

Scope report design requirements

1. Introduction

<https://learn.microsoft.com/en-us/training/modules/power-bi-effective-requirements/1-introduction>

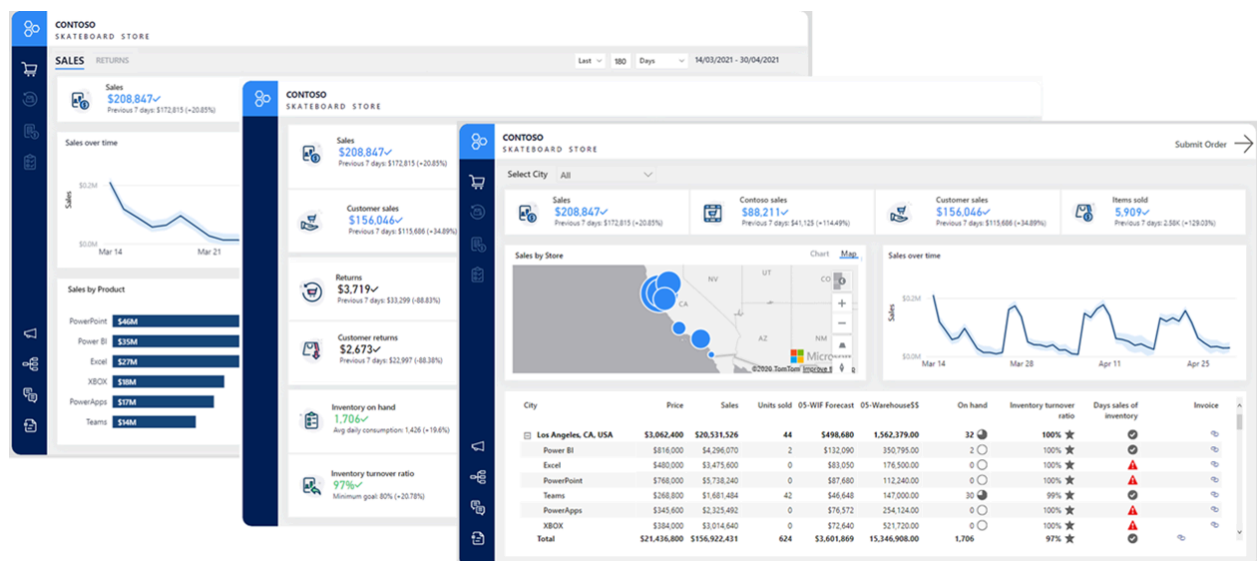
Introduction

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As with any project, a good starting point when designing reports is to define clear goals. In your reporting project, those goals should strive to help you determine the:

- Audiences of your reports.
- Report types.
- User interface requirements.
- User experience requirements.

This module provides examples based on a scenario of the Contoso Skateboard Store company, which specializes in direct-to-consumer skateboard sales. To modernize their workflow and gain a deeper understanding of their product sales and inventory management, the company needs to create a set of reports to deliver data to their employees.



Currently, the finance and supply chain divisions operate in vertical silos. These divisions use data differently, which resulted in many inconsistencies in how they interpret the data when making decisions. These inconsistencies often led to disagreements and misalignment at the executive level because the numbers don't match.

Also, the company currently consumes this information by using formats that aren't optimized for a modern workforce. To this end, employees commonly spend many hours creating reports on demand by using disparate data sources. These reports answer simple questions like "What were our sales in the Los Angeles area last month?" These reports contributed to a duplication of effort, resulting in an overlapping of reports that might occasionally use different calculation logic over the same data.

The company is committed to developing a new suite of reports to meet the following business requirements:

- Promote a standard view of their data and business logic that is a *single source of truth* across all divisions.
- Ensure reports deliver up-to-date data that's no older than 24 hours for sales and one hour for inventory.
- Create modern sales and inventory reports accessible at any time by their employees, whether they're in the office, working from home, or on the road. Reports used by finance managers, supply chain managers, and data analysts.
- Design reports that feel natural and are user-friendly.
- Publish reports that have sufficient depth of detail and enable report consumers to discover new insights.
- Apply consistent corporate brand standards.

2. Identify the audience

<https://learn.microsoft.com/en-us/training/modules/power-bi-effective-requirements/2-identify>

Identify the audience

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Identifying the audience is one of the most important steps in the report design process. It enables the report author to create a final result that can be efficiently used and meet the needs of the report consumer.

There are three broad report consumer audiences:

- Executive
- Analyst
- Information worker

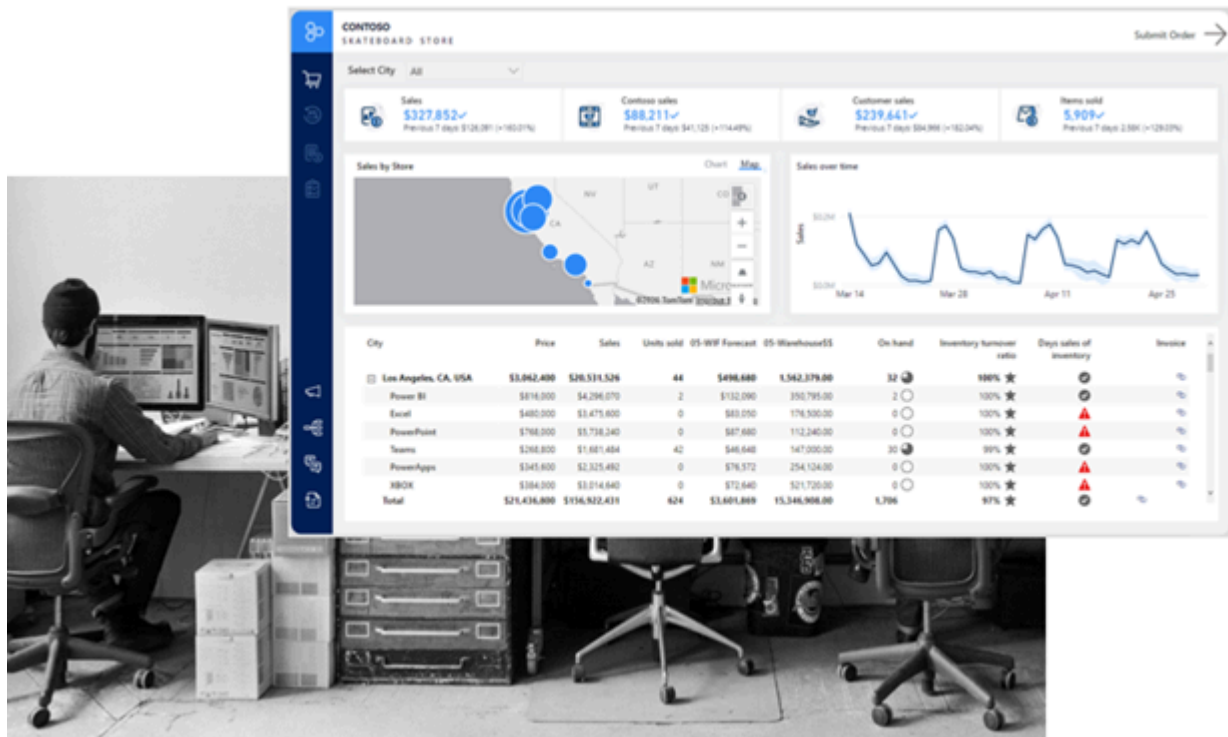
An *Executive* is a person responsible for making plans and decisions that typically involve a medium or long-term focus. Executives are responsible for making the business run smoothly. For example, the C-level executives at the Contoso Skateboard Store are an executive audience.



An *Analyst* is a person who provides guidance to the organization. Analysts can be responsible for a range of tasks, often with goals of determining the effectiveness of business strategies, developing or improving processes, or implementing change. A business analyst (or data analyst) in the sales division of the Contoso Skateboard Store is an example of an analyst audience.



An *Information worker* is someone who uses data to help make decisions or take actions. Often, these decisions and actions are operational in that they're done on a daily basis and are aligned to processes. The inventory manager at the Contoso Skateboard Store, who needs up-to-date information about stock levels, is an example of an information worker audience.



3. Determine report types

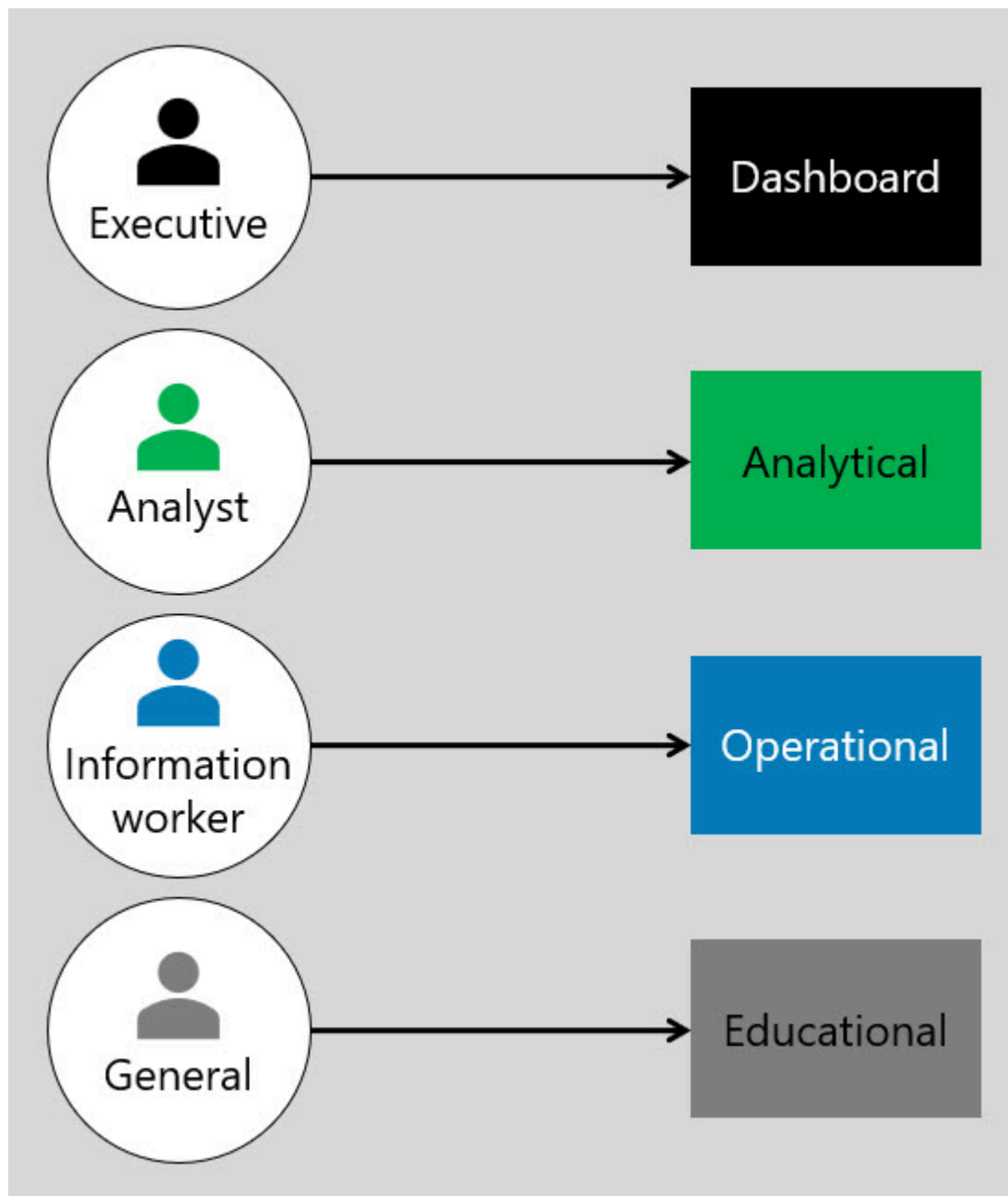
Determine report types

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Generally, report design is classified by report type. Often, a direct mapping between the report audience and the report type exists. Meet audience needs through one, or possibly a combination, of four report types:

- Dashboard
- Analytical
- Operational
- Educational

Commonly, executives work with dashboards, analysts work with analytical reports, and information workers work with operational reports. General audiences might work with educational reports.



Usually each report type requires you to adopt a different approach to the user interface (UI) and user experience (UX) requirements. These requirements are described in more detail later in this module.

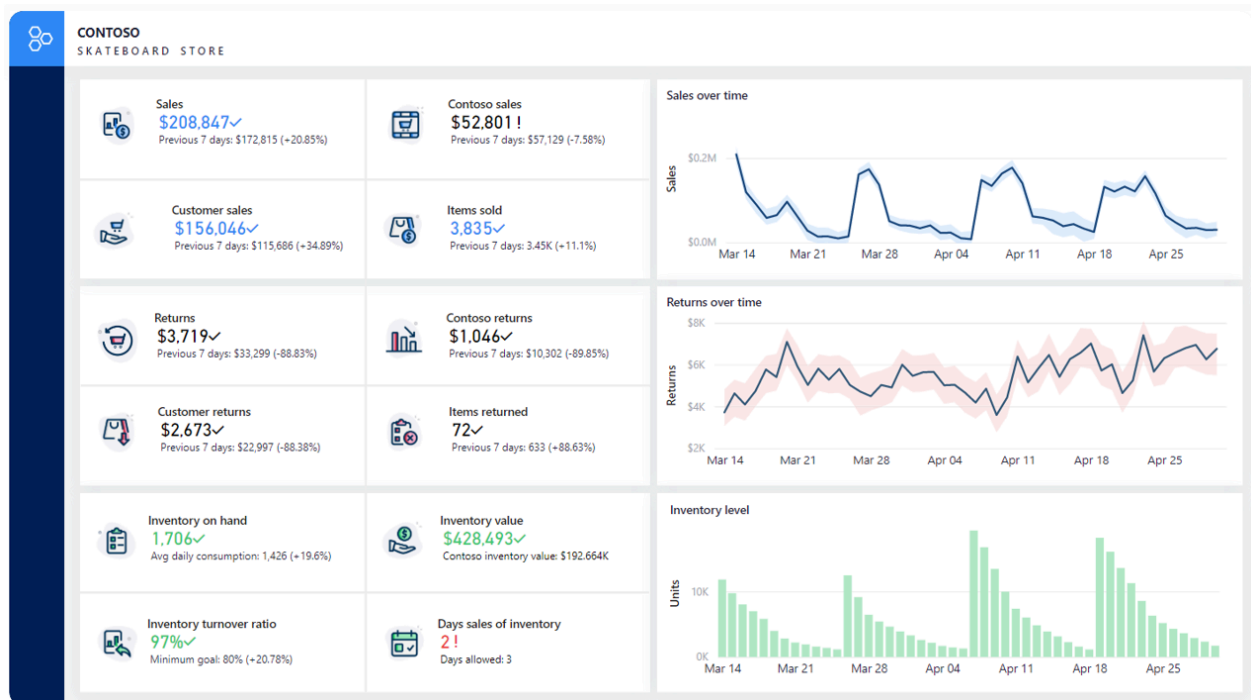
Dashboard

The primary goal of a *dashboard* is to monitor and interpret key facts as quickly as possible. User interactions are limited by insights that are highly curated toward the audience. Report visuals are focused, self-explanatory, and clearly labeled. A dashboard directly communicates the meaning behind the data to minimize misinterpretation or confusion.

A good example of a dashboard is an *executive dashboard*, which often presents high-level metrics that are displayed on a single page. Dashboards help answer performance-related questions such as

"How are we doing?" or "Are we there yet?"

At the Contoso Skateboard Store, a dashboard is a report that allows users to view several key performance indicator (KPI) values, targets, statuses, and trends.



Analytical report

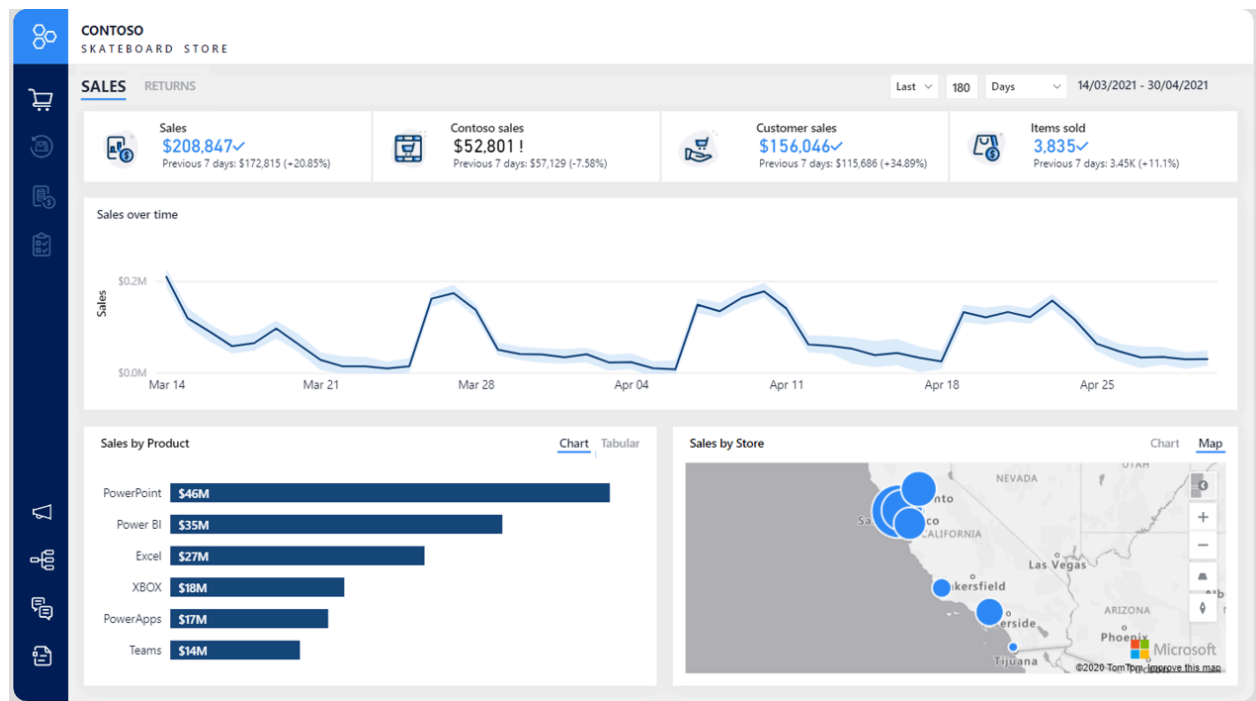
An *analytical report* is the most common type of report that can serve various report consumer use cases while providing a structured space for analysis.

The primary goal of an analytical report is to help report consumers discover answers to a broad array of questions by interacting with the report and its visuals. Analytical reports often have many slicers to filter report data, and they usually contain complex visuals that expose in-depth detail of the data.

Report pages are often expressly designed for interactivity with a focus on UX features. Multiple pathways are often provided for the report consumer to follow, which allows them to explore a topic of interest, share their findings, or return to where they started. Report consumers can remove layers and add context and detail by incorporating interactive features. Common interactive features include drill-down, drillthrough, and tooltips.

A good example of an analytical report is one that extends beyond the "How are we doing?" type of question to answer the "Why did that happen?" or "What might happen next?" types of question.

At the Contoso Skateboard Store, an example of an analytical report is their sales analysis report. It allows drilling into sales revenue from year, down to quarter, month, and day.



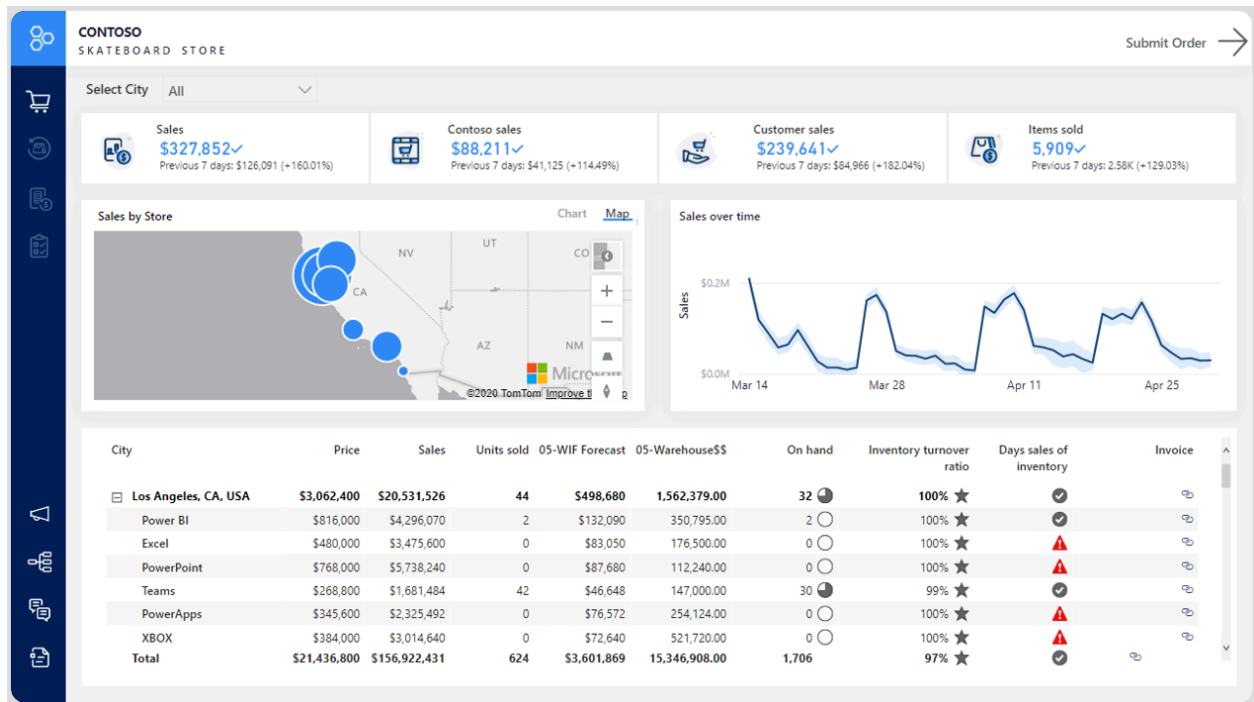
Operational report

An *operational report* is designed to give the report consumer the ability to monitor current or real-time data, make decisions, and act on those decisions. Operational reports can include buttons that allow the report consumer to navigate within the report and also beyond the report to perform actions in external systems. Frequently, operational reports serve as a hub for action that's used by report consumers as part of their daily activity and workload.

This type of report should minimize the number of analytical features to ensure that focus remains on the operation it's designed to serve. A streamlined user experience is the primary aim for this report type because excessive clicking or illogical flow can lead to high dissatisfaction and impede productivity.

A good example of an operational report is one that allows monitoring of a manufacturing production line. When an unexpected event arises, such as equipment malfunction, a button could allow workers to start a maintenance request.

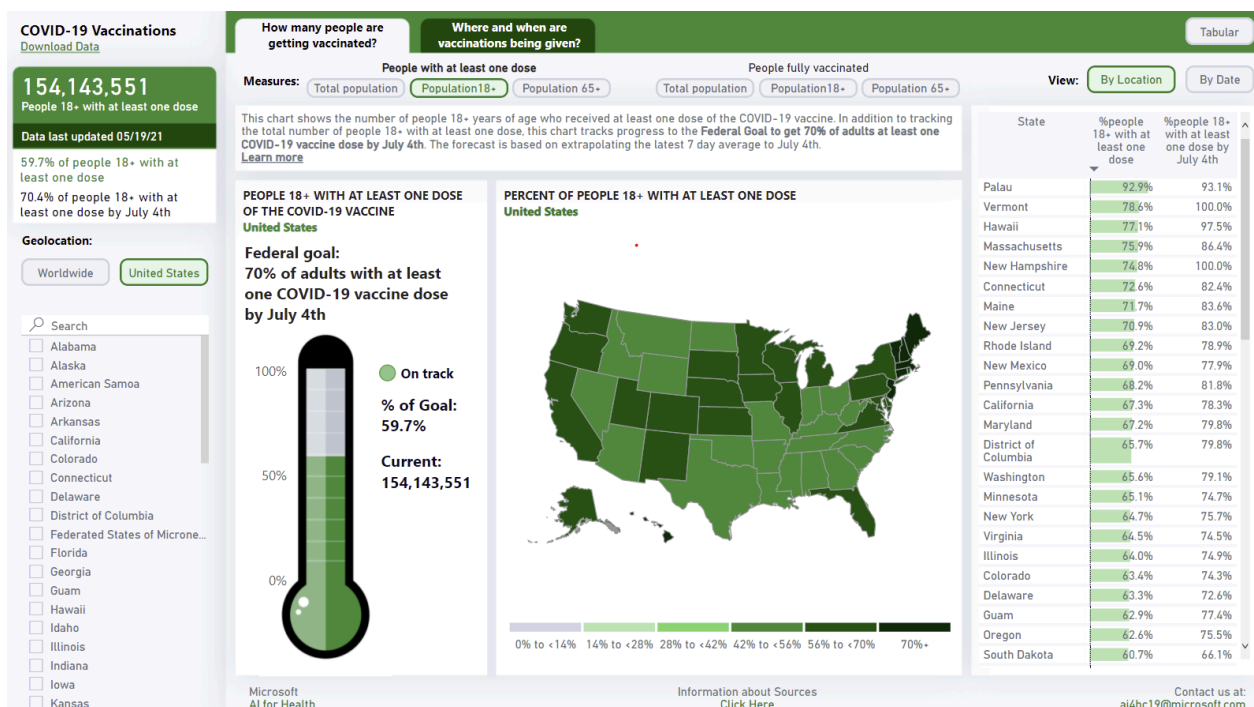
An example of an operational report at the Contoso Skateboard Store is their inventory report. It informs the report consumer of current stock levels and highlights low stock levels or back orders. It also includes a *Submit Order* button that allows users to create a purchase order.



Educational report

An *educational report* assumes that the report consumer is unfamiliar with the data or context. So it must provide clear narrative detail and guidance to help with understanding. This type of report is often used in journalism and by governments to disseminate information to large audiences that have varying levels of understanding of the subject.

A good example of an educational report is one that describes the rollout of COVID-19 vaccination progress and that can filter by the home geographic region of the report consumer.



4. Define user interface requirements

<https://learn.microsoft.com/en-us/training/modules/power-bi-effective-requirements/4-define-interface>

Define user interface requirements

Completed

UI requirements relate to how reports are consumed and to the appearance and behavior of reports. Aspects to consider include form factor, input method, style and theme, and accessibility.

Form factor

In the context of report design, form factor describes the size of the hardware that's used to open reports, and to page orientation (portrait or landscape).



Generally, today's computers are accompanied by large-sized monitors and multiple monitors. Large monitor screen sizes are ideal for viewing reports in web browsers, especially when they include several visuals or complex visuals by using landscape orientation.

Mobile devices, which are typically used when the report consumer is away from their desk, have a smaller form factor. Phones and tablets display content in portrait orientation by default. Smaller form factors demand a different design approach compared to reports that are designed for larger

form factors. Accordingly, when you design for a smaller form factor, strive for fewer and less complex visuals. Also, visuals should be large to help ease viewing and interactivity.

Some mobile devices can encompass augmented or mixed reality technologies, allowing head-mounted devices to display reports that are superimposed over the reality of the surroundings.



Occasionally, the design of a report that's intended for a large form factor can be refactored to create a mobile view. In this case, the mobile view might contain a subset of visuals from the full-sized report.

Input method

When you define UI requirements, also consider input methods that are supported by devices or applications.

While a computer has a keyboard and pointing device (mouse), mobile devices rely on common gestures, such as tap, double-tap, drag, pinch, spread, or press. Report consumers who use mobile devices can also use on-screen keyboards, voice control, or barcode and QR code readers. Augmented or mixed reality devices rely heavily on hand gestures or body movement.

Knowing how your report consumers interact with reports should influence your report designs. Consider the number of visuals that display together on the page, the complexity of visuals, spacing between visuals, and the use of interactive design elements such as tooltips, slicers, buttons, and filters.

When a report is embedded in an application, input can be received programmatically from the application. For example, when the application user opens a page to view history for a specific customer, a filter automatically passes to an embedded report to filter and display sales history for that customer.

Style and theme

UI requirements should also consider style and theme. Strive to design reports with a consistent and distinctive appearance that's determined by a deliberate theme.

The report theme should express your organizational branding or aim to complement it. At a minimum, the theme should include:

- A brand mark or logo symbol.
- A palette of colors that align to, or complement, organizational branding. The colors should also be sufficiently different so that, when applied to visuals, they provide appropriate contrast when they appear side by side.
- Text settings, including font selection, sizes, and color.

To manage style and theme changes effectively and efficiently, design reports that use images and themes that are stored in a central repository. This approach improves change management: Changes that are applied to the repository will automatically cascade through to reports.

Accessibility

UI requirements should also factor in accessibility. Reports need to communicate to the broadest audience possible. So you should consider how report consumers with no-to-low vision or other physical disabilities can fully experience the reports.

While you might not be aware of report users with accessibility issues today, it's a good idea to design for accessibility from the outset. Accessibility requirements can influence your report designs in terms of form factor, input method, and style and theme.

To support people with low or no vision, consider using:

- Clear and large-sized fonts.
- Well-spaced and large visuals.
- Clear and distinctive contrasting colors.
- Intuitive report navigation that can be understood by keyboard and screen readers.

Some physical disabilities can inhibit or prevent report consumers from fully interacting with reports in the way that you intend. When possible, ensure that you offer alternative paths for consumers to follow so they can achieve the interactive design outcomes. For example, add alt text to visuals for screen reader support, and set tab order of report elements for keyboard navigation.

5. Define user experience requirements

<https://learn.microsoft.com/en-us/training/modules/power-bi-effective-requirements/5-define-experience>

Define user experience requirements

Completed

UX requirements help ensure your Power BI reports meet the needs of your audience. Focusing on user experience makes your reports easier to use, more accessible, and more valuable for decision-making. Consider these key areas when designing your reports.

Enable interactive exploration

Interactivity lets users engage with your report and discover insights on their own. Features like drilling, navigation, and filtering empower users to answer their own questions and find the information most relevant to them. These options make your reports more dynamic and accessible to a wider audience.

- Drill up, drill down, and drill through to details.
- Navigation within the report or to other reports.
- Filters and slicers for visuals, pages, or the whole report.

Add drillthrough buttons so users can select a sales region and see detailed transactions for that area. Drillthrough helps users with different needs find the level of detail they want, improving accessibility for everyone.

Provide flexible data access

Flexible data access empowers users to engage with your reports in ways that suit their needs and abilities. Make your reports more inclusive and valuable to a broader audience by supporting different methods of exploring and retrieving information.

- Export data as Excel or CSV files.
- Ask questions using natural language (Q&A visual).
- Set up data alerts for key values (in Power BI service dashboards).
- Link to open webpages.
- Configure actions to open applications, write back data entry values, or start workflows.

The Q&A visual lets users use natural language like, "*Show me total sales by product,*" and instantly see a chart. This makes data accessible to users who might not be familiar with the report layout.

Support scenario analysis and customization

Scenario analysis and customization features let users test different situations and personalize their view of the data. What-if analysis and flexible layouts help users understand the effect of changes and make informed decisions. These features also make your reports more adaptable and accessible.

- What-if analysis with adjustable parameters.
- Page layouts that work across multiple pages and print well.
- Printing the report to a physical printer or as a PDF document.

Consider a what-if parameter for sales growth, which allows users to adjust the slider to see how changes in demand affect revenue, making the report more interactive and accessible for planning.

Automate delivery and encourage collaboration

Subscriptions and in-report conversations help users stay up to date and work together more effectively. These features support ongoing engagement and make your reports more valuable over time.

- Subscribing to the report so that it can be automatically delivered as a document on a scheduled basis.
- Collaboration capabilities that allow adding comments, feedback, or engaging in a conversation about the report.

As an example, report subscriptions so team members receive updated reports by email every Monday. Enable comments so users can discuss findings directly in the report, supporting accessible, collaborative decision-making.

6. Explore designs in a Power BI report

<https://learn.microsoft.com/en-us/training/modules/power-bi-effective-requirements/6-explore-designs>

Explore designs in a Power BI report

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The following report allows you to explore different report design outcomes for the Contoso Skateboard Store. The report shows the three factors that you should consider: audience, form factor, and other requirements.

Select an option for each factor, and then select *Go!* to reveal a recommended report design.

Possible design recommendations that you can explore include:

- Executive > Browser > None
- Executive > Browser > Print-friendly
- Executive > Phone > None
- Executive > Tablet > None, and others

Tip

You can open the report in full-screen mode by selecting the double-headed arrow located in the lower-right corner. When you're ready to return to the module, select *Escape*.



7. Check your knowledge

<https://learn.microsoft.com/en-us/training/modules/power-bi-effective-requirements/7-check>

Check your knowledge

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8. Summary

<https://learn.microsoft.com/en-us/training/modules/power-bi-effective-requirements/8-summary>

Summary

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Scoping your report design requirements is imperative. A clear understanding of the business goals and your report audiences is essential in delivering an effective reporting solution. Other design aspects that you should consider include selecting the most fitting report type and factoring in user interface requirements.