6 Mistakes To Avoid When Building Operational Reports

insightsoftware

Introduction

Operational reporting helps business leaders make smarter, more informed decisions. Operational reports provide key metrics in precise formats and layouts, distributed to thousands or hundreds of thousands of users via web browsers, email, PDF, and print.

Embedding operational reports in an existing application helps companies meet the complex needs that are common in reporting scenarios. By putting reports in the applications your end users already use every day, you can deliver insights in context.

But like any new application feature, if you take shortcuts while building and embedding operational reports, you'll inevitably pay for it later. Avoid making these six common mistakes when implementing operational reports in your application.

Mistake #1
Ignoring Your Users

Before you start to design the reports, it's essential to collect end user requirements. If it's possible, conduct an interview with all your key stakeholders and user groups to understand their goals and needs.

Look to answer the following questions during your user interviews:

> What is the purpose of the operational report?

> What type of data do you want to present in the report?

> Who are the main users of the report?

> How do you want to deliver the report?

> What types of interactions will the end user have with the report?

Interactive

Static

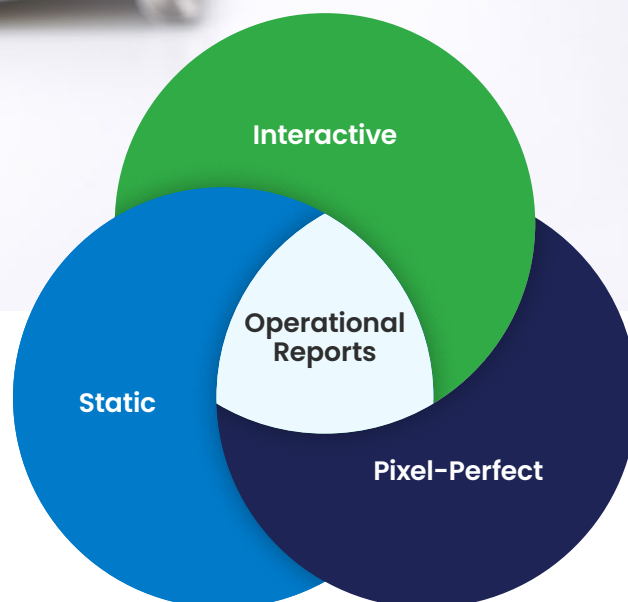**Pixel-Perfect**

Operational Reports

Mistake #2
Designing Before You Think

After gathering your user requirements, the next step is to decide what you need the final report to look like and how it should perform. Depending on the requirements, your users may need an interactive operational report, a static PDF/printed report, a pixel-perfect operational report, or a combination.

> An interactive operational report is a good option if your end users need to interact a lot with the report. Will they need to control the report via a web browser, with interactive capabilities such as adjusting parameters, filtering or searching data, and drilling down into data?

> A static report for PDF or printing would need far less interactivity than a browser-based report, and may require more precise control over the format and layout. PDF reports can include links

to web URLs, but interactions like drill-down and parameter adjustments may not be needed.

> A pixel-perfect operational report is often used for PDF and printing, but it can also be interactive on a browser. While interactive and static reports may require some formatting control to make the end result look good, a pixel-perfect operational report requires absolute control over formatting, letting you control every component down to the individual pixel.

Report formats are not mutually exclusive. You may choose to build a pixel-perfect static report when you need a precise layout for print or PDF. Or you might decide to build an interactive report that can be exported to print/PDF but doesn't need to be as precise as a pixel-perfect report.

Mistake #3
Forgetting About Data Complexity

Now that you know what types of reports you're building, you need to consider the data that will be presented in them. Is the data coming from a relational database, big data, NoSQL, cloud, flat file, or other data source? What's the size of the dataset, and how much will you need to show in your report? How often will the data be refreshed/delivered?

Also consider what data you want to actually show in the finished report. Displaying data in the same raw format as it's stored in the database can be visually confusing.

Instead, you may want to show aggregated information that can be understood at a glance, such as gross and net values, percentages, or averages.

Finally, think about where you want to make the calculations on the raw data. High-performance applications often do calculations in the database before the data is pulled into the reporting tool. That way, only the data you need will go into the reports, and performance will be much faster.

Mistake #4
Under- and Overusing Interactive Elements

You don't need to put everything in one single report. Especially if your operational reports will include any kind of interactivity, think carefully about what interactions users will need. Don't overload them with dozens of options to drill down, filter, search, pivot, and slice and dice their data on every screen. That will lead to an overly complex report and risk frustrating your end users.

The best operational reports give users just enough interactivity controls to meet their needs—and no more. Refer back to your requirements to see what your users want to achieve, then think about the interactivity controls you can provide to let them do everything they need to do.

Drill Down
Drill down and drill up along hierarchical paths or a highlighted region of a chart.

Pivot
Shift elements between rows and columns of crosstabs for different views of your data.

Slice & Dice
Target specific cross sections of your data for flexible exploration and discovery.

Filter & Sort
Apply and synchronize filters, sorts and parameters across multiple visualizations.

For example, decide whether your users should present data through drill-down interactivity or in linked reports:

> Drill-Down and Drill-Up Functionality: Think about how your users want to interact with the data when building your hierarchical drill paths. They may want to be able to drill up and down from country to state to county to city. Or maybe they'll need to drill up and down from annual data to quarterly granularity, then to the month and week and day.

> Linked Reports: One single report may not adequately serve your users' needs. Consider building a primary report with summary data, such as sales by year, by country, and by product. Then add links to separate reports that show detail-level data. For example, when you click on a particular year, you can drill down into the quarters and months of that year's sales.

Mistake #5
Failing to Reuse Elements

The secret of smart operational report design is focusing on reusability. This is especially helpful if you make a lot of reports for the same customer or build a general report for different customers. The best operational reports are set up to support reusable components, allowing you to quickly scale to meet new requirements.

In operational reporting, you can reuse multiple elements such as:

> Header sections with your company logo

> Footers with your contact information

> Frequently used data connections

> Fonts, colors, and overall report structure

> Data visualizations

> Parameter values already passed to the database

> Entire reports, usually called sub-reports

All of these elements can be placed into reusable sections called "bands." Banded reports allow you to repeat bands within a page or across pages to present aggregated and detailed data. Bands can also be nested, which makes information easy to understand by placing aggregated or group data summaries at the appropriate band level.

Mistake #6
Using the Wrong Data Visualizations

Different data visualizations convey different types of information. Which one to use mainly depends on the data you want to represent. End users should get the information in a format that helps them make sense of it quickly.

Follow these guidelines to choose the right visualizations for your dataset:

> Tabular formats are good at showing exact values. Values are presented in rows and columns, and may contain summary information. This format is not conducive to finding trends or comparing sets of data. Tabular charts make it hard to analyze sets of values, and the presentation becomes unwieldy with larger datasets.

> Line charts are best to show continuous data and trends over time. Line charts are set against a common scale; you can also add a trend line or goal line to show performance against a set benchmark.

> Bar charts show comparisons between categories. Horizontal bar charts often show rank comparisons, usually with the largest bar on top. Vertical bar charts or column charts are often used to show multiple dimensions on a chart or a cross-tabular chart.

> Pie charts are best used to compare a percentage of the whole. Pie charts make it easy to understand the relative importance of values, but when there are more than five sections it can become difficult to compare the results.

Get a full list of common data visualizations and how to choose the best ones for your data in the ebook: 16 Data Visualizations to Thrill Your Customers

If your report looks too cluttered, consider hiding some content behind tabs, pop-ups, or animated charts.

Remember that if you are designing an interactive report, you don't necessarily have to show everything at once. If your report looks too cluttered, consider hiding some content behind tabs, pop-ups, or animated charts. If users want to know more about the data, they can easily drill down to a more detailed view.

Conclusion

Building operational reports is a complex process. You need to present operational data in a way that users can easily understand and truly helps them in day-to-day decision making. Avoiding the most common mistakes will ensure your operational reports deliver the right information, in the right format, and in the right context at all times.

See expert advice on building operational reports in the white paper: 7 Design Tips for Pixel-Perfect Operational Reports
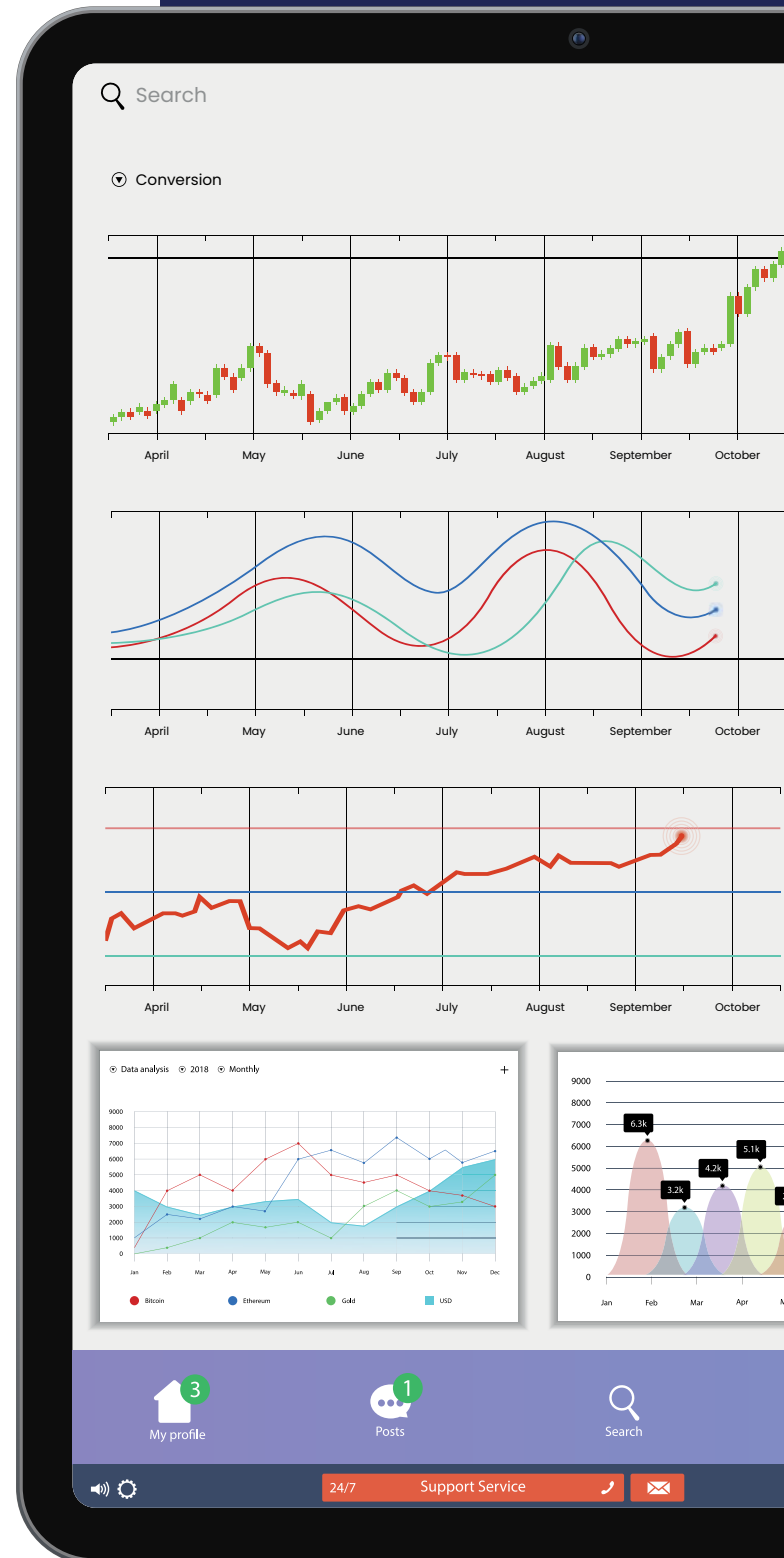
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