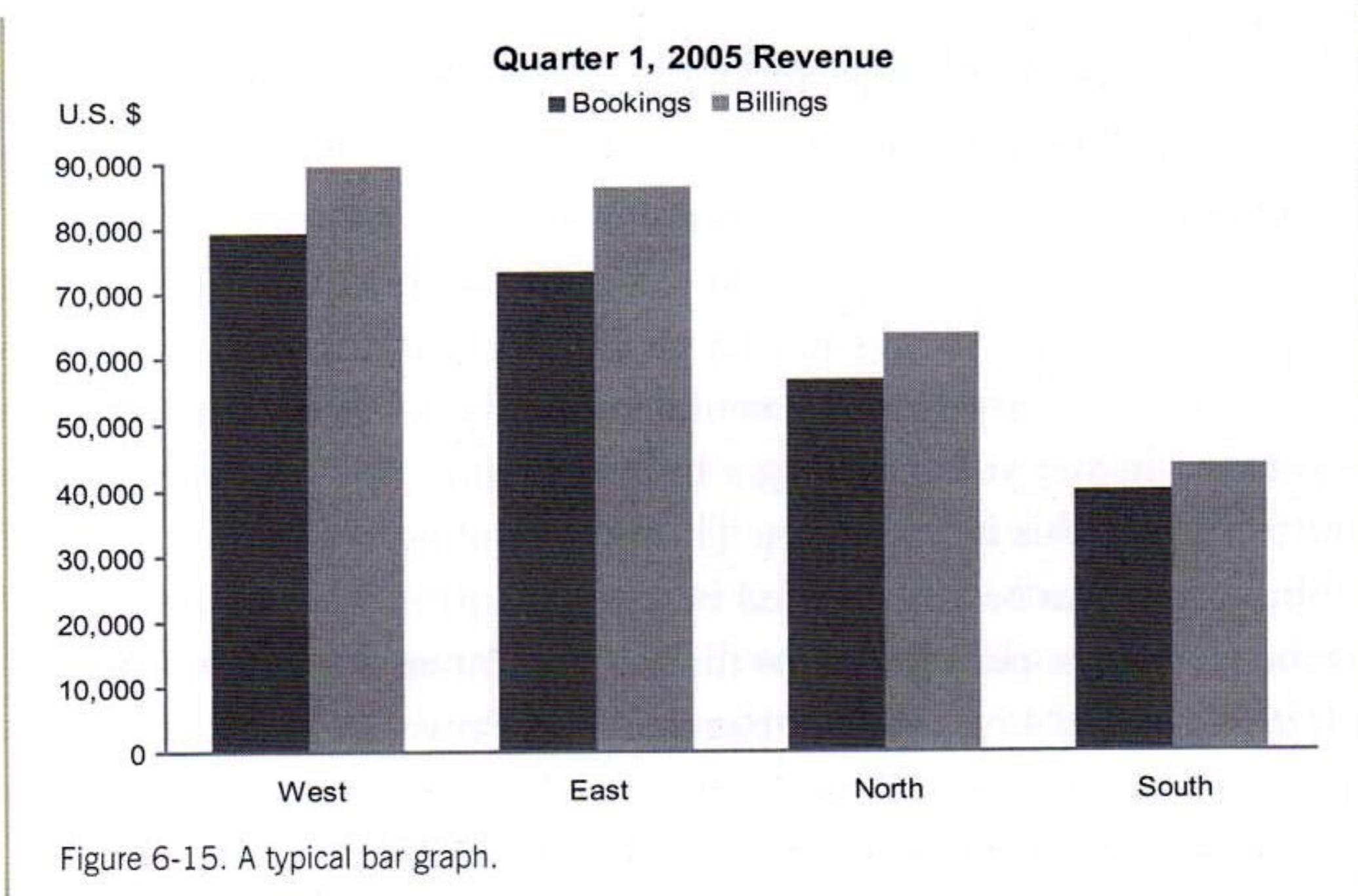


Figure 6-8. A collection of horizontally oriented bullet graphs.

# GRÁFICO DE BARRAS

---



# GRÁFICO DE BARRAS EMPILHADO

---

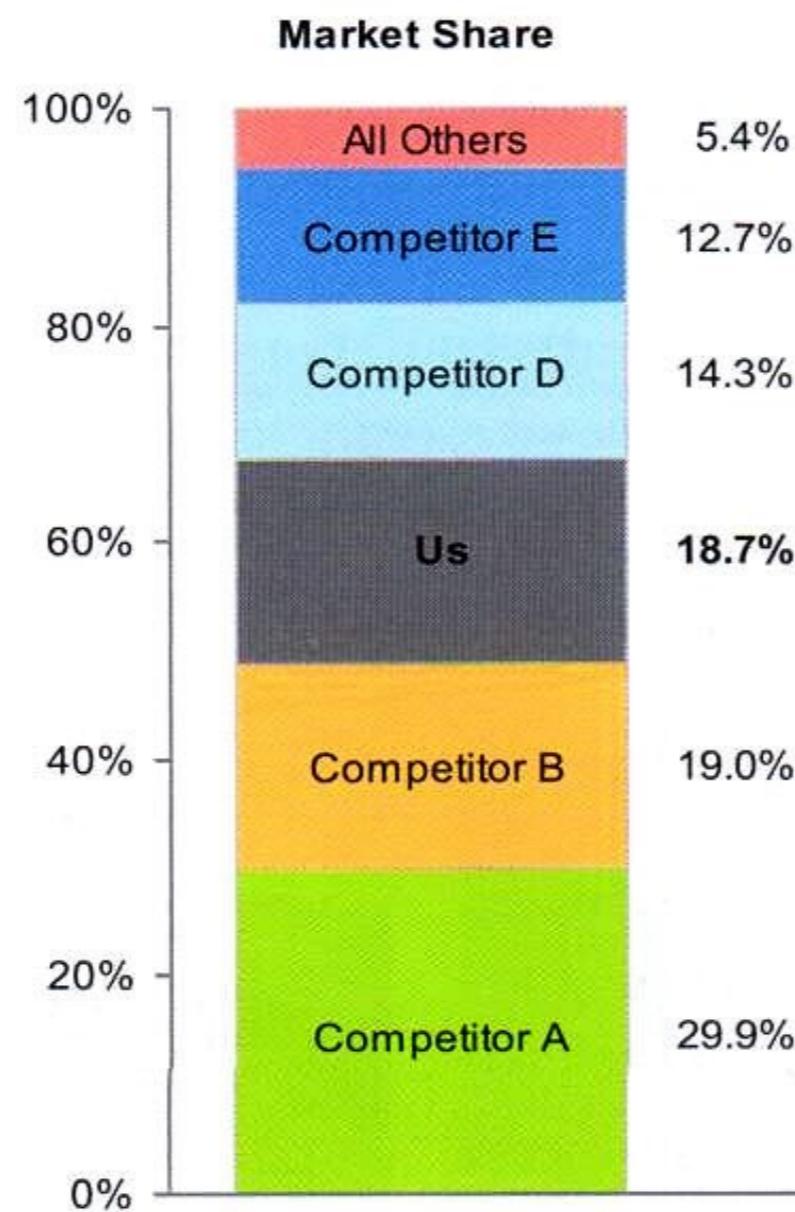


Figure 6-23. A stacked bar graph is not the best way to display a single series of part-to-whole data.

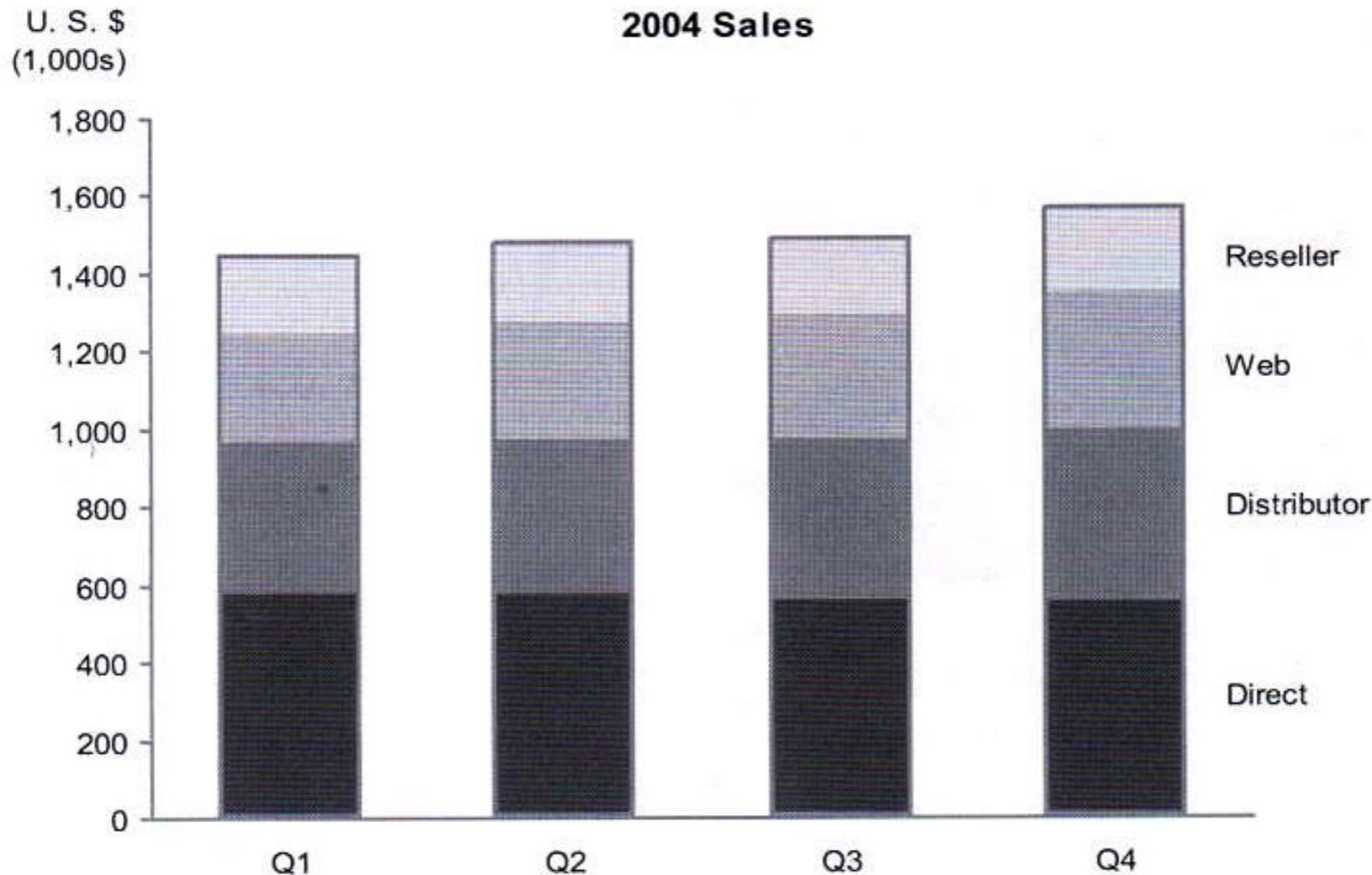


Figure 6-24. The only circumstance when a stacked bar graph is useful is when you must display multiple instances (for example, one for each quarter) of a whole (total sales) and its parts (in this case, per sales channel), with a greater emphasis on the whole than the parts.

# GRÁFICO DE BARRAS E LINHA

---

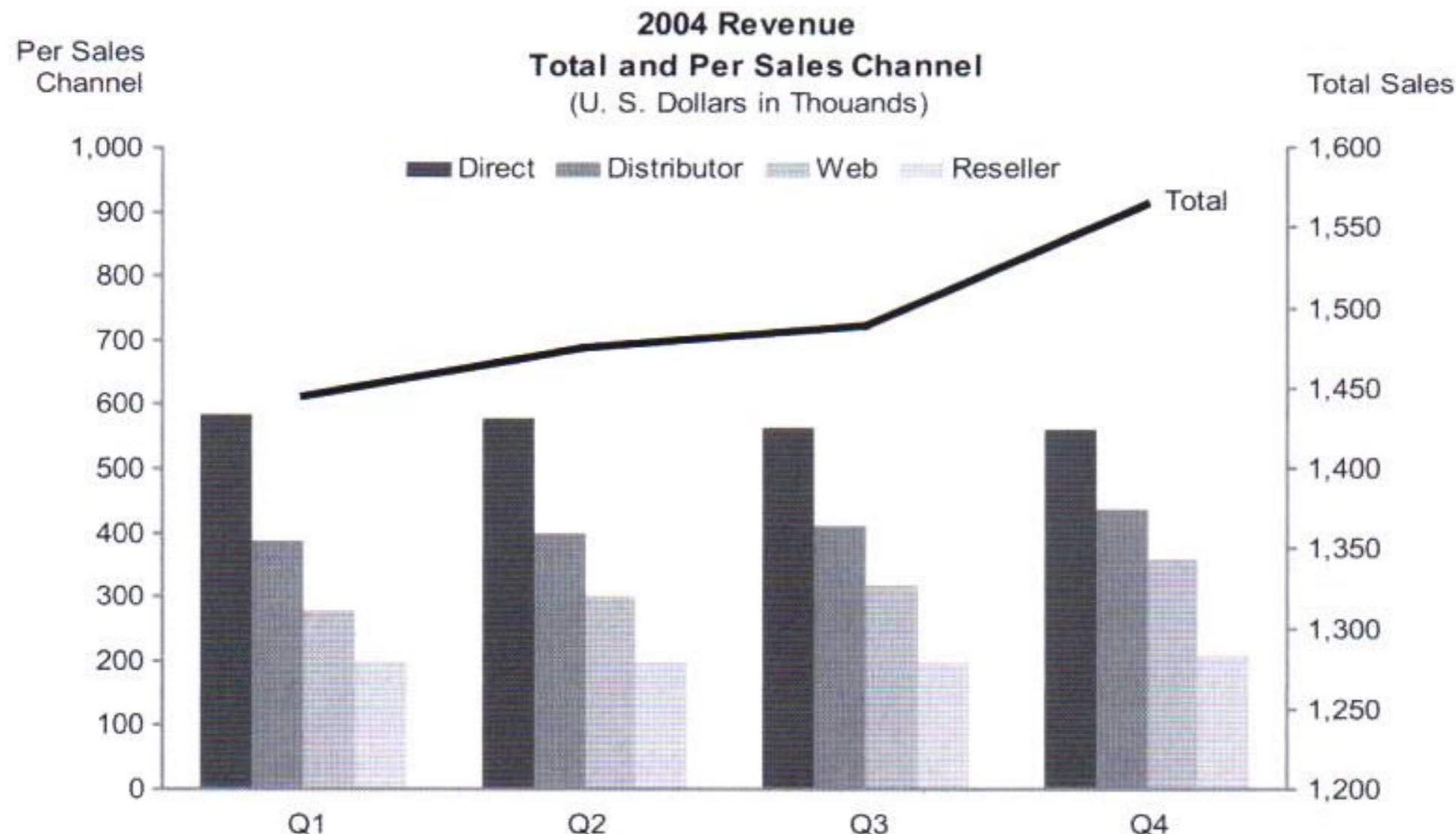


Figure 6-27. Example of a combination bar and line graph that displays quarterly instances of revenue by sales channel, encoded as bars, and total revenue, encoded as a line.

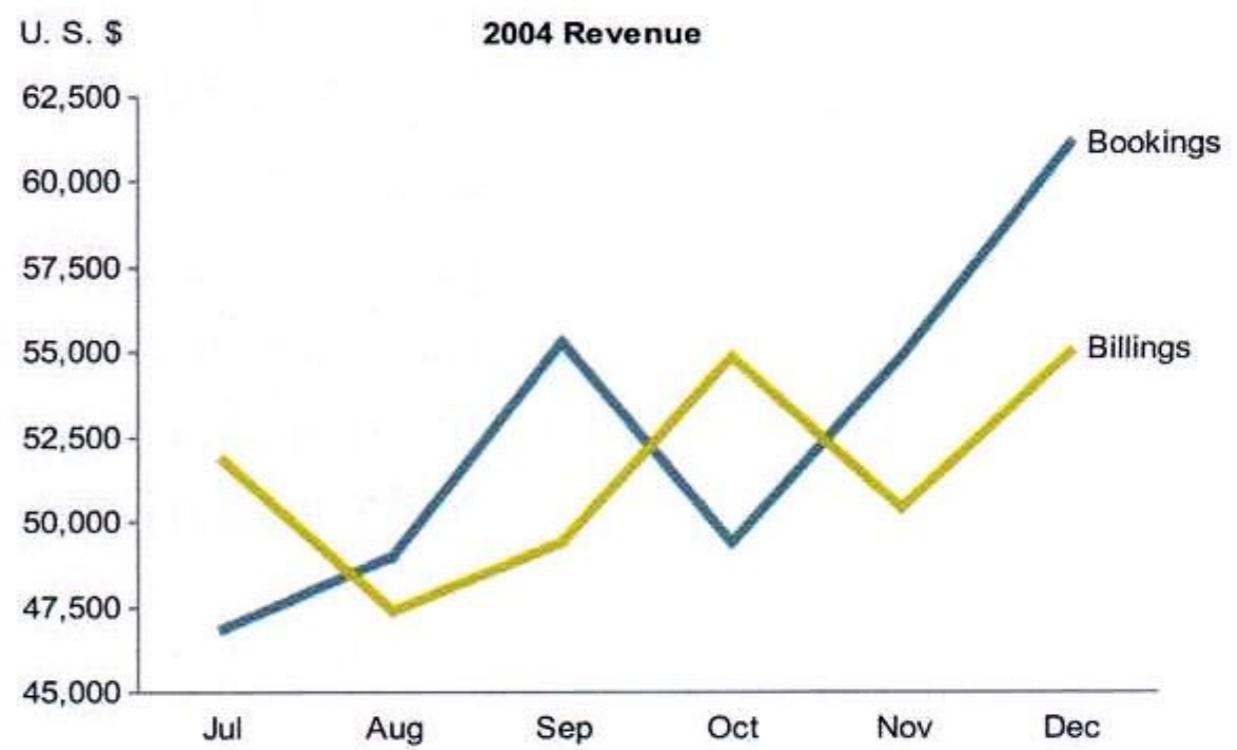


Figure 6-29. Two graphs of the same time-series data: a bar graph on the left and a line graph on the right. Notice how the overall shape of the data is much easier to see in the line graph.

# SPARKLINES

---



\$137,384.28 Checking Balance 05/20/2005

Figure 6-30. A simple sparkline that displays the 12-month history of a checking account balance.

# BOXPLOTS

---

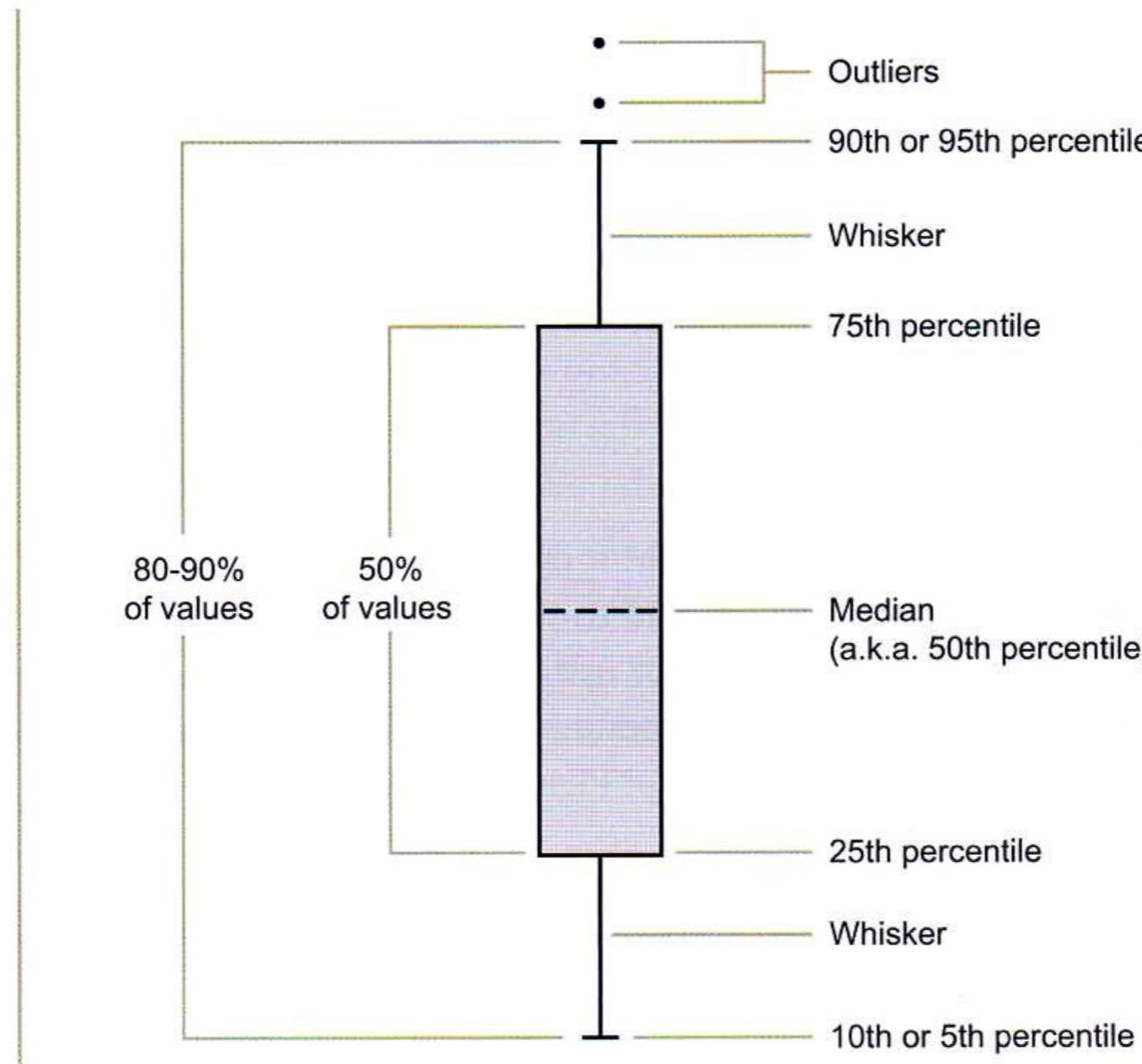


Figure 6-38. An individual box plot with whiskers. Outliers are individual data values that fall outside the range that is defined by the whiskers.

# GRÁFICO DE DISPERSÃO

---

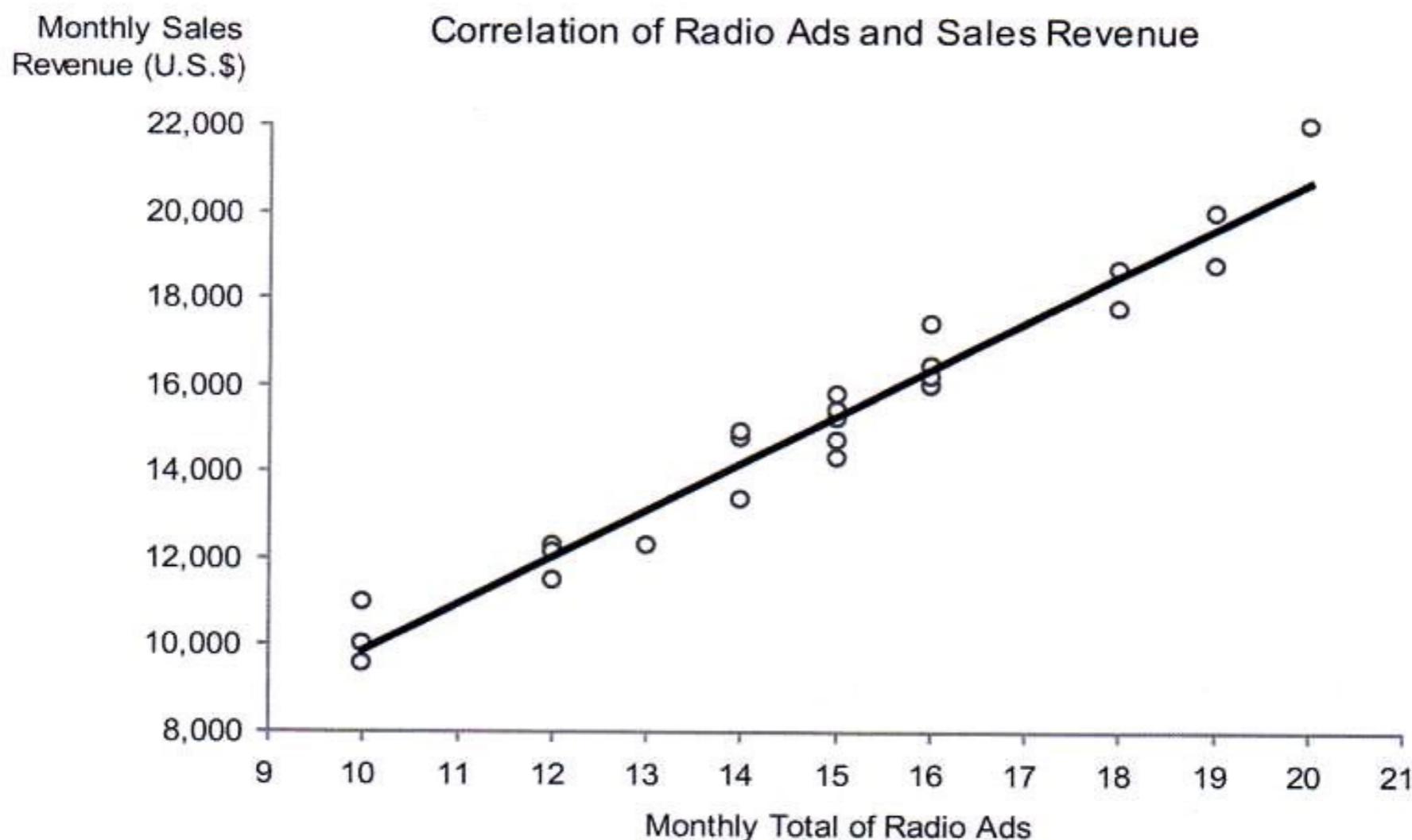


Figure 6-40. This scatter plot displays the correlation between the number of broadcast ads and the amount of sales revenue for 24 months.

# TREEMAP

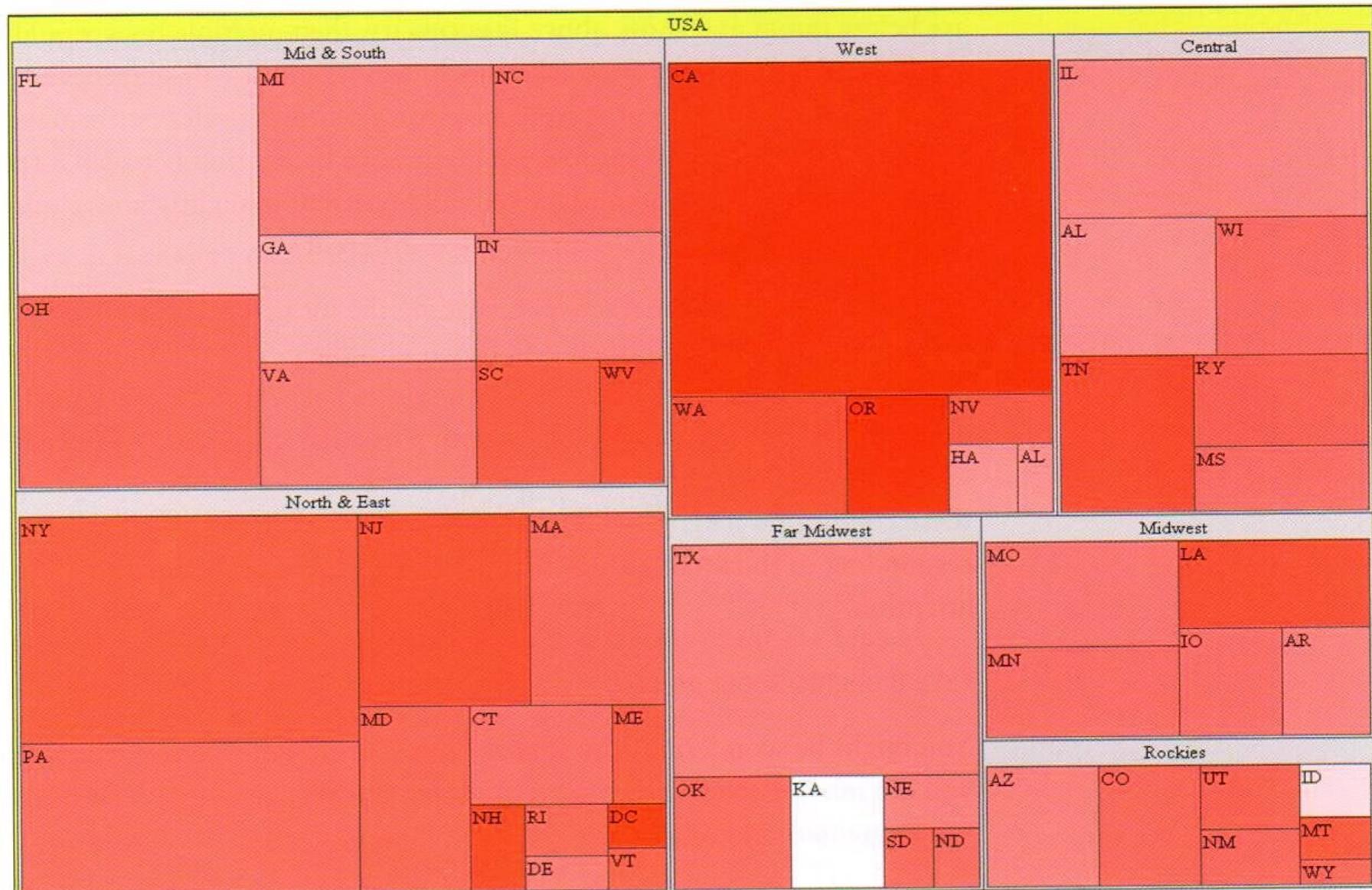
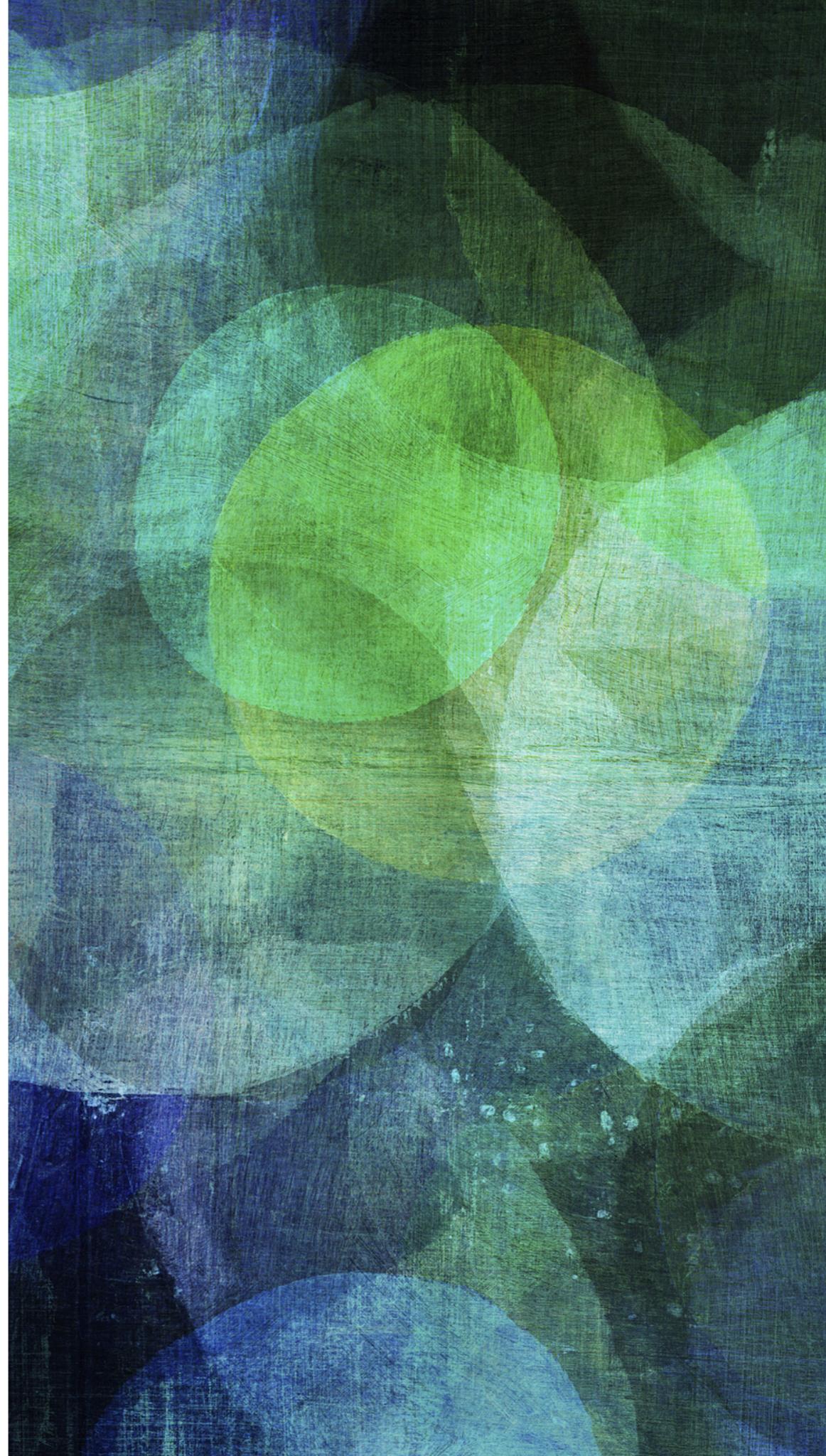


Figure 6-43. This treemap, created using Treemap 4.3 software developed at the University of Maryland's Human-Computer Interaction Lab (HCIL), displays sales data (revenue and percentage of quota) by region.

# BIBLIOTECA IDEAL DE REPRESENTAÇÕES

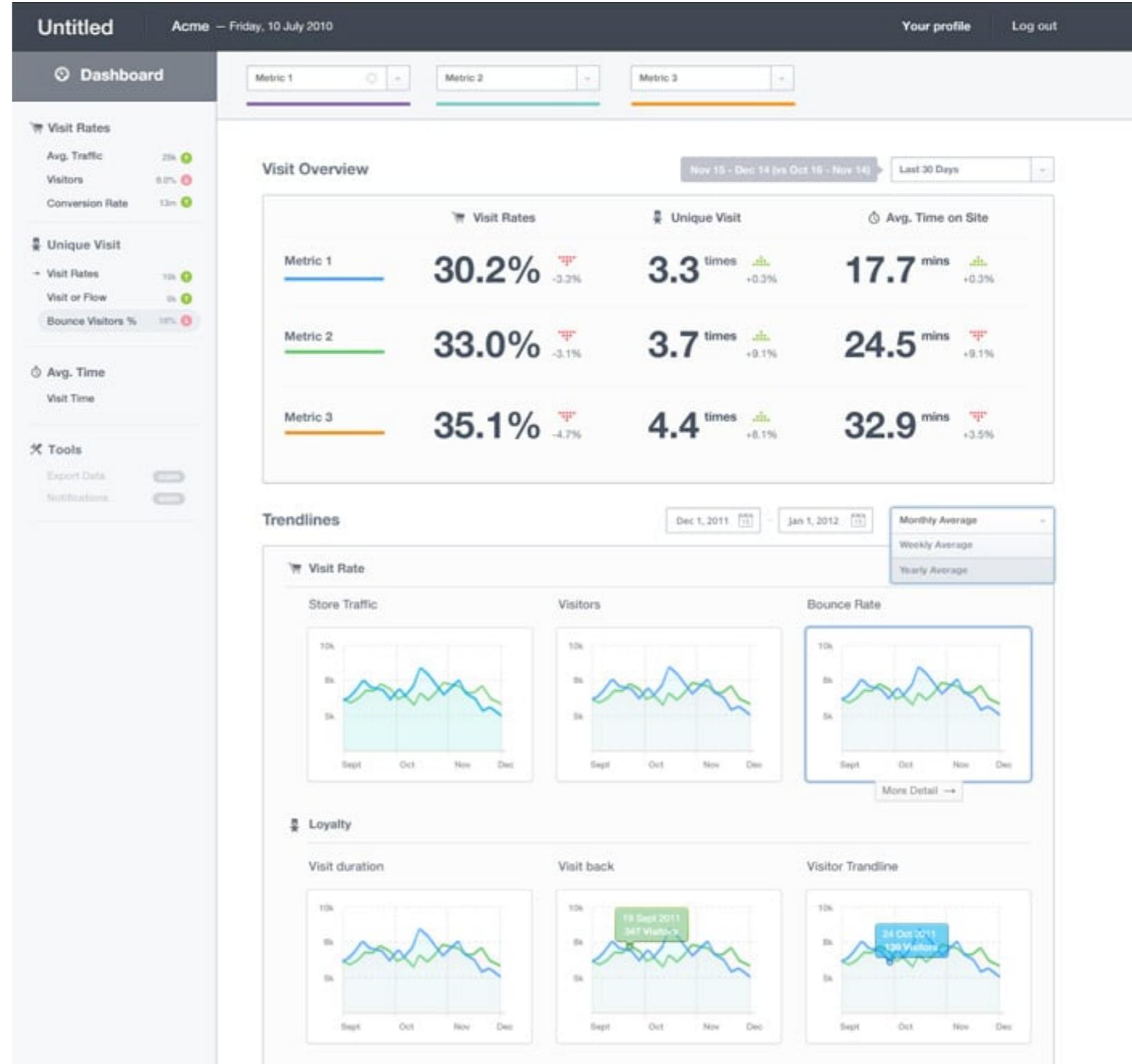
.....

*Ícones*



# ÍCONES

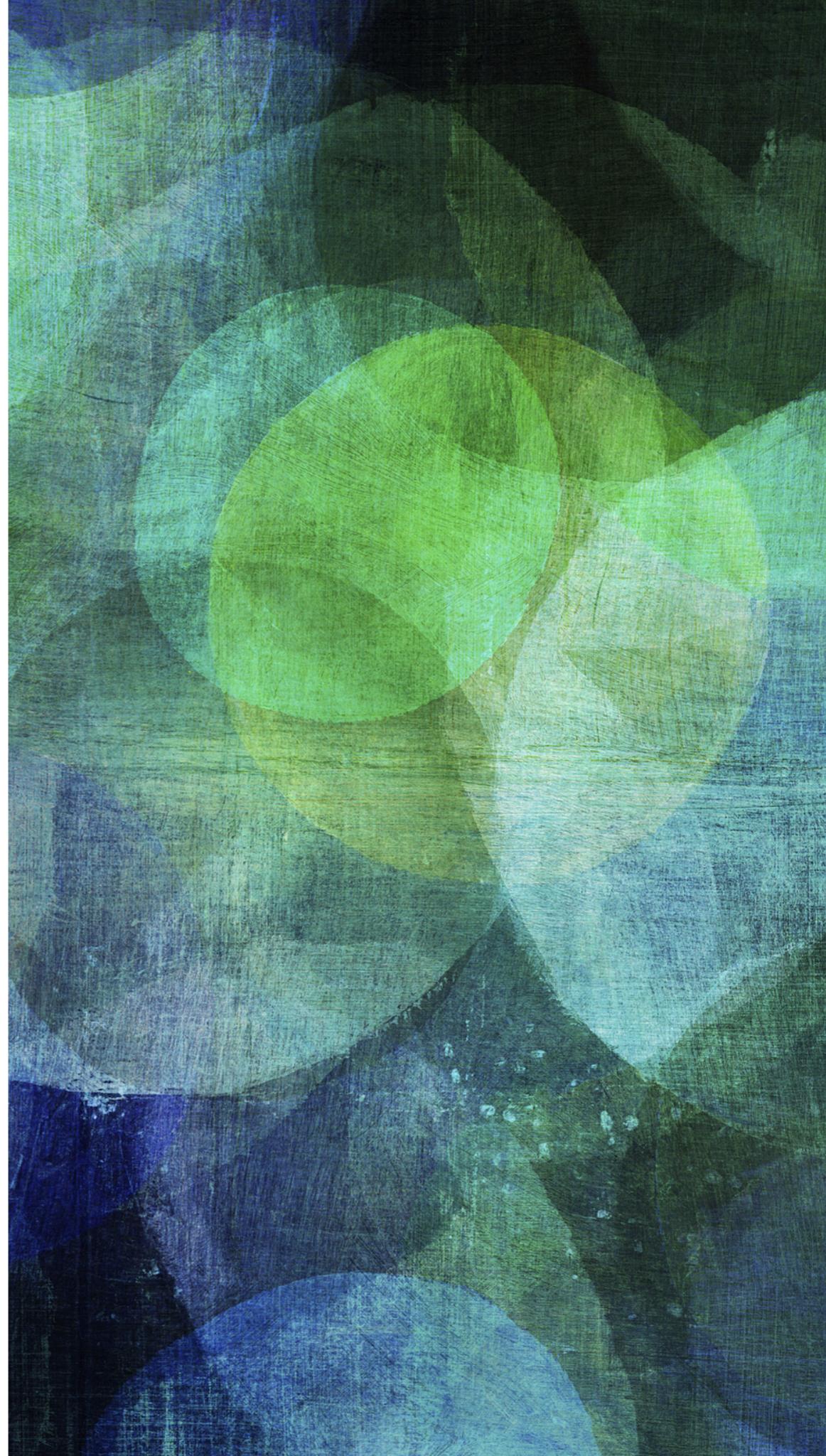
- De alerta
- De altos e baixos
- De ligado e desligado



# BIBLIOTECA IDEAL DE REPRESENTAÇÕES

---

*Texto e organizadores*



# TEXTO E ORGANIZADORES

---

- Tabelas
- Mapas
- Pequenos múltiplos

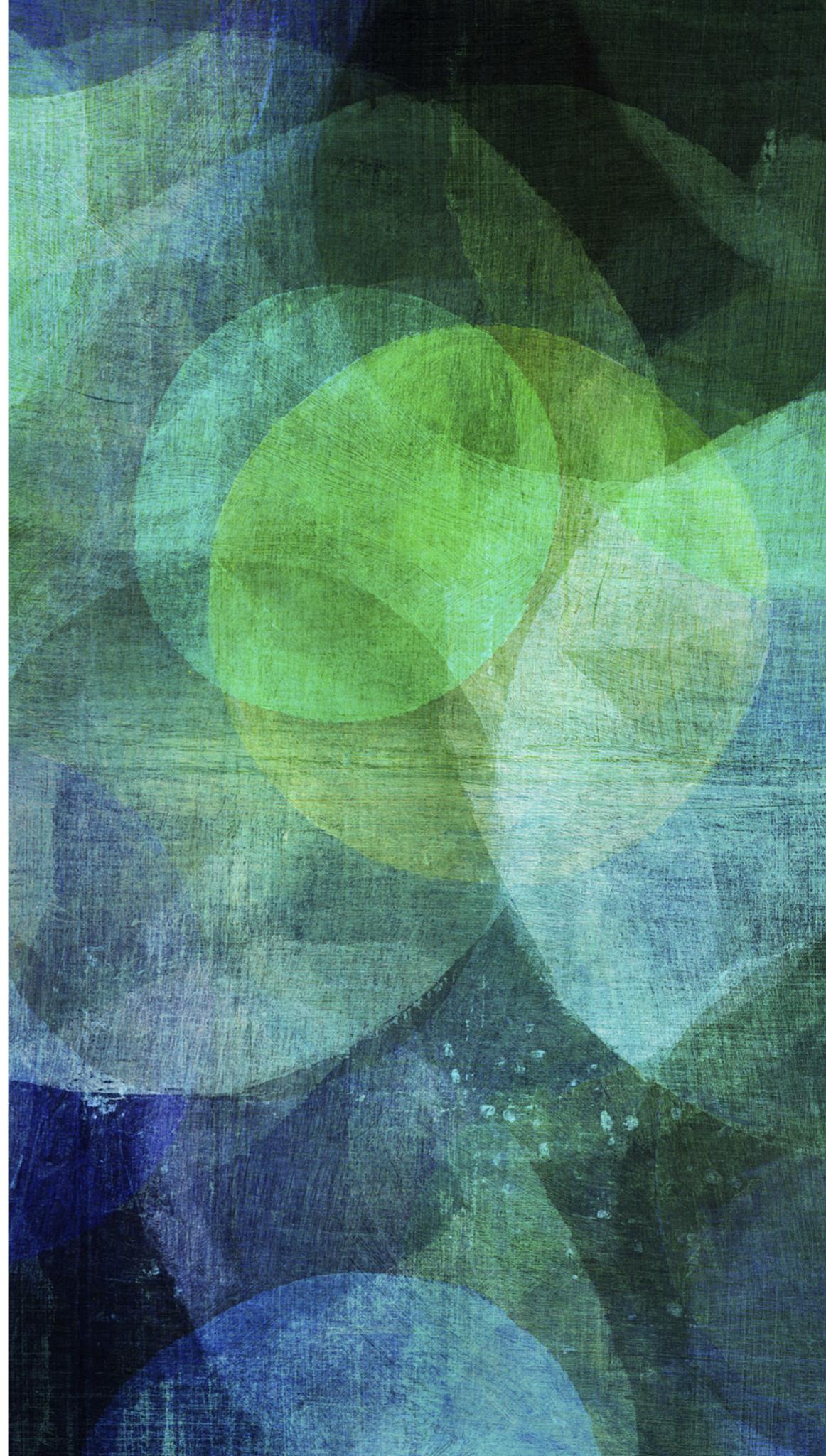
# TEXTO E ORGANIZAÇÃO

---

- Organize os grupos de acordo com as funções dos componentes ou seus tipos ou uso
- Posicione proximamente componentes pertencentes ao mesmo grupo
- Delineie os grupos de forma discreta
- Suporte comparações úteis e desestimule comparações sem sentido

# ESTUDOS DE CASO

---



# VENDAS

---

- Renda
- Lucros
- Satisfação dos clientes
- Principais clientes
- Market share

# Sales Dashboard

(Data as of December 19, 2004)

Help

(All currency is expressed in U.S. dollars.)

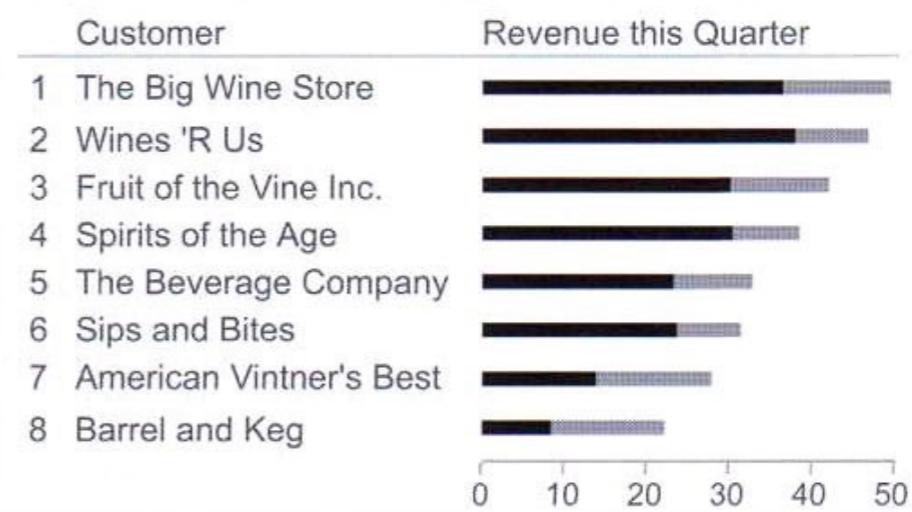
## Key Metrics YTD

(■ Actual; □ Target; ■ Poor, □ Satisfactory, □ Good)



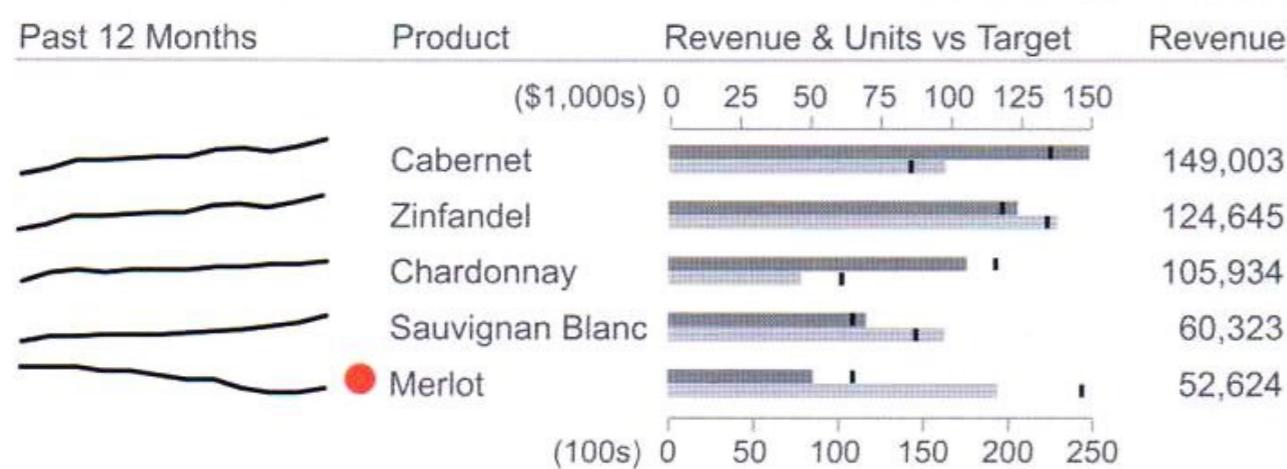
## Top 8 Customers This Quarter

(■ Actual; Pipeline: □)



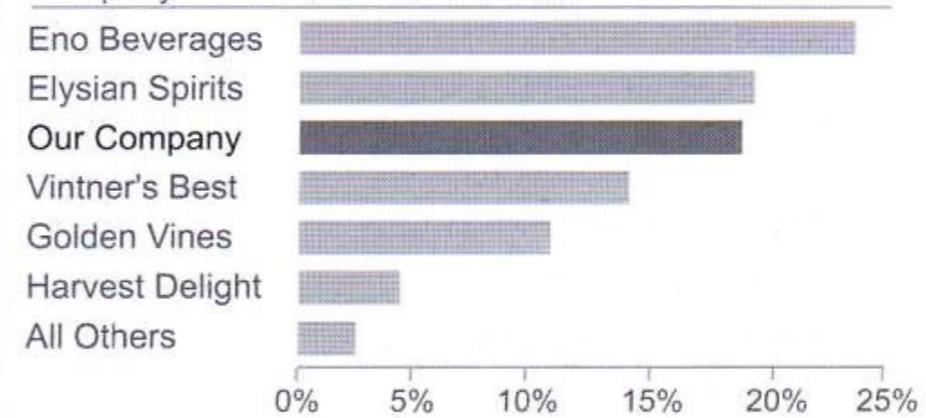
## Product Sales YTD

(■ Revenue; □ Units; □ Target)



## Market Share

Company % of Total Market



## Revenue YTD

(■ Actual; □ Target)



## Revenue QTD

(■ Actual; Pipeline: ■ 90%, □ 75%; □ Target)

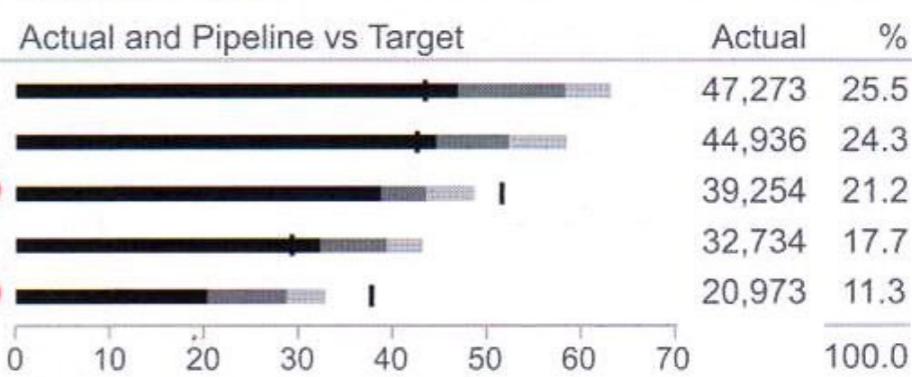


Figure 8-1. A sample sales dashboard that puts into practice the principles we've discussed throughout this book.

# VENDAS: PONTOS FORTES

---

- Cores discretas
- Posicionamento adequado
- Densidade de informações
- Exibição gráfica e textual
- Espaço em branco usado para separar componentes

- Disponibilidade do sistema
- Despesas
- Satisfação dos clientes
- Contagem de problemas graves
- Uso de CPU com relação à capacidade
- Uso de espaço de armazenamento com relação à capacidade
- Tráfego na rede
- Tempo de resposta de aplicações
- Marcos dos projetos
- Principais projetos na fila
- Outros eventos críticos

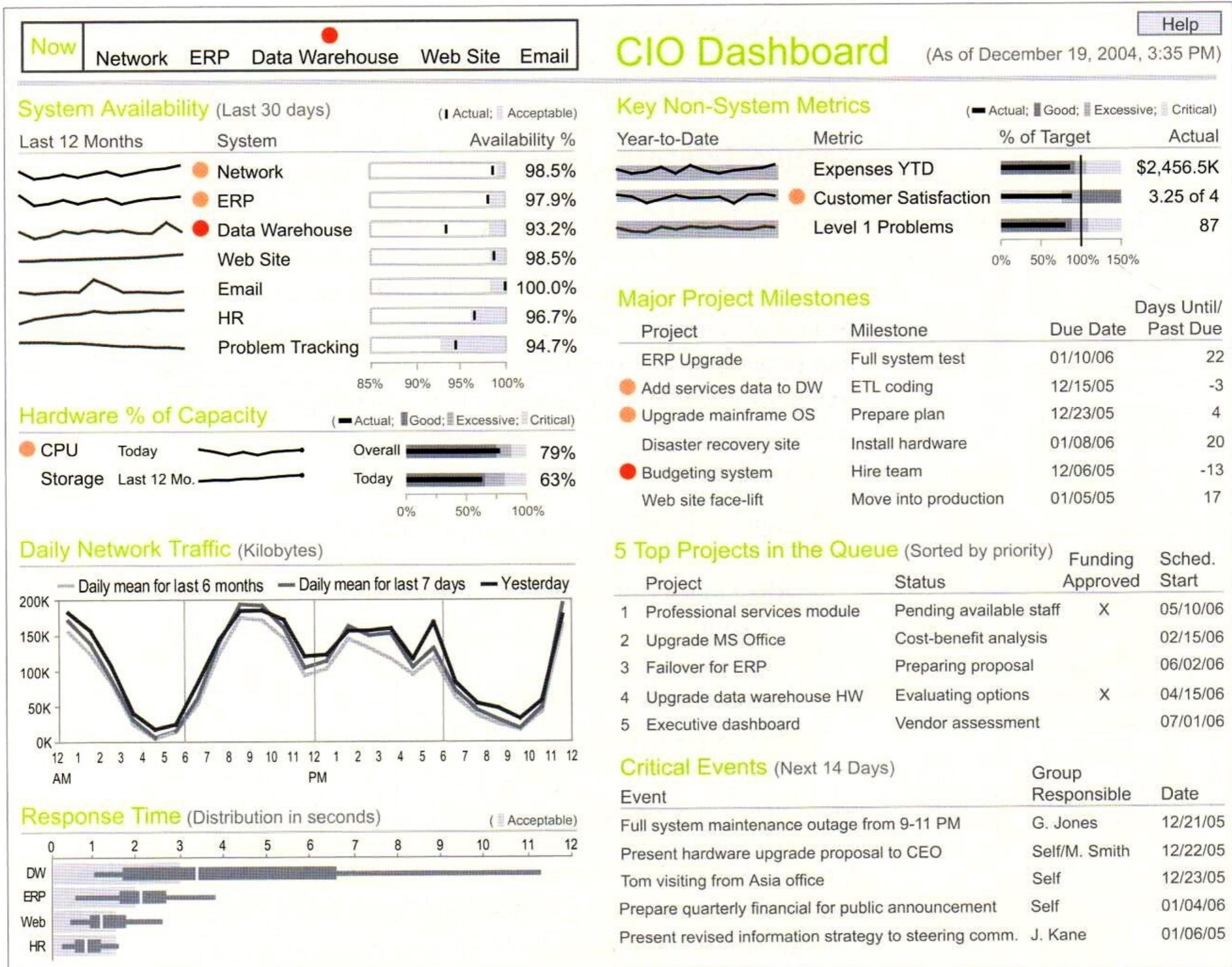


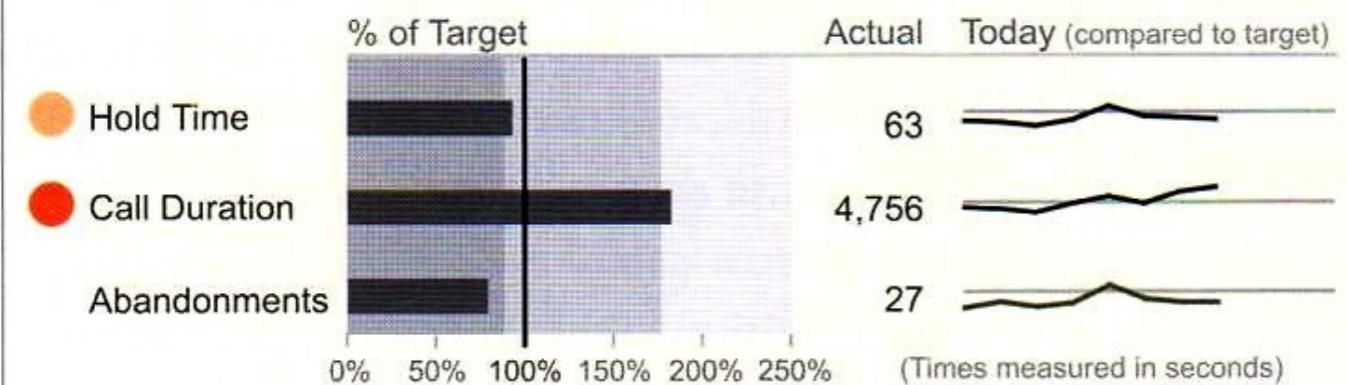
Figure 8-11. A sample CIO dashboard.

# TELEMARKETING

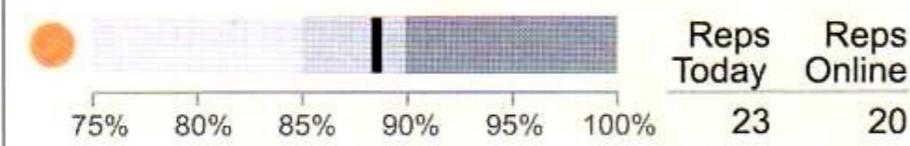
---

- Tempo de espera por atendimento
- Duração da chamada
- Número de chamadas abandonadas
- Volume de chamadas
- Número de pedidos

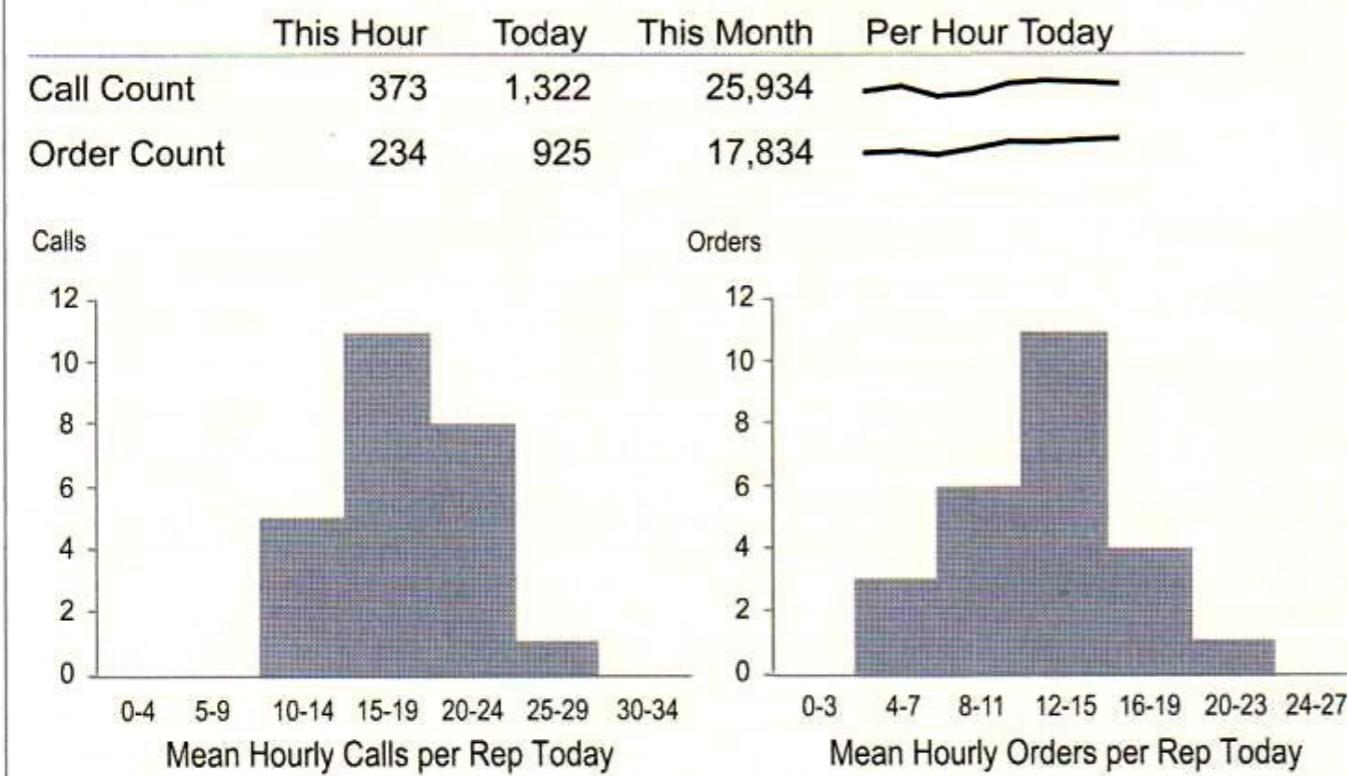
## Overall Performance



## Utilization



## Volume



## Rep Performance

Name	Orders Per Hr	Calls Per Hr	Call Duration (minutes)					
			0	3	6	9	12	15
Jacobs, S	5	10						
McKinsey, J	5	13						
Smith, V	6	12						
Wilcox, R	9	14						
Clark, P	10	14						
Simons, B	10	16						
Newman, A	11	15						
Bailey, S	11	16						
Barclay, T	11	17						
Jimenez, J	12	16						
X Chou, A	12	17						
Kata, H	12	17						
Silverstein, C	13	18						
Schuster, P	13	18						
Truman, M	13	19						
X Pierce, B	14	19						
Fisher, J	14	20						
Jung, T	14	20						
English, S	15	21						
Wiley, P	15	21						
Johnson, N	16	21						
X Lucas, J	16	22						
Forester, R	17	23						

(X = Currently offline)

## Telesales Dashboard

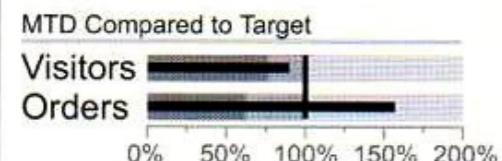
[Reset Alerts](#)
[Unfreeze Data](#)
[Help](#)
[Click rep to send instant message](#)
█ Good  
 █ Excessive  
 █ Critical

Figure 8-12. A sample telesales dashboard.

# ANÁLISE DE MARKETING

---

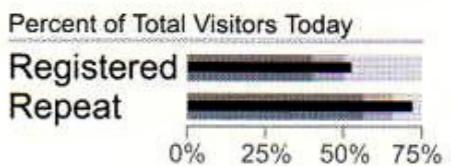
- Número de visitantes (dia, mês, ano)
- Número de pedidos
- Número de visitantes registrados
- Número de visualizações de cada produto
- Produtos exibidos juntos e raramente comprados juntos
- Produtos exibidos separados e comprados juntos
- Referências de sites externos que tenham resultado em mais visitas



# Web Marketing Analysis

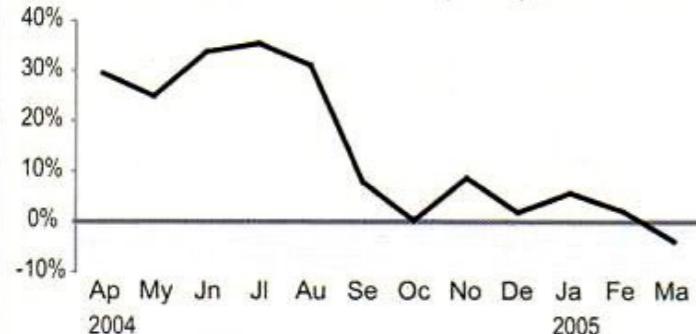
Data as of 2:00 PM (PST), April 13, 2005

[Help](#)

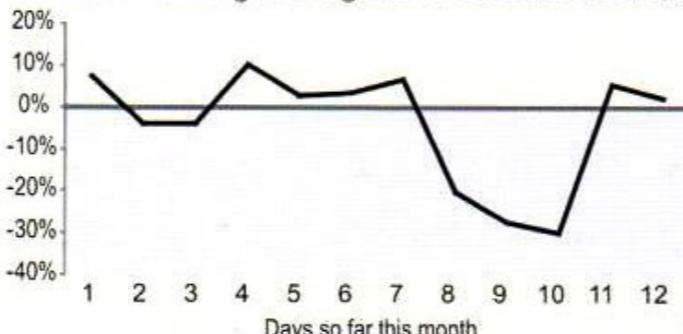


## Visitors

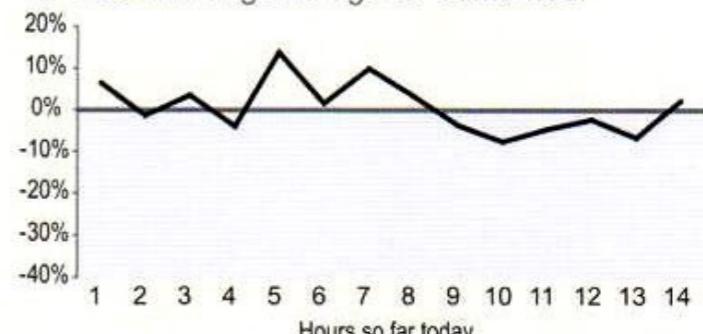
Last 12 months' average daily visitors deviation relative to same month in the prior year



This month's daily visitors deviation relative to 13-week running average for the same weekday



Today's hourly visitors deviation relative to 13-week running average for same hour

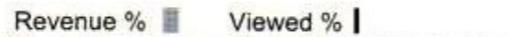


## Products

Last 30 Days

Top 10 this Month by Revenue

Revenue %



Viewed %



Top 10 products often purchased together but not displayed together

%	Product 1	Product 2
27%	Shirt - Oxford - White	Men's Pants - Chino - Tan
24%	Skirt - Pleated - Beige	Blouse - Business Dress - White
22%	Skirt - Business Casual - Black	Blouse - Business Dress - White
17%	Men's Pants - Dress - Black	Shirt - Fitted Dress - White
14%	Men's Pants - Chino - Beige	Shirt - Oxford - Blue
13%	Men's Pants - Dress w/ Cuffs - Blue	Shirt - Fitted Dress - White
12%	Women's Pants - Dress - Black	Blouse - Business Casual - White
11%	Dress - Summer Casual - White	Shoes - Sandals - White
10%	Women's Pants - Chino - White	Blouse - Business Casual - Blue
10%	Men's Pants - Outdoors - Brown	Shirt - Outdoors - Beige

## Referral Sites

Last 12 Months

Top 10 Referrers this Month

Referral Count

Referral % of Total

Since Yr Ago

Average Revenue \$

	Referrer	Referral Count	Referral % of Total	Since Yr Ago	Average Revenue \$
1	www.clothingconnection.com	1,103	19%	+57%	72
2	www.getithere.com	782	15%	-43%	61
3	www.ellingswear.com	688	13%	-2%	90
4	www.trimthebill.com	413	8%	0%	32
5	www.looknofurther.com	330	6%	-3%	52
6	www.cheapstuff.com	301	6%	+26%	19
7	www.bargainbasement.com	297	6%	-6%	29
8	www.dressforsuccess.com	239	5%	-25%	42
9	www.relaxwear.com	174	3%	+13%	22
10	www.nobrainer.com	168	3%	-5%	10

Top 10 products displayed together but rarely purchased together

%	Product 1	Product 2
0%	Men's Pants - Dress - Blue	Shirt - Sport Tee - Black
0%	Skirt - Pleated - White	Women's Sweater - Casual - Brown
1%	Dress - Business Casual - Beige	Blouse - Business Dress - Black
1%	Women's Pants - Dress - Brown	Blouse - Business Casual - Black
1%	Dress - Summer Casual - White	Shoes - Pumps - Blue
1%	Men's Pants - Dress w/ Cuffs - Tan	Shirt - Fitted Dress - Blue
2%	Skirt - Dress - Black	Blouse - Business Casual - Black
2%	Dress - Formal - Blue	Shoes - Pumps - White
3%	Shirt - Fitted Dress - Blue	Men's Pants - Jeans - Blue
3%	Shirt - Sport Tee - Brown	Men's Pants - Jeans - Brown

Figure 8-13. A sample web marketing analysis dashboard.



SPECIAL REPORT

ELECTION '12

## RESULTS

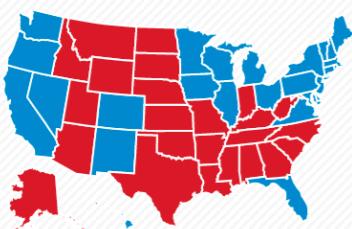
Map

Table

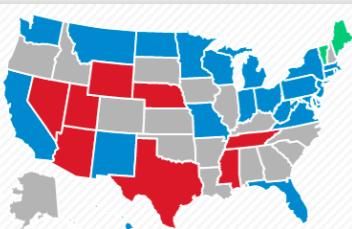
UPDATED: 1:28 PM, 12/10/12

Share

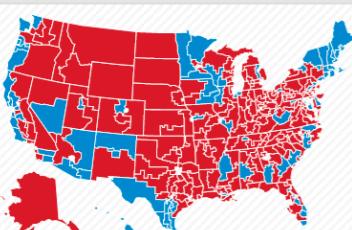
## PRESIDENT



## SENATE



## HOUSE



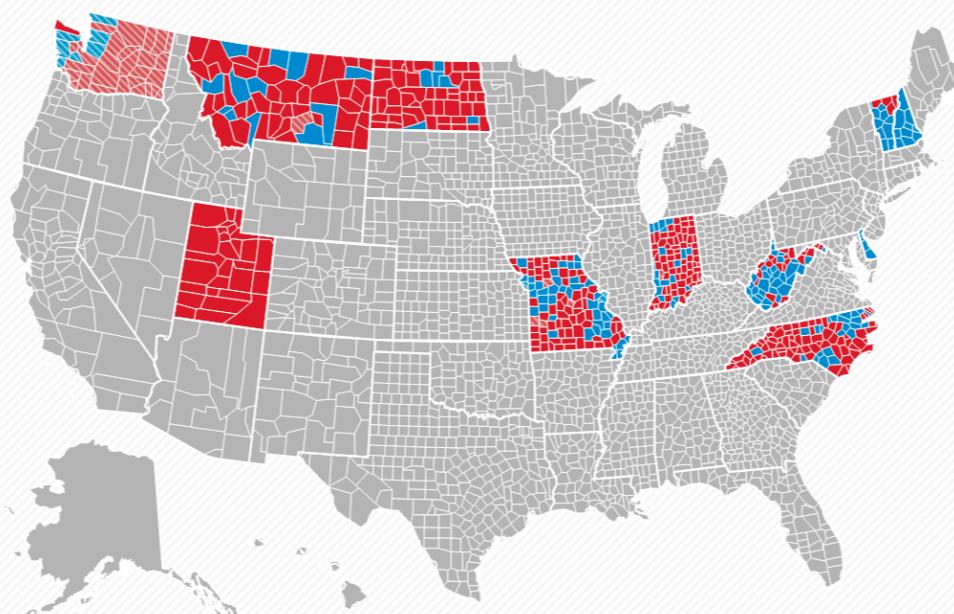
## GOVERNOR

HOVER FOR RESULTS AND CLICK TO ZOOM

STATES

COUNTIES

Search for a state...



## UPDATES

8:40 PM, 12/ 5/12



## RACES CALLED

Charles Boustany wins the race in Louisiana for House District 3.

7:01 PM, 12/ 5/12



## RACES CALLED

Charles Boustany wins the race in Louisiana for House District 3.

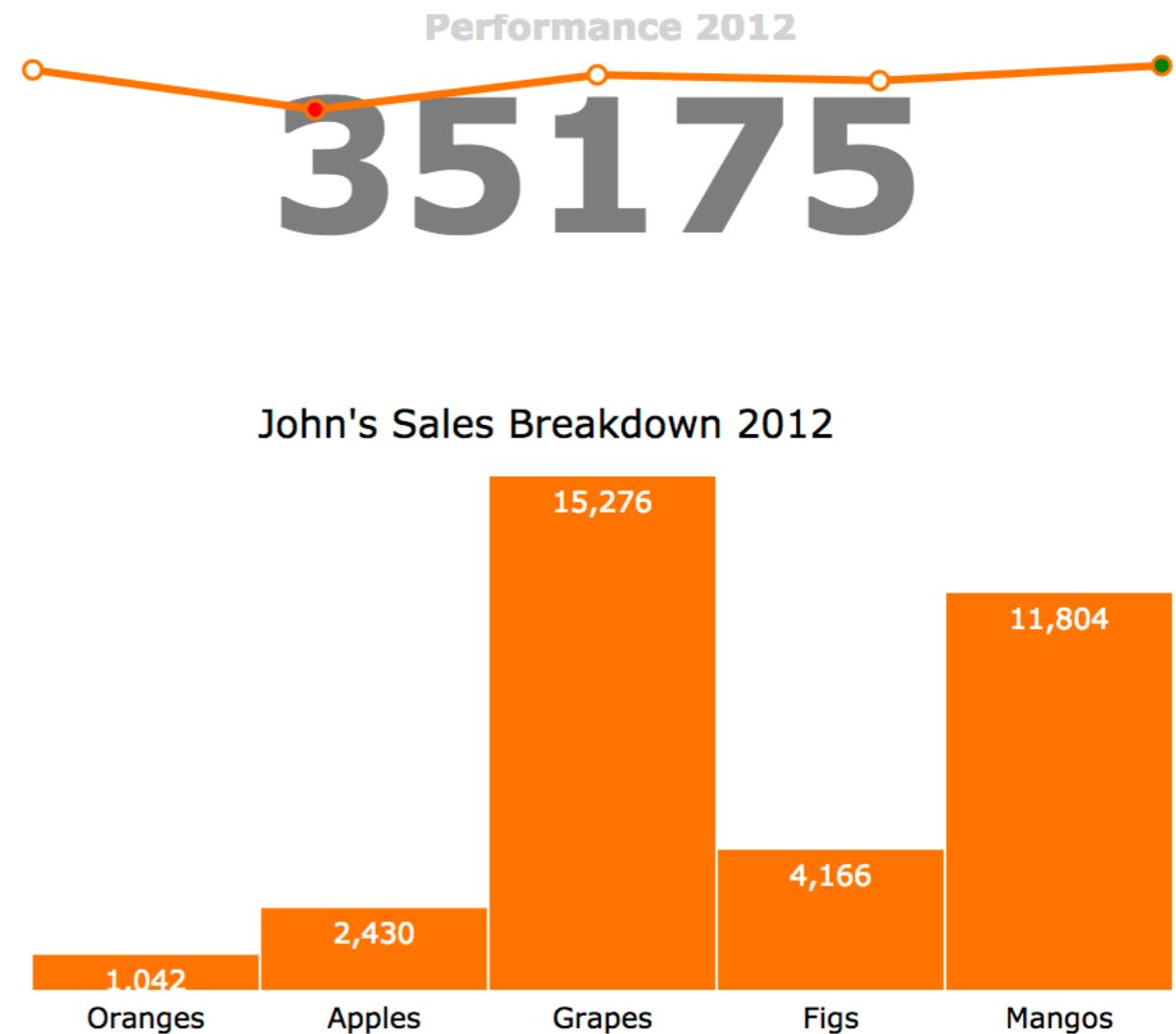
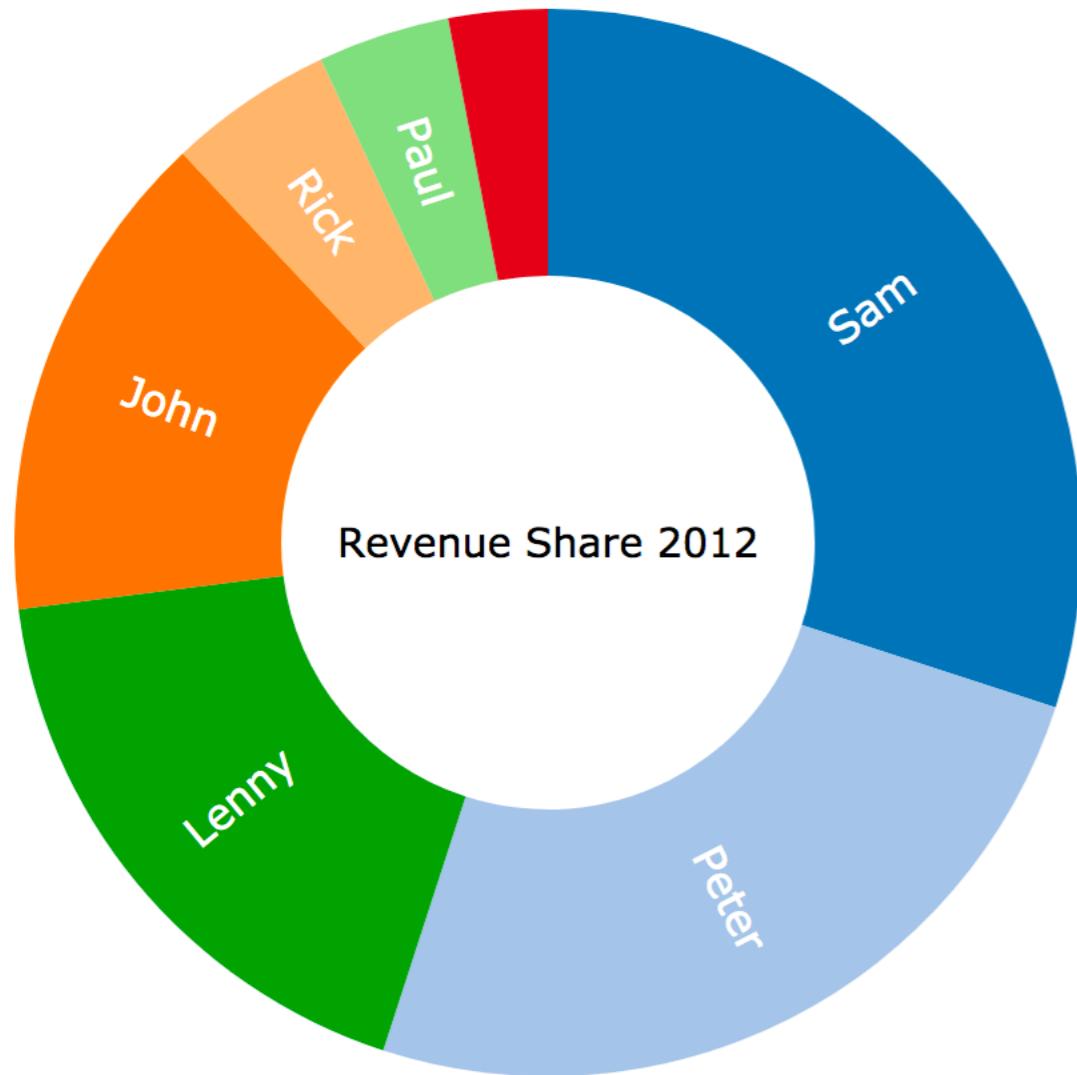
2:38 PM, 11/29/12

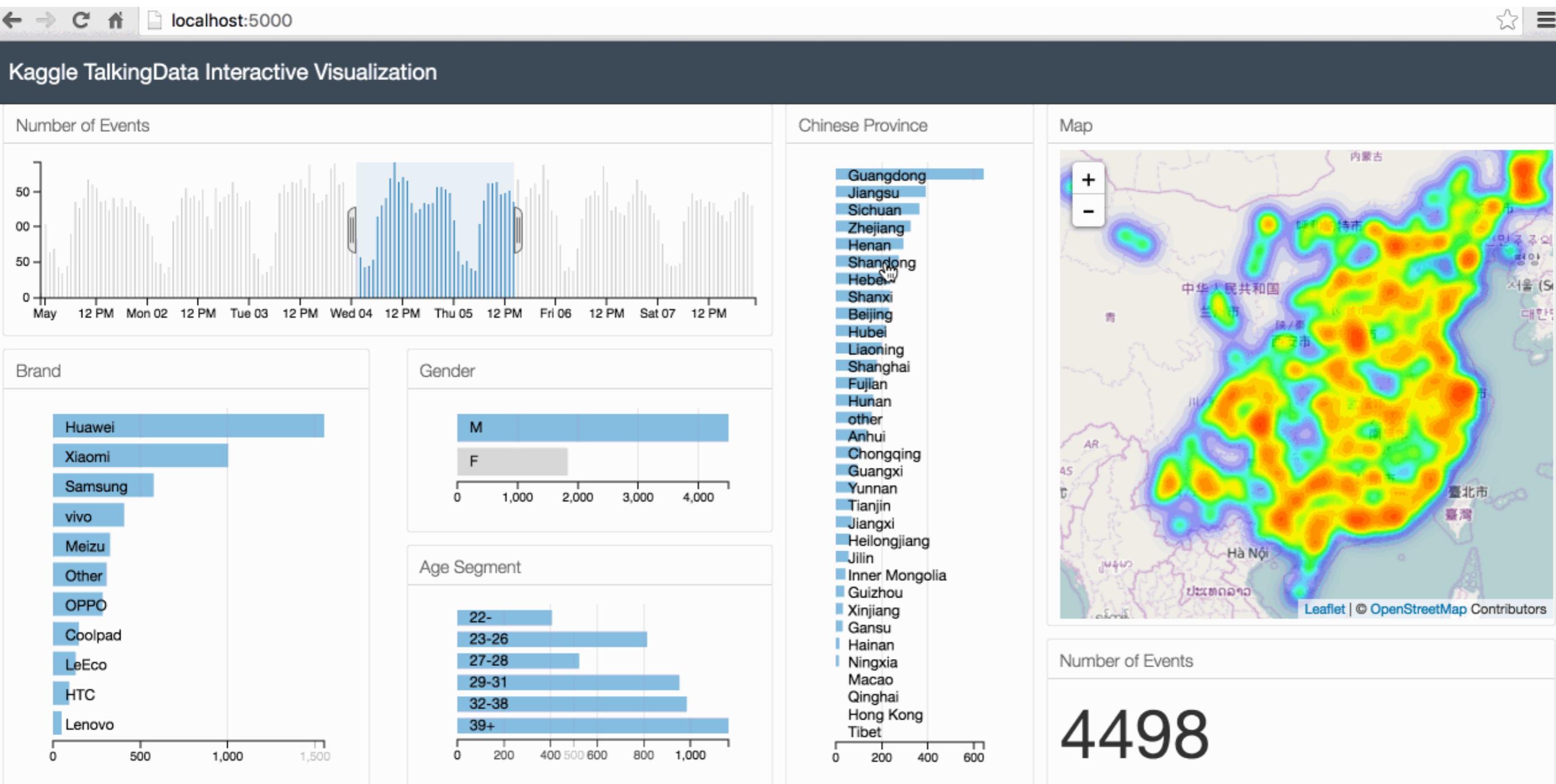


## RACES CALLED

Mike McIntyre wins the race in North Carolina for House

# Simple D3JS Dashboard







Is there any difference between  
**PRIVATE AND PUBLIC**  
higher education institutions in Brazil?

Machi  
machidesign@163.com

- Dashboard
- Layout
- Pages
- Basic UI
- Advanced UI
- Structure
- Widgets
- Forms
- Tables
- Chart

User 1,253 ↑ 15% From this yesterday

Visits 2,425 ↑ 34.2% From this week

Total Clicks 1,864 ↓ 15% From this yesterday

Items 845 ↑ 18.4% From this yesterday

The current chart

Approve rate are above average

12,673 PCS

Machi  
machidesign@163.com

Kerem Suer  
San Francisco

Eric Hoffman  
Salt Lake City, Utah

Bill S Kenney  
Basking Ridge, NJ

+ Conversation with Bill S Kenney

Hello

Laosu nbva pokvh kznmh adjfowq

Dolor sit amem dolor sit amet, adisci

Type message here

Eric Hoffman  
2 hours ago | Comments 20

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer nec odio. Praesent libero. Sit amet, consectetur adipiscing elit. Integer nec odio. Praesent libero.

January

Sun	Mon	Tue	Wed	Thu	Fri	Sat
29	30	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Total Points

Rank	Name	Year	Rating	Action
1	Aaron Herrera	2013	8.2	
2	Bryan Kelley	2014	8.1	
3	Rose Graham	2015	7.2	
4	Joe Olson	2015	6.5	



28 days ▾

MAR 8TH - APR 4TH, 2011 / FEB 8TH - MAR 7TH, 2011 ▾



## Acmeoutdoorinc.com Key Metrics Dashboard



**994.1K**  
VIEWS  
+0.2%

**1.4M**  
SESSIONS  
-2.6%

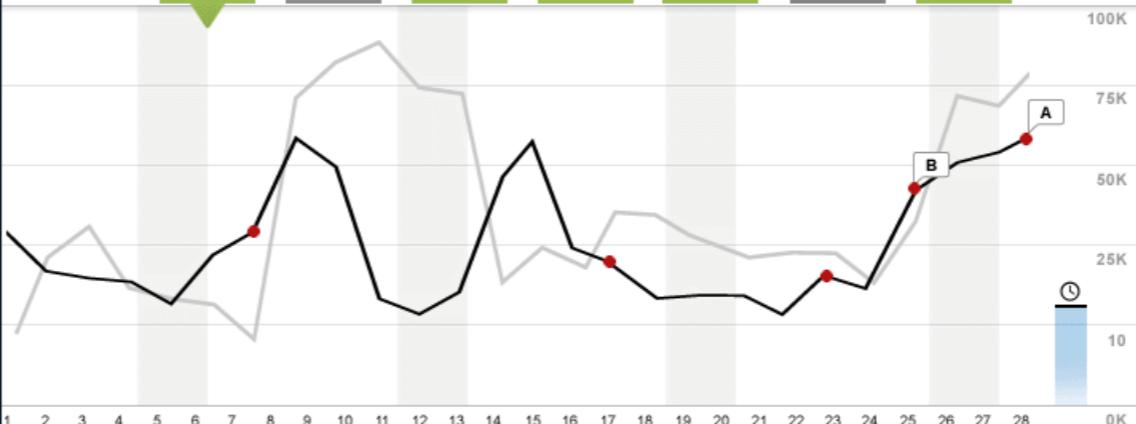
**4.9**  
VIEWS/  
SESSION  
+29.3%

**459**  
NEW  
VISITORS  
+66.1%

**2M 34S**  
SESSION  
DURATION  
+4.3%

**23%**  
BOUNCE  
+6.1%

**37**  
SCORE  
+43.4%



## Geography

## 994.1K VIEWS FROM 23 COUNTRIES

UK	35%	2.8%	FRA	11%	5.4%
USA	28%	-34.4%	ESP	5%	45.7%
AUS	16%	-13.6%	Other	35%	12.3%



## Search

## Engine

Google	<b>234.7K</b>		12.8%
Google UK	<b>121.3K</b>		63.4%
Yahoo!	<b>103.9K</b>		-32.9%
Bing	<b>87.7K</b>		45.6%
Facebook	<b>63.4K</b>		32.1%

## Phrases

SNOWBOARDS GEAR  
KIDS TREKKING NORTHWEST HIKING  
OUTDOOR SNOWSHOES  
BIKE ACME TRAIL SALE

## Content

## Traffic Sources

Social	<b>123.3K</b>	2.8%	Snowshoes	<b>234.7K</b>	-32.9%	Sales & Clearance	<b>114.9K</b>	2.8%
Organic Search	<b>117.4K</b>	34.4%	Winter Clearance	<b>121.3K</b>	63.4%	Winter Clearance	<b>83.3K</b>	34.4%
Referral	<b>102.9K</b>	-13.6%	Sales & Clearance	<b>103.9K</b>	12.8%	Checkout	<b>78.2K</b>	-13.6%
Paid Search	<b>22.4K</b>	5.4%	Trail Gear	<b>87.7K</b>	45.6%	Thank You	<b>43.9K</b>	5.4%
Other	<b>11.8K</b>	45.7%	Kid's Gear	<b>63.4K</b>	32.1%	Search Results	<b>29.4K</b>	45.7%