

Power BI for Jobseekers

Learn how to create interactive dashboards and reports, and gain insights from the data

Alan Murray



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Dedicated to

My amazing children:

George & Lily

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Alan Murray is a Microsoft MVP and Excel & Power BI trainer. He has been training and consulting in Microsoft technologies for over 20 years. He loves training and the joy he gets from knowing he is making peoples' working lives easier.

Alan runs his own blog - **Computergaga** (<https://computergaga.com>) and writes for multiple other websites. His Computergaga YouTube channel has over 600 videos and over 40 million views.

He organizes a free monthly **Excel & Power BI meetup** in London where anyone can come, learn, chat, and enjoy each other's company.

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He likes to play badminton, cycling, listen music and admire nature."

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Finally, as always, thank you to my children, George, and Lily. I'm very lucky.

Preface

Data is everywhere!

Data is a precious commodity for businesses and there has never been a more exciting time for those who like to work with data.

Businesses store huge volumes of data, which they use to make decisions to stay competitive in their field. This means there is a large demand for people with the skills to make sense of that data.

Having data is useless without meaning. The ability to create reports that result in better understanding and therefore drive effective decision-making is in high demand. Businesses want to maximize the value of their data.

Power BI Desktop is the best tool for self-service business intelligence and analytics. This free tool makes it easy to acquire, shape, model, and present data in an effective and interactive way.

The Power BI Service then provides a cost-effective way to share these reports with other members of your team or with management.

Learning Power BI will give you the edge over others who still use over-priced, rigid, and limited tools. The Microsoft data platform is the leader in the analytics and BI market.

This book will demonstrate the demand for data analytics skills by businesses today, where you can find work and what employers will expect from you.

It then takes you on a practical guide to Microsoft Power BI. No prior knowledge is required. This is a comprehensive beginners guide to Power BI.

Power BI for Job Seekers is divided into **19 chapters**.

Chapter 1: Why Learn Power BI? - The first chapter of this book explains why you should learn Power BI. This is supported by data from job searches, market research and the words of current professionals from recruitment and consultancy firms working with Power BI and data analysis.

Chapter 2: What is Power BI? - In this chapter we start to explore Power BI. We start by explaining the different components of Power BI. We then download and install Power BI Desktop and create a Power BI account.

Chapter 3: Getting Started with Power BI Desktop – In this chapter, we get started using Power BI Desktop. We familiarise ourselves with the Power BI Desktop environment, create a new Power BI file, and explore important options and settings.

Chapter 4: Creating a Simple Power BI report - Things now get very exciting. In this chapter, we create our first Power BI report. This is a simple, but effective report, to showcase the general process of how to create a report in Power BI. We will connect to external data, perform transformations to the data, build visuals and specify how the reader can interact with them.

Chapter 5: Getting and Shaping Data - In this chapter, we look at how to get data from a variety of sources into Power BI. These sources include from PDF files, Excel workbooks, OneDrive, and local folders. Various transformations will be performed to shape the data before loading it to Power BI. This is the beginning of the report that we will focus on creating throughout this book.

Chapter 6: More Data Transformations- In this chapter, we explore further data transformations that I feel deserve some coverage in this book. These transformations are incredibly useful. They include merge queries and the different join types, performing date transformations, calculations in Power Query, and the brilliant unpivot columns feature.

Chapter 7: Creating the Data Model - In this chapter, we fine-tune the data model ready for the DAX calculations and report visuals that are to come. This includes establishing relationships between the tables of the data model, hiding unnecessary fields, and formatting field values correctly.

Chapter 8: Creating a Date Table - In this chapter, we continue building the data model of our report by adding a date table. We begin by detailing why you need a date table in your model and what one consists of. We then create the date table using the DAX formula language and add the columns that we require. We then ensure that the columns are ordered correctly and mark the table as a date table. This ensures that Power BI works effectively with our new date table and does not create its own date tables to perform time intelligence.

Chapter 9: Adding DAX Measures - In this chapter, we delve further into the DAX formula language and look at measures. Measures are DAX calculations that aggregate the values for many rows of a table. We will create measures that we require for our report building in the forthcoming chapters. You will learn a few very useful DAX functions including CALCULATE, RELATED, COUNTROWS, SUMX, and DIVIDE to name a few.

Chapter 10: Cards and Other Text Visuals - In this chapter, we begin looking at the visualizations available in Power BI to present your data effectively. This chapter focuses on text-based visuals, of which there are four that will be covered – the Card, KPI, Table and Matrix.

Chapter 11: Chart Visuals - This chapter will focus on using the chart visuals in Power BI including the column, line, combo, gauge, and treemap visuals. You will see practical examples of their use and learn key formatting attributes that can be changed to increase the effectiveness of the visual.

Chapter 12: Using Maps in Power BI Reports - In this chapter, we look at the map visual of Power BI and use it to efficiently visualize geographic data such as countries, cities, and postcodes. You will learn a few tips to get the most out of your Power BI maps.

Chapter 13: Other Power BI Visualizations - In this chapter, we dive into the AI visuals of Power BI including the Q&A, Decomposition Tree, and Smart Narrative visuals. We also cover how to import custom visuals from the AppSource marketplace to cater for scenarios when the standard visuals do not fulfil your needs.

Chapter 14: Report Interactions, Filters & Slicers - This chapter is about the different ways that we can enable a user to interact and filter the visuals on report pages. We cover visual interactions, slicers, the Filters pane, and Drill through.

Chapter 15: Enhancing your Power BI Reports - In this chapter, we will make some final enhancements to our report before we publish it to the Power BI service and share it with others. We start with inserting objects such as text boxes, images, and buttons. Then we move to creating custom tooltips pages and using bookmarks in your Power BI reports.

Chapter 16: Publishing & Sharing your Reports - In this chapter, we publish our report and explore the Power BI Service. We look at how to share our report with

others both inside and outside of the organization and create new reports from existing datasets that have been published.

Chapter 17: Datasets, Dashboards & Reports - In this chapter, we will dive into more details on some of the key features of the Power BI service – datasets, dashboards, and reports. We will see how to create your own workspaces and specify the access for different users and groups and the permissions that they have. We will also cover the important topic of how to refresh your data and your reports.

Chapter 18: Power BI and Other Apps - This chapter looks at some associated tools to Power BI that are important to know. A key topic is the way that Power BI interacts with Excel. It is very easy to transfer your data models between Excel and Power BI and vice versa. We will also look at how Power BI can interact with PowerPoint and with Microsoft Teams.

Chapter 19: Interview Questions, Certifications & Resources - The final chapter of the book looks at how to land your analysis job. We ask recruiters what they are looking for when hiring an analyst including typical interview questions, experience, and skills, so that you can be fully prepared. We also look at useful certifications and further learning and development opportunities.

Code Bundle and Coloured Images

Please follow the link to download the *Code Bundle* and the *Coloured Images* of the book:

<https://rebrand.ly/dbgic3o>

The code bundle for the book is also hosted on GitHub at **<https://github.com/bpbpublications/Power-BI-for-Jobseekers>**. In case there's an update to the code, it will be updated on the existing GitHub repository.

We have code bundles from our rich catalogue of books and videos available at **<https://github.com/bpbpublications>**. Check them out!

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Introduction

Data is everywhere!

Data is a precious commodity for businesses, and there has never been a more exciting time for those who like to work with data.

Businesses store huge volumes of data, which they use to make decisions to stay competitive in their field. This means there is a large demand for people with the skills to make sense of that data.

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It then introduces you to the different tools that form Microsoft Power BI. No prior knowledge is required. This is a comprehensive beginner's guide to Power BI.

Notation

You can expect the following notation in this book.

- The name of a button, keystrokes will be written in Italics. For example, press *Enter*.
- Tab of the Ribbon that we click will be written as Calibri +Font 12 + Bold text. For example, click the **Modelling** tab of the Ribbon.
- Titles and other text that you see on screen and referenced in the book will be written as Calibri +Font 12 + Bold. For example, in the **Merge** window.
- Names of tables, queries, and pages will be shown as Consolas + Font 10 + bold. For example, select the **Products** table.
- Names of fields, columns, and measures will be shown as Consolas + Font 10 + bold . For example, click on the **No of Staff** column.
- Written text will be written as Consolas + Font 10 + Bold. For example, type **Total Revenue** in the name box.

Download the example files

You are encouraged to download the example files used by me throughout the book to practice on. The best way to learn is to follow along and practice the techniques with me. This will benefit your learning greatly.

You can download the example files from the GitHub link.

The files are organized into folders that match the chapters of this book.

CHAPTER 1

Why Learn Power BI?

Introduction

Power BI is quite simply the best self-service BI platform. It is a service for data acquisition, modeling, and reporting. It is easy to learn, is in large demand by employers, and is updated regularly.

Power BI is updated every month, so it is continually getting more powerful, easier to use and takes advantage of advancements in technology. This makes it a very exciting time to start using Power BI if you are seeking a job in business intelligence or data analysis.

In this book, we will learn how to use Power BI effectively, and you will see how easy and fun it can be.

Structure

In this chapter, we will cover the following topics:

- View data that supports the demand for Power BI skills
- Hear from current BI professionals on the importance of PBI

Objectives

After reading this chapter, you will be able to know why you should learn Power BI. You will see data that supports the demand for Power BI skills from popular job sites and other places that you can find work for Power BI.

You will see impartial evidence that Microsoft is the leader in analytics and business intelligence platforms.

And you will also hear from current professionals who work in the BI consultancy or in the recruitment of analysts and other BI professionals.

Gartner Magic Quadrant 2022

In March 2022, Microsoft was recognized as a leader in the Gartner Magic Quadrant for Analytics and Business Intelligence Platforms (*figure 1.1*).

They have been named as a leader for 15 consecutive years. This is the fourth year that they have been positioned the furthest to the right for the completeness of vision and the furthest up for their ability to execute. Please refer to the following figure:

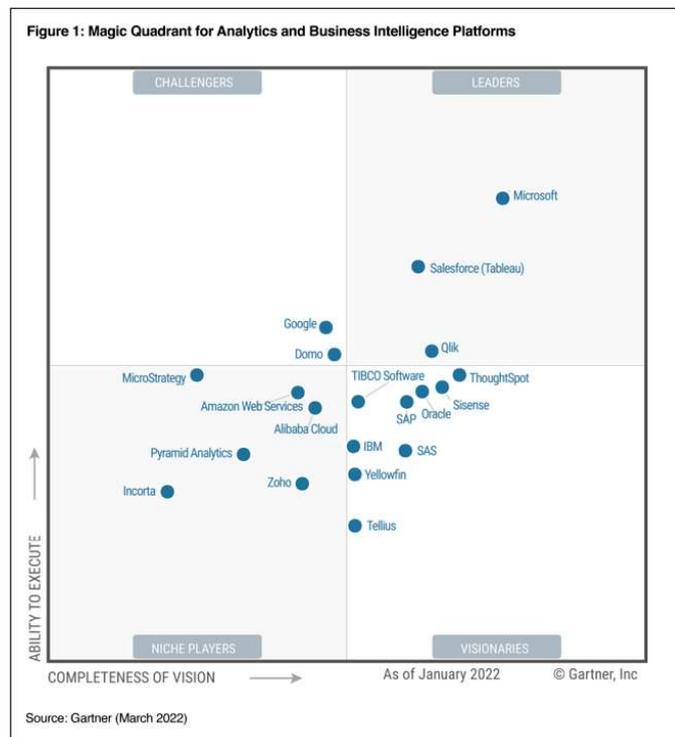


Figure 1.1 Gartner Magic Quadrant showing Microsoft as an ABI leader

This impartial view of different business intelligence platforms provides the confidence that Microsoft's ecosystem of tools and online services is a leader in this landscape.

Although Power BI is not solely responsible for this position in the quadrant, it is a key reason.

Gartner evaluates the quadrant across 15 categories, including data source connectivity, data preparation, data visualization, natural language query, and reporting.

You will see as you progress through this book that Power BI performs highly in all these categories.

Demand for Power BI skills

The demand for Power BI is very strong and is growing year-on-year.

Whether you are looking for a permanent position or contract work, full-time or as a side gig, there are opportunities for you.

A quick search for jobs confirms this demand.

Figure 1.2 shows a search on LinkedIn UK for jobs using the keyword *Power BI*. It returned 4,122 results. Please refer to the following figure:

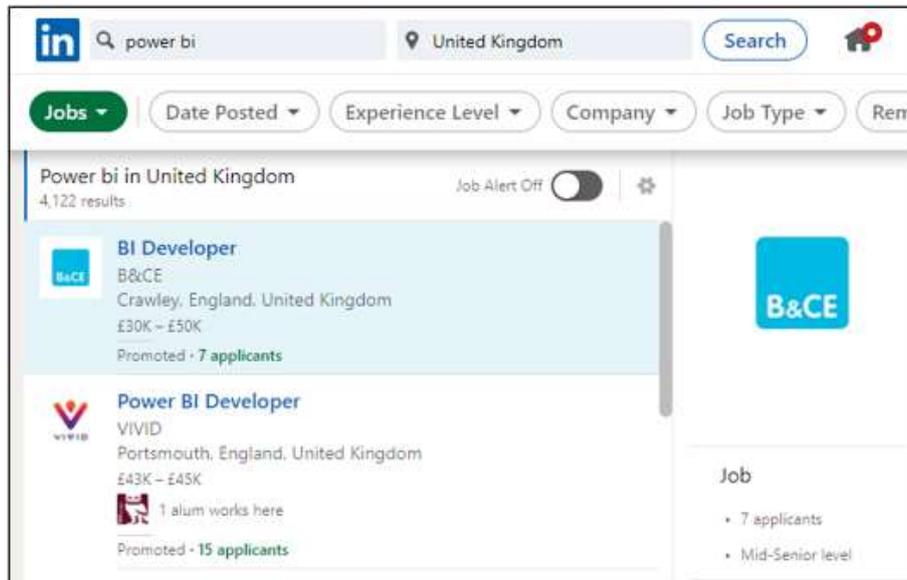


Figure 1.2: Power BI jobs at LinkedIn UK

These results can be filtered by date, location, and experience level, and you can even specify to return roles where you can work remotely.

Figure 1.3 shows a search on Naukri.com, India's No.1 job site, for jobs with the keywords Power BI and data analyst. This search returned 11,931 results.

This search is set to any experience level. So, if you are an entry-level BI analyst or developer, this could be set to 0 years to find the appropriate role. Please refer to the following figure:

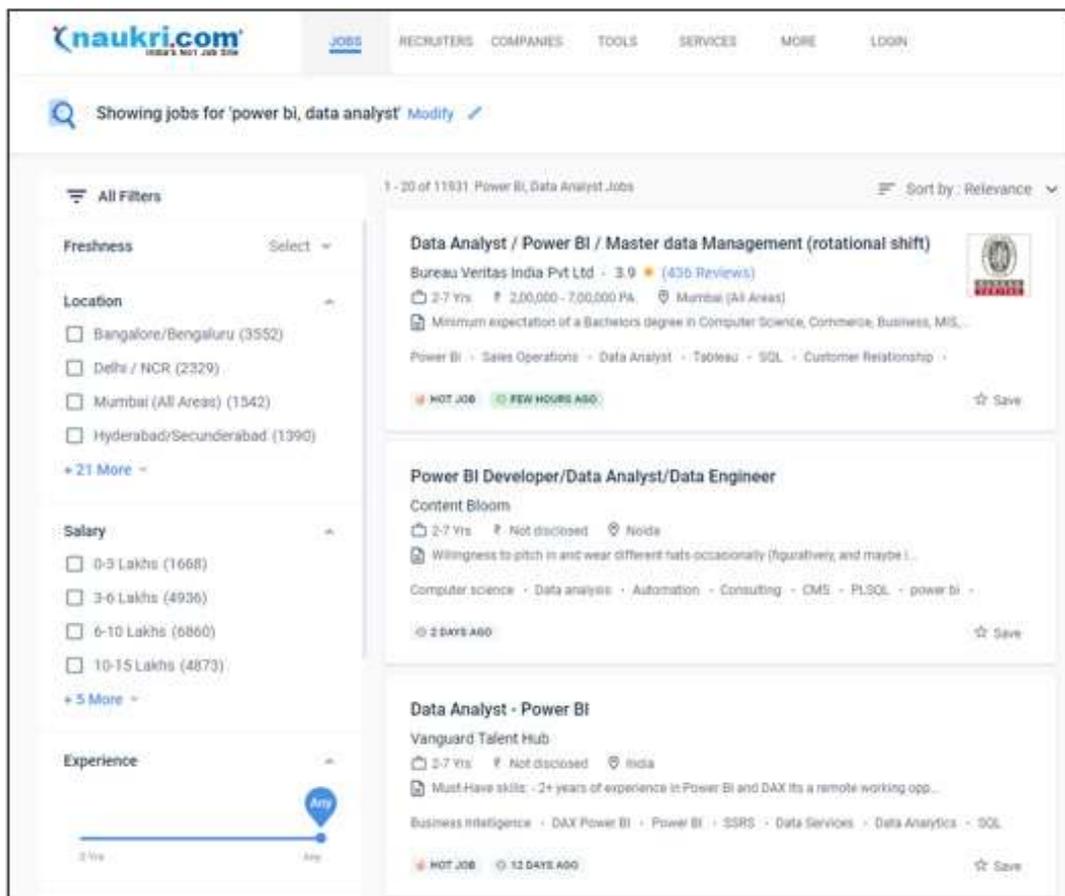
The image is a screenshot of the Naukri.com website showing search results for 'power bi, data analyst'. The page has a navigation bar with 'JOBS', 'RECRUITERS', 'COMPANIES', 'TOOLS', 'SERVICES', 'MORE', and 'LOGIN'. Below the navigation bar, there is a search bar with the text 'Showing jobs for 'power bi, data analyst'' and a 'Modify' link. On the left side, there are filter sections for 'All Filters', 'Freshness', 'Location', 'Salary', and 'Experience'. The 'Location' section has checkboxes for 'Bangalore/Bengaluru (3552)', 'Delhi / NCR (2329)', 'Mumbai (All Areas) (1542)', and 'Hyderabad/Secunderabad (1390)'. The 'Salary' section has checkboxes for '0-3 Lakhs (1668)', '3-6 Lakhs (4936)', '6-10 Lakhs (6860)', and '10-15 Lakhs (4873)'. The 'Experience' section has a range from '0 Yrs' to 'Any'. On the right side, there are three job listings. The first listing is 'Data Analyst / Power BI / Master data Management (rotational shift)' by Bureau Veritas India Pvt Ltd, with 3.9 reviews, 2-7 years experience, and a salary range of ₹ 2,00,000 - 7,00,000 Pa. The second listing is 'Power BI Developer/Data Analyst/Data Engineer' by Content Bloom, with 2-7 years experience and a salary of 'Not disclosed'. The third listing is 'Data Analyst - Power BI' by Vanguard Talent Hub, with 2-7 years experience and a salary of 'Not disclosed'. Each listing includes a 'Save' button and a 'HOT JOB' or 'FEW HOURS AGO' badge.

Figure 1.3: Power BI data analyst jobs at Naukri.com

This next search is on the website of Nigel Frank International, a global leader in Microsoft Recruitment (figure 1.4).