A dashboard is a single page report that combines multiple visualisations and can be used to tell a story.

1. **Q&A feature in Power BI**

Power BI dashboards as well as reports provide an option to ask a question about your data.

* Users can use the ‘Ask a question about your data feature’ in the dashboard view and this can increase the engagement and interactions with the dashboard.
* Users can also use the Q&A visual in the Report view to ask questions about the data in the report. A screenshot of a computer

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It is a tool that allows you to ask natural-language questions about the data. The Q&A visual consists of three main elements:

**Question box**: Use natural language to ask questions about the data. Example: What was the total sales amount by product?

**Pre-populated suggestion tiles**: These questions help users understand how they can phrase their questions. Example, ‘top product categories by january sales’ tile results as a bar chart with category name and January sales.

**Pin visual**: using this option, we can pin the visual created with Q&A to a new or existing dashboard.

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1. **Data Alerts in Power BI Dashboards**

Data alerts can be set up in Power BI dashboards to alert a user if a specific data point value is above or below a threshold. This feature is only available for dashboards in Power BI Service.

**Steps to set data alerts:**

* After pinning tiles to a dashboard, select the ellipsis (...) in the corner of the tile you want to set an alert for and then select Manage Alerts. A screenshot of a computer

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* Select ‘Add Alert Rule’ and add an alert. Set the condition, choose the threshold and define the frequency of the alert. These alerts are sent directly to your Notification Center in Power BI, and you can also configure emails.

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1. **Subscribe to Report in Power BI Service**

If a user wants to get an email of the report at a fixed time interval, he/she can subscribe to a report. The email contains a snapshot of the report and a link or a full attachment of the report or dashboard. We can define how frequently we want to get the email. To create a subscription, you need permissions to access the particular report or dashboard and either:

* A Power BI Pro or Premium Per User (PPU) license, or
* Access to a workspace backed by a Power BI Premium capacity

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**Steps to subscribe to a report:**

* Open a report and select the Subscribe to report option from the top menu bar.
* Select Create a subscription and give your subscription a name.
* Edit or add email addresses
* You can choose to attach the report as an attachment. The size of the attachment is limited to 20 pages and 25 MB.
* Select a Start date and an End date (optional) for your subscription.
* In the Repeat dropdown, select a frequency for your subscription: hourly, daily, weekly, monthly or after data refresh (once daily). We can also select specific days of the week when we want to receive the email.
* If you choose Hourly, Daily, Weekly, or Monthly, you can also choose a Scheduled Time for the subscription.
* The ‘More Options’ option can be used to modify the email subscription further. It includes options like: Subject for the email, the Report page you want to appear in the preview image, Preview Image etc.
* Once the subscription is ready to be saved, click Save.

After the subscription is created, we can review and test the subscription by clicking on the Send Now option. We can also manage subscriptions by turning on/off any subscription.

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1. **AI Insights/Quick insights in Power BI Dashboards**

The Quick Insights feature in Power BI uses machine learning algorithms to go over the model and produce insights quickly. It helps you find insights when you don’t know where to start and also to find insights you may have missed when building your report.

To generate Quick Insights, in Power BI service, select the ... → Quick insights option. It may take a few seconds but you will receive a pop-up message when the insights are ready. Select View insights to open the Quick Insights page. It creates charts with short descriptions.

You can pin a visual from the quick insights page to your dashboard.

1. **Mobile View**

Power BI also provides a Mobile layout for easy access to a report or a dashboard from mobile.

**Power BI Desktop:**

Go to View → Mobile layout to view your reports in a Mobile view. Or simply click the mobile icon at the bottom left of the Report View in Power BI Desktop.

**Power BI Service:**

To see a dashboard (in Power BI Service) in mobile view, select the Edit drop down arrow on the home ribbon and select Mobile layout. We can choose the tiles that we want to see on the mobile view.

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In the mobile layout, we can drag and drop the required visuals and create the mobile view of the report/dashboard.

**Design Considerations for designing mobile views:**

To create more user-friendly, easily readable and optimised views on mobile, these design considerations should be kept in mind:

* **Spacing**: Spacing between any two visuals should be adequate. You may resize visuals, use different shapes and use less visuals to ensure this.
* **Grid Orientation and Style**: Modify grid settings to better suit phone layout.
* **Prioritise Key Metrics**: Key information should be prioritised at the top of the report
* **Text**: Larger fonts should be used for easy readability. Consider using abbreviations or icons where appropriate.
* **Colours**: High-contrast colours should be used for better visibility on smaller screens
* **Orientation:** Visuals and layouts should be designed for both portrait and landscape orientations, as users might switch between them.
* **Touch-Friendly Interaction:** For easy tapping on a small touch screen, buttons, slicers, and filters should be kept large enough.
* **Use simplified visualisations**: Visuals should be kept simple for easy understanding of the viewer on a smaller screen. Avoid using complex charts.
* **Testing**: Before making the report live, one should test the mobile views on various mobile devices to ensure optimal user experience and make any adjustments if required.

1. **Sharing reports in Power BI Service**

We can share reports within our organisation in Power BI Service. This can be done using the Share button in any report or dashboard.

Power BI provides the following options to share a report:

* People in your organisation
* People with existing access
* Specific people

We can type the email IDs of the people we want to share it with and send the link to them via Mail/Teams/Powerpoint or copy the link to share it with them.  Also, if the people have access to your workspace, they can directly view your reports and interact with them. We can also export the report as pdf/Powerpoint and share it with them.

There are various ways to share Reports and Dashboards:

* **Direct Access**: grant access to users or groups with different permission levels (Read, Read & Reshare, Build).
* **Shared Report Links**: Generate links with specific access levels and share them with anyone
* **Publish to Web**: Share reports publicly with an embed code

1. Publish to Web

Publish to Web allows us to share interactive reports and dashboards on websites, or on social media. It creates a code snippet that can be embedded on a web page and allows viewers to access the report on a website without a Power BI license. It maintains the interactivity of the report using slicers, filters and drill-through functionalities.

**Who can publish on web**: Anyone with a Microsoft Power BI Pro or Premium Per User (PPU) license can Publish to Web from workspaces.

**Who can view**: Anyone with a Microsoft account can view reports published to the web

**Uses of Publish to Web:**

* Can be used to share reports beyond Power BI users i.e. any stakeholder
* Maintains the interactivity of the report
* It does not require setting up any software to view and interact with the reports.
* Access to published reports can be controlled through workspace permissions.

**Steps to publish to web:**

1. In Power BI Service, go to the file that needs to be published to web
2. Click on File → Embed report
3. Select Publish to web (public)
4. A dialog box will appear with the embed code and a link to the published report. Copy the embed code and paste it into the HTML code of your website or blog where you want to display the report.

1. Schedule Refresh in Power BI Service

To keep Power BI reports and dashboards up-to-date we need to define a refresh frequency for the datasets that we are using in Power BI Service.

In the workspace, go to the dataset corresponding to the report you want to refresh. Go to Settings → Schedule refresh. This is where we can define a schedule for the refresh and add times for the refresh. We can define up to 24 times in a day for the refresh. Power BI premium users can define upto 48 times for the refresh.

We also need to specify the time zone for the times.

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Note that a dataset refresh does not guarantee a report refresh. Hence, we should click on the refresh button for the report before we see the report.