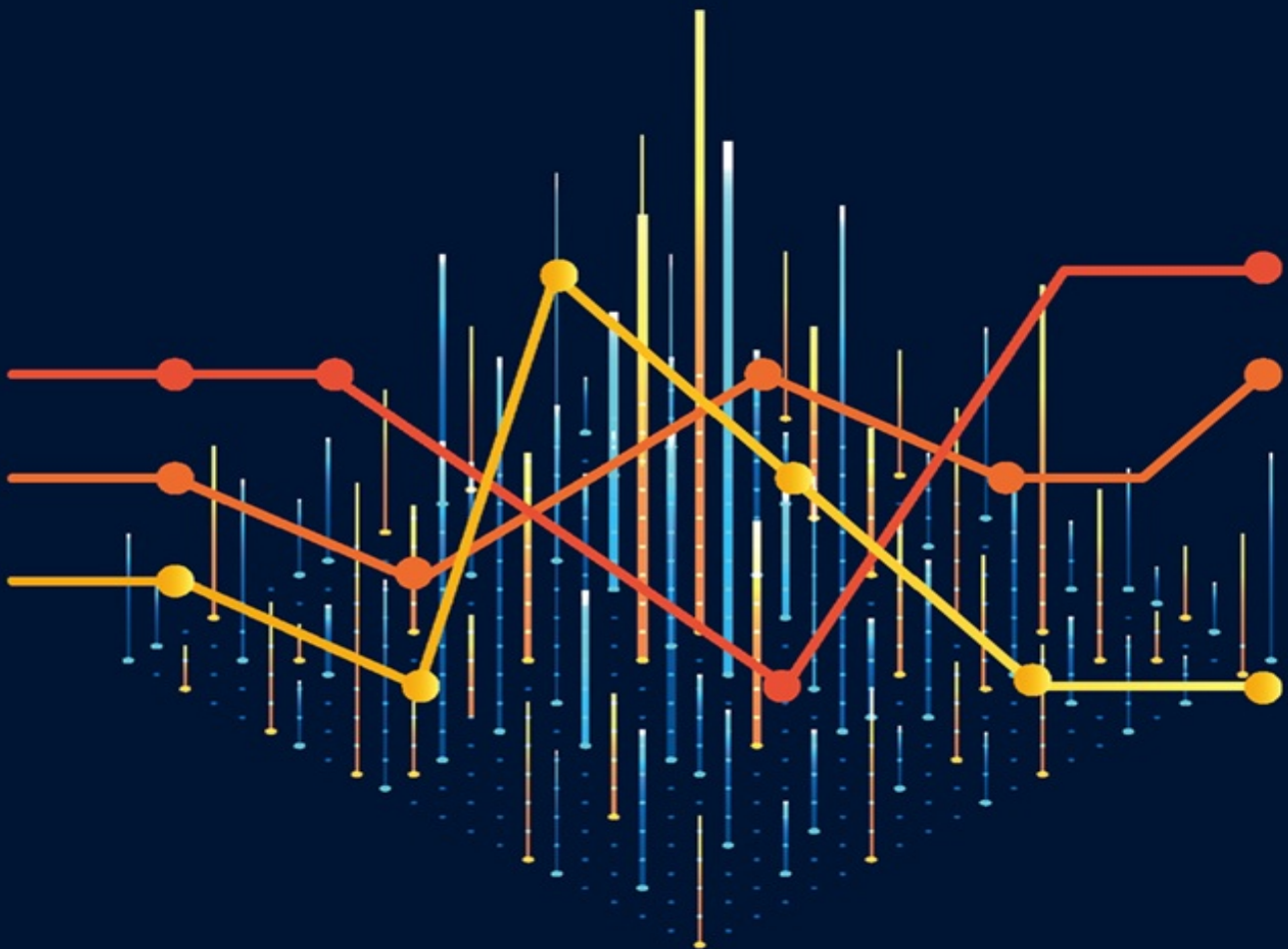


BUSINESS 101 FOR THE DATA PROFESSIONAL



JORDAN MORROW



PRAISE FOR *BUSINESS 101 FOR THE DATA PROFESSIONAL*

“Jordan Morrow expertly navigates the intersection of business and data, providing actionable insights for data professionals who want to elevate their impact in business contexts. This book goes beyond technical knowledge—it equips you with the strategic mindset necessary to align data work with organizational goals. A must-read for any data professional aspiring to drive value and success in the business world.”

Sadie St. Lawrence, Founder and CEO, Women in Data and the Human Machine Collaboration Institute

“The best data professionals I’ve worked with in my career weren’t the incredible coders, or the math savants. They were the ones who took time to deeply understand the core of any given business problem, and then used data and their skillset in clever ways to get a solution over the line. The fusion of technical skills and business acumen is a super-power. Jordan Morrow is knowledgeable, clear, and passionate. Not many can translate that from the stage to the pages of a book, but he has found a way to do this effortlessly.”

Andrew Jones, Founder and Owner, Data Science Infinity

“This is an essential guide for anyone in data roles, from analysts to engineers, looking to bridge the gap between data and business. The section on key business concepts is particularly valuable for learning how to ‘speak the same language’ as the business, making it a must-read for enhancing collaboration and impact.”

Kate Strachnyi, Founder, DATAcated, and author of *Colorwise: A Data Storyteller’s Guide to the Intentional Use of Color*

“Technical data skills are the minimum expectation for practitioners. In

your career, what sets you apart is how effectively you can work with the business. I hope that someday, every data professional has read this book, and a 101 understanding of the business is also the baseline.”

Joe Reis, data engineer, “recovering data scientist” and bestselling author

“This book masterfully bridges the gap between technical data expertise and business acumen, offering an insightful crash course on how data intersects with key business functions. The blend of journal assignments and real-world interviews with data leaders makes it a practical and comprehensive guide for data professionals trying to enhance their influence within the business. Get your hands on this book if you want to leverage data for true impact and navigate the complexities of the modern business landscape!”

Lindsay Murphy, Head of Data, Hiive

“Jordan Morrow delivers another masterpiece, bridging the crucial gap between data expertise and business acumen. This book is an essential resource for data professionals seeking to amplify their impact in today’s AI-driven landscape. He expertly guides readers through key business concepts, but what sets this book apart is its comprehensive approach, addressing not just technical aspects but also vital soft skills often overlooked in data education. Whether you’re an analyst, data scientist, or aspiring data executive, this book provides the business foundation necessary to transform data prowess into organizational influence.”

Jason Krantz, Founder, Labor Titan

“I highly recommend this book for organizations aiming to harness the full potential of their data. Jordan Morrow provides a roadmap for transforming raw information into actionable business value through clear communication, storytelling, and ethical considerations. This is a vital resource for data professionals offering them a holistic approach to bring even greater value to their business.”

Cecilia Dones, Founder, 3 Standard Deviations

“In an era where AI and data are reshaping industries, Jordan Morrow’s book stands out as a beacon for data professionals aspiring to make a lasting impact. Drawing from my experiences leading AI initiatives globally across various sectors, I can confidently say that the principles outlined in this book are crucial for anyone looking to translate data insights into tangible business value. It’s an essential read for bridging the worlds of data and business strategy. Study this book, implement its principles, and thank me later.”

Jepson Taylor, CEO and Founder, VEOX Inc.

Business 101 for the Data Professional

What You Need to Know to Succeed in Business

Jordan Morrow



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Introduction

To begin, let's imagine the data professional role you are in. That role could be a Data Analyst, a Data Scientist, or a Data Engineer. You might be looking to expand your career and move over to the business side of things.

As you work in the data space, and probably received a degree within the data field, you might be feeling uneasy about what you can do to ensure you have the right qualifications for roles that aren't in data and analytics. You might be worried your background isn't what is necessary. But you also don't want to go back to school to get the necessary skills to help you with your desire to move to the business side of things. What can you do, or what should you be doing?

Do you think someone needs to go back to school to learn the skills needed on the business side of things? The answer is no. Instead, they need a pathway lit for them to see the way forward. Individuals should be combining the power of data and the power of the business. Organizations should be empowering their data professionals with the skills that make them effective, and that includes business skills. How can they do that?

In this book, my goal is to help data professionals to understand and learn things that will help them on the business side. You can look at it like an equation:

$$\text{Business} + \text{Data} = \text{Success}$$

What does this mean? On one side, we have the business. The business is, well, the business... the operations, the sales, the marketing, the things that hopefully are being done to help the organization thrive and succeed.

On the other side of the equation, we have data. Data is a supportive tool for a business and needs to be utilized appropriately. But I don't know if that is always happening in a lot of organizations.

The equation shows that if we add business and data, we can get success. Is that a simple thing? Maybe in theory, but in practice there are things that go into making a business successful, and different things that go into data to make it successful. We should be working to help both sides of the equation thrive, and then to help them thrive together.

As a data professional, what I want to help you do with this book is gain an understanding of the other side of the equation: the business. If you have a background in data, how do you feel about your knowledge of business? Do you know the meanings of the terms income statement, balance sheet, revenue, cash flow, assets, liabilities, gross and net revenue, EBITDA? Do you know how data can be monetized in a business? Do you network regularly? Are you working on your own communication?

Don't worry. In this book, I will provide definitions for business terms and help you build your own business knowledge. I want you to use this book as a guide to your career success.

Along with reading the book, at the end of each chapter there will be a journal assignment for you to think about and write on. Yes, get a journal if you can. I would prefer it if you wrote it by hand, but if you want to type, that's fine too. I want you to use a journal to bring the topics and chapters to life in your world, or reflect on your thoughts on data and business. It is one thing to simply read the chapters of this book. It's another to be inspired by what you can do with the knowledge and start to write down your thoughts on how you can use this knowledge. I think it is more beneficial if you can apply the learnings to your job or self than to just read about it. I hope you can apply principles or learnings to your work

and be more successful in your career.

Overall, this book should be a business guide for data and analytics professionals. Are you ready to take a step in your career? Let's jump in and get started. Stay nerdy, my friends, and let's do this!

1

Business and Data: The Intersection

How many of us have heard that the sexiest job of the 21st century is the Data Scientist?¹ Or have you heard everyone talking about how they are going to use data to accelerate their business strategy?² Data has become such a hot topic in the world, and one where hype and buzz can be all over the place. And that's not to mention the hype and buzz that generative AI like ChatGPT has brought to the world.

But is data and AI the answer? Or is it the business side of an organization that drives everything? In reality, the answer is a combination of both. They both can bring success and power. The intersection of business and data is power. Data is a support tool for the business strategy, but for too long data and data professionals have been siloed off and not in the right spot to bring success to the rest of the business.

To help us understand the intersection of business and data, let's help to illuminate two sides of a business coin: the data professional and the business professional.

The Data Professional

Are you a data professional and feel confident defining what a data professional is? Do you feel like there is confusion? Do you feel like clarifying roles would help you with your work? Organizations need to define this as well. You may have a general idea, but for this book let's set in place some titles or roles and define them.

Note, these definitions do not have to be set in stone. In fact, you may have better ways to define things than me. The key is to be continuously learning and utilize this book in the ways that can help you succeed more in business.

Just what is a data professional? The way I define it is: a person whose profession and title and work is around data. So, in this case, I don't mean someone who uses data in their role. No, I mean someone whose direct work and/or title is within data and analytics.

According to the definition adopted by the European Union, data professionals are those who directly work within data, doing things such as collecting, storing, managing, and/or doing front-end work, like analysis, visualization, and interpretation.³ I like this definition. From it, you can see different positions that are a part of a data profession. You are probably familiar with some of these, but they may include:

- Data Analyst
- Data Scientist
- Data Engineer
- Data Architect
- Data Visualization Specialist (or a variation of this)

If you are a data professional then you are someone who, on a daily basis, is working with data in some manner. From the engineer who is helping to store, collect, and architect the data model for use at the front end, to the Data Analyst or Data Scientist who is running analysis and/or models to analyze and interpret the data.

Overall, a data professional is someone who is driving the data for an organization to help that organization achieve its goals and objectives. That is key to understand, and I hope data professionals do understand this: the purpose of data is to support the business. That's the point of it. There's no value in building out some

elaborate visualization or model unless that visualization or model is empowering the organization towards success.

So, now that we have a solid definition of a data professional, what is a business professional?

The Business Professional

You can Google definitions of a business professional, or you can ask a business professional and get a definition. Why don't we do both here?

What does a search for a definition for a business professional reveal to us? Well, you may get results that talk about business professional attire. But of course, that is not what a business professional is. A business professional is just someone who works in the business and is dedicated to running the business, in areas from Operations to Strategy to Marketing to HR.

Here are some titles you may find when it comes to business professionals:

- Chief Executive Officer (CEO)
- Marketing Manager
- Vice President of Finance
- Accounting Manager
- Business or Financial Analyst
- Controller
- Account Executive

If we were to break down your organization, the majority of the people in the workforce are probably tasked with working on the business side, and not necessarily working in the tech or data space. Think of the departments of most organizations. In your organization these might include:

- Risk

- Marketing
- Finance
- Accounting
- Operations
- C-Suite (the “chief” level of the organization)

Are these all of the areas of every business? Maybe not. In the next chapter, we will give you more detail about each business unit, so you can wait until then if you want. Or you can jump ahead, like a choose your own adventure book, if the excitement is simply too much for you.

As you can see, within most organizations, the majority of people will be business professionals and not data professionals. Imagine you work for an organization of 10,000 people. How many will be data and analytics professionals by trade, title, or background? Maybe 100–200? That leaves 9,800–9,900 that are not data professionals who are running the business. This is of course why data literacy matters. That’s why it is so critical that we have a workforce that understands the why and how of data in order to utilize it effectively.

Now, what if I ask a business professional what their definition is? I asked Brian Clark, president of AgileOne. Brian defines a business professional as follows:

Someone who works to create an environment that equally focuses on technological strength, market acumen, and a customer-first focus.

They leverage technologies and SaaS [Software as a Service] solutions to drive business growth and efficiency. They constantly study digital trends and how they impact business strategies. They align these tech solutions with business objectives, ensuring complete integration and maximum ROI.

Most importantly, they successfully work internally and externally via cross-functional collaboration, focused on innovative problem-solving and delivering value to cherished clients and stakeholders equally!

Brian presents us with a strong definition that we can break down. I

like the first section where he describes creating an environment that emphasizes, equally mind you, technological strength, market acumen, and a customer-first focus.

We live in a technological world, right? If someone doesn't believe that at this point, I am not sure where they are hiding. Maybe I can join them and go live in the mountains! A good business professional should be creating an environment to help empower people to focus in on the technology we now have at our fingertips.

Next, knowledge of the market matters. I would also add that knowledge of our own skills and abilities within the company and the market are good things too. We need to be self-aware of what we do and don't possess skills in. We need to utilize that as an ability to develop and grow!

Finally, Brian talks about an environment where we focus on the customer first. We have to be thinking of the customer and what their needs are. In the data space, I am going to directly tie that to understanding the audience. If you are a data professional building out data and analytical projects, or working with AI, do you think of what *you* would like to do, or do you think of what *your audience* would like to use? If you are building for you and not your audience, how well is the adoption of those products going for you?

To continue with our breakdown of Brian's definition, he discusses the leveraging of technologies and SAAS solutions to drive business growth and efficiency. Business professionals study digital trends and how they impact the business.

Finally, and this is key for data work to be successful, they align the technical work to the business objectives. This is absolutely crucial. Data work needs to be tied to business objectives and it needs to be integrated into the business. Then, you can maximize the return on investment (ROI) of data.

Brian ends with the importance of internal and external

collaboration in delivering value to clients. When we think of a business, if you are focusing on retaining clients, building good and strong relationships with them, and helping to drive value for them, you are working towards building a more successful business. If your goal is to maximize profit or revenue, then why aren't client relationships top of your mind?

Think about your work and take a step back and ask: what is my target or goal with my work in a business setting? This could be a key question for you to ask to help determine where you sit as a data professional and now, knowing the business professional definition I have shared, a business-oriented data professional.

Can you imagine yourself now as a business-oriented professional? If not, that's OK. Let's hope to get you there throughout this chapter and the rest of the book.

You may ask: what do I mean by a "business-oriented" data professional? Let's jump into that now.

A Business-Oriented Professional: Mindset

I want you to think to yourself about your role in data and analytics right now. What is your title? What do you do on a daily basis? Do you love what you do? Do you love data and analytics?

Data and analytics can be powerful for organizations. You have the power of the four levels of analytics (descriptive, diagnostic, predictive, and prescriptive) at the figurative fingertips of the organization to find insight and information, to find the "why" behind the things occurring, then to build predictions and utilize the power of machine learning and AI to drive prescriptive analytics. All this is wonderful and exciting. When it doesn't go the way we want or even if it does, we then iterate and keep going. What a powerful set of tools and skills to help drive things forward!

Now, what if we are just doing these things, such as the four

levels of analytics or AI work, and taking too long to accomplish them, and don't specifically know where this data is going to help the business? Do we feel there is much value in it? Data and analytics can be fun for data and analytics professionals, but they have to be pointed in a specific direction.

Think of a boat, back in the days before radar. What if that boat didn't have a compass telling it where to go? How successful do you think those voyages would have been? If it didn't have something to help guide it, would it arrive at its destination? Maybe it would eventually, but you probably see what I am getting at. In order for things to reach their destination, they need to have a guide.

In the data and analytics space, the guide is the business goals and objectives of the organization. Those are then spread across the organization and the organization sails to meet its targets.

Along with the boat analogy, let's use a cooking one to help us see that having a compass or direction is important, but the right ingredients may be key too. I enjoy chocolate chip cookies. Can you imagine how they would taste if you left out a key ingredient? You can have the compass or recipe in front of you, but what if you do not follow it? If you leave out sugar or, worse, substitute it with salt, how enjoyable will those cookies be? I am pretty sure you wouldn't want to eat those.

Take the time to think of these questions as they pertain to your own work. In the data and analytics space, I wonder if those business goals and objectives are clearly understood. Do data and analytics professionals truly know in which direction their data and analytical work is heading? If not, why?

There is a simple way to guide the data and analytics work you are doing consistently. And it is on you to develop this important skill: a business-oriented mindset. This is your compass. This is a way for data and analytics professionals to have something pointing them in the right direction. So, what is a business-oriented mindset?

Business coach Emma McQueen defines a business-oriented mindset as being centered around making decisions and navigating situations with a business-oriented perspective.⁴ Does that make sense? The business's goals and objectives should be the end goal for a data professional, so ensure you are there.

What does a business-oriented mindset look like? Here are some thoughts from me on this topic. What do you think about these?

- **Business focused:** You are focusing your work towards the end goals of the business and not just guessing.
- **Flexible and comfortable with change:** How many of us like change? How many of us celebrate it? Well, I am not saying we have to celebrate it, but what if we are able to roll with the changes and evolutions that occur?
- **Continuously learning and empowering ourselves:** How often are you studying and learning? How often are you picking up a new book to develop and grow? I hope you are doing this regularly.
- **Communication is a key:** Are you able to communicate well? Are you able to get your ideas across? Can you be persuasive?
- **Innovation:** Are you able to innovate or are you continually trying to innovate?
- **Culture focused:** The culture of the organization matters. I hope you are helping yours to thrive.
- **Reflective:** Do you take the time to meditate and think on your work? Do you do this instead of just getting caught up in the busyness of your schedule?

A business-oriented mindset refers to a way of thinking that is focused on helping a business succeed. This mindset should guide you as a data and analytical professional. If you are trying to achieve end goals for an organization, and value for an organization through data and analytics, whether looking to gain

market share, improve internal operations, or get to know your customers better, you need to have your mind focused on what the end goal and objective is. Then, the data work should be guided that way.

Data work isn't for building pretty visualizations or the most complex code or models. That isn't what you should be striving for. No, it is to let the business goals and objectives direct your work. If that involves simple or complex code, simple or extravagant data visualizations, then let the work guide you. Sometimes, it only involves using a simple Excel file to drive the work. The end goal is the use of data and analytics to help drive the outcome and not the look and feel of the data.

(Note: yes, when it comes to presentations or data and analytics, the appearance and perception of things matters, but if you are spending lots of time thinking about beauty and it isn't necessary or is wasting time, take a step back and remember the outcome. Don't have a data mindset, have a business mindset.)

How can one develop this business-oriented mindset? Here are five questions to ask yourself as a data professional if you don't know if you are being business-oriented when working on a project:

- What business goal or objective is this data work supporting?
- Do I have a solid understanding of the business audience I am building this for?
- Do I know the timeline of the business goal or objective I am working on, and am I taking too long?
- What decisions can this data work support from a business perspective?
- Is this the most effective way to do the data work to support the business goal?

There are probably many other questions that could be used, so I suggest you come up with some of your own. The key is to ensure

the ship is pointing in the direction you want it to go consistently.

You may ask yourself: what do I do if the ship gets off course? I would guess that it has happened in the past. Let's take a look at what do when this happens. What do you think a boat would do if it went off course while heading towards its objective? Do you think it would say, "Oh, well, I guess we are off" or "Well, we are off course, I guess we will just go this way now"? No, the boat would course-correct, ensuring it is moving towards the goal or objective; ensuring it is hitting what it was looking to attain.

The same can be done with data work. Like a boat correcting course towards its destination, course-correct the direction the data work is heading.

One note here: sometimes a boat may go off course and find itself at a better destination. Data may do that too. You may find you went down a path and it gave you good results, even if it wasn't the original goal or objective you were working on. That is OK. I would say that mindset is key here. If you are working towards business-oriented outcomes and find the direction you went down wasn't the correct one, but you found things to help the business, great. Just have the mindset in mind so you don't just work aimlessly. You know you are working towards business outcomes and goals. Then, the data work is taking you towards good outcomes for the business.

To help with your business-oriented mindset, I want to share my four "rights" of data. These are there to empower you to focus your mind towards the goals or objectives your organization is trying to achieve.

The four "rights" of data are:

1. the RIGHT data
2. at the RIGHT time
3. for the RIGHT objective

4. with the RIGHT data literacy

Utilize the four “rights” of data to help you stay focused on what data is necessary for the right objective. If you are working on your business-oriented mindset, you are trying to focus on the goals or objectives of your organization and how data can support it. In this case, use the business goal and these four “rights” as a way to help you stay with the right mindset and, hopefully, empower you to head in the right direction.

For example: if you are trying to analyze a marketing campaign, you need the RIGHT data to understand what was occurring. You need the data at the RIGHT time: the marketing campaign analysis is your task at this moment, and you need to get the right timeframe for the analysis of the campaign. Also, learn your deadline to get the project complete. Then, you know your RIGHT objective, and it can get more specific: you are analyzing a marketing campaign.

Finally, the RIGHT data literacy can be advanced if you are a data professional, and it can be about communicating effectively to the right audience; it can also guide the right storytelling and visualization selection to help with your audience and to help drive a decision.

Overall, the four “rights” should guide you towards the objective you are trying to accomplish for the business. Don’t lose sight of these or you may go down a direction that isn’t effective. Allow the four “rights” of data to help guide your business-oriented mindset, as it can center you towards the business need each time you are working with data as the RIGHT objective is key. If that isn’t tied to the business, it may be a sign to stop and move on from that work.

The Business World

Now that we have defined data and business professionals and have looked at the business-oriented data professional mindset, let’s

jump into the business world itself and how it operates.

We will be covering some of these areas in more depth later in the book, so, for now, let's take a simple perspective which hopefully will help orient your mindset and your mind towards the business world.

Business goal

First, what is the goal of a business? Companies can have various goals and objectives that help drive the organization forward. One thing that is necessary is the financial side. In the end, without revenue, a business cannot survive. A business needs to have money in its pockets to operate.

The end goal may be money, but the way to get there and the vision of the company can vary. For example, if you build the strongest and best relationships with your clients, they buy more product, and the outcome of that relationship work is the money you need to operate and stay in business. Maybe you want to create the best working environment for your employees, so they stay at the company. These employees work hard for the business and believe in its culture. Then, they may work more effectively to help the business thrive... bringing in the money to operate.

Now, if money is the only focus, then, well, you may end up not being as successful. In fact, I would say that if all you focus on is money, you may not make it at all. Instead, focus on the key things that make you a powerful, successful, fun, and thriving business. Then, allow the outcomes of this approach to come about. It may be client relationships, the best product in the world, the best working environment... these in turn drive the business forward.

Don't get me wrong, I am not saying we need to have an "at-all-cost" mentality to make money, No, I am saying that the end goal of a company is to survive and thrive, and it needs money to do that.

The goals and objectives spelled out by the company can be different, such as to increase market share, bring in new customers, retain existing customers, or implement a hiring strategy. These should help to drive forward the end goal of the company.

How does a business achieve its goals and desires? Again, let's not dive too deep into these here in Chapter 1, but let's build a foundation for the rest of the book.

First, business strategy. What is a business strategy? It is the way a business plans to achieve its goals and objectives. We will cover this in more depth in the next chapter, but a business strategy is pretty straightforward. Pretty straightforward to write in a book and read, but complex in its delivery and execution.

What is a good definition for business strategy? IMD Business School describes a business strategy as the organization's master plan.⁵ Now, that plan could be around its goals or objectives and may have various parts to it. The key is understanding what the goals and objectives are and how to get there. This can be your overall business strategy and plan.

When we think of our new business-oriented mindset and data role, we want to look at the business strategy as decision making and the actions/calls-to-action the business undertakes to see its business succeed. This can involve various areas of the business: Sales, Marketing, Finance, Accounting, Legal, HR, and yes, Data. With a strategy, we are pointing things towards the business outcomes. This includes a data strategy. We could say that the data strategy covers how to use data to achieve the business strategy.

A data-supported business

For a data professional, the end goal is to be a support for the business. A data professional is there to help drive decisions, innovation, and provide information and insight to the organization

along the four levels of analytics.

When we think of the roles and professions within the data space that can exist within an organization, they are there to support the business and can have varying functions. These roles include Data Analyst, Data Scientist, Data Engineer, Chief Data Officer, data consumer, Machine Learning Engineer, and roles working with AI in some capacity. We will cover data roles and the monetization of data in [Chapter 5](#).

When we think of the data-supported business, there are varying ways the data supports the business, from the back-end architecture to the front-end analytics. Key from the business professional's perspective is a sound understanding of data, how it is used, and how they can use it in their role and sphere. Data literacy is absolutely key. From the data professional's side, the aim is understanding business principles and how the data supports the business. This mindset and goal for both kinds of professionals should be directed towards the end goals of the business.

It's important to note that the end goals of a business shift and change. How many organizations had written into their 2020 strategy and goals: "Pandemic will hit in March and shut down economies"? Did anyone? Well, guess what: businesses had to pivot, shift, and make intelligent decisions.

What can be a great source here? Data! As data comes in, the data professionals can have an eye to helping the business move forward and to succeed. The business professionals can look to data to help drive sustained work and progress towards the organization's goals, objectives, and strategy.

Overall, data professionals need to not only have a business-oriented mindset, they need to also have an iterative mindset. We cannot sit with our minds in neutral and let the status quo rule. No, we need to be iterating, pivoting, and evolving with the world. Better yet, you set the tone in the world!

The Intersection of Data and the C-Suite: The Chief Data Officer

When we think of the executive suite of a business, what comes to mind? Here are some titles you might be thinking about:

- Chief Executive Officer (CEO)
- Chief Marketing Officer (CMO)
- Chief Sales Officer or Chief Revenue Officer (CSO or CRO)

Did Chief Data Officer (CDO) enter your mind? If not, that's OK. Let's define the role:

A Chief Data Officer (CDO) oversees a range of data-related functions to ensure your organization is getting the most from what could be its most valuable asset.⁶

The CDO can have different responsibilities. Overall, CDOs should be senior leaders in the organization, helping it to succeed through the proper use of data.

To break this down simply: a CDO is in charge of the use of data to help organizations meet their goals and objectives. If a business wants to utilize data and its respective technology effectively, then it should have a CDO. But, the hiring of a CDO does not guarantee success; far from it. The reality is that they need to receive support and investment from the business to do their job.

Let's look at a simple analogy to understand the intersection between the CDO and the C-Suite/business: a scale. The way I view the scale is that on one side you have the desire and hopes from the executive suite to utilize and get ROI from its data, and on the other side of the scale you have the investment the organization is willing to make. If you have a strong desire to use data and AI as a business, then your investment needs to match it. You can't just hire a CDO and data people, and not provide them with the resources

necessary to get value from your data. I have experienced this myself, and it didn't go well. Ensure the organization you are working for is investing the amount that you need.

This is a key point for businesses: you need to invest in your data people and data world appropriately. Just as we need data professionals to think more along the lines of the business, we need the business to put in place a sound data understanding and to invest appropriately.

One role of the CDO within the business is to set expectations for the data, its limitations, and the work that will need to go into it, and to be a good communicator/salesperson for the Data team. The business needs to have a sound understanding of the data needs and investment required to make it work.

This is a vital intersection within the C-Suite of a business: the proper understanding from all about what data can accomplish and the investment needed to succeed.

Conclusion

In this chapter, we have discussed what a data professional is and what a business professional is. We have explored the business-oriented mindset. We have talked about the business world and how data is a supportive part of that. We concluded by talking about the CDO and the importance of proper investment by the business.

As a data professional, you need to remember to be business-oriented and focus your mind there. Data professionals need to put their minds towards the goals and objectives of their organization.

Chapter 1 Journal Assignments

This is the first journal assignment you will have. If you are trying to remember the purpose of

the journal, refer to the introduction. But take the time to think on these assignments and do them in a focused way. Turn off your email, phone or messaging app and think deeply and critically on these pieces.

Write your thoughts, even if you think they are abstract. Find the ways to apply your thoughts and things YOU learned in the chapter. Find the applicability and put things to work in your career.

1. Create a list of questions you can ask that can help you be business-oriented. (Hint: you can use the questions from the chapter, but also add one or two more that are your own.)
2. Describe the four “rights” of data and how they pertain to you in your role. If you can, come up with examples of the four “rights” of data within your current work. Write down how you can apply them to the work, and then keep a note with your work, so you remember and stay focused on doing business-driven data work.
3. Write your thoughts on the C-Suite and CDO. How can organizations improve their understanding and use of the CDO? How can the C-Suite be more engaged with data and analytical work? What kind of investments are required for the data work to be successful? If it helps, think of this specifically regarding your own organization and the leadership’s position towards data and analytics. Do you have a CDO? Senior leader? How is your organization set up when it comes to data leadership?
4. Write any other notes you have from the chapter and, maybe most importantly, the applicability of the chapter to your work, learning, or future desired roles.

Notes

- 1 T Davenport and D J Patil. Data Scientist: The Sexiest Job of the 21st Century, *Harvard Business Review*, October 2012, <https://hbr.org/2012/10/data-scientist-the-sexiest-job-of-the-21st-century> (archived at <https://perma.cc/D2H5-HQAK>)
- 2 J Ladley and T Redman. Use Data to Accelerate Your Business Strategy, *Harvard Business Review*, 3 March 2020, <https://hbr.org/2020/03/use-data-to-accelerate-your-business-strategy> (archived at <https://perma.cc/2RNC-82R3>)
- 3 European Commission. European Data Market Study 2021–2023, 2024, <https://doi.org/10.2759/632809> (archived at <https://perma.cc/YYS9-PFHF>)
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- 5 IMD. What is a Business Strategy? And How to Develop One! 2024, www.imd.org/blog/strategy/business-strategy/ (archived at <https://perma.cc/GN3T-P7RC>)

⁶ T Olavsrud and M Zetline. What is a Chief Data Officer? A Leader Who Creates Business Value from Data, 29 February 2024, www.cio.com/article/230880/what-is-a-chief-data-officer.html (archived at <https://perma.cc/NVK5-RQKX>)

2

A Crash Course in Business Strategy for Data Professionals

I want you to imagine for a minute that you've decided to do a long-distance race, maybe a marathon or an ultra-marathon. You take a look at different races that are available to you and decide on your big race: maybe one of my favorites, the Speedgoat 50k in Utah. The Speedgoat 50k has over 11,000 feet of vertical elevation gain during the race. Having done this race multiple times, I can tell you it is a beast.

You are excited and you show up race day and look around. You notice people have a certain type of clothing on, shoes, and even a vest of some kind. You didn't research or train much. You just had a desire to do it. Without a strategy, you are left in a horrible situation on race day. Trust me, this is not the race you want to take on if you aren't prepared and ready... to get ready, you need a plan or a strategy.

Now picture instead you find the race you want, again the Speedgoat 50k, and you put in place a six-month strategy to train, prepare, eat right, and get ready for the race. This strategy should help you feel confident you can tackle your goal and your vision. For your strategy, you study videos of the event and prepare your mind for what is about to happen. You even travel to Utah and take a look at the course. You utilize your strategy to your advantage and have a favorable outcome on race day.

You may ask, what does a favorable outcome look like? This goes back to why you entered the race. What were you looking to accomplish, and why? Then, with the strategy, you move towards

the outcome you were looking to accomplish with the race. Within this strategy, you iterate as roadblocks come to you.

This is a simple example of the benefit of a strategy to reach a desired outcome. With a strategy, you can have a better chance of achieving your desires and outcomes. Just shooting in the wind is probably not going to get you to your goals.

Businesses have desires to achieve certain goals and they need to have good strategies to make those happen. If a business tackles its desires like the unprepared racer, what do you think is going to happen to the business? I guess in some statistical possibility, it could be successful, but in reality it probably is not going to achieve what it wants. Instead, we want to take a look at the prepared racer, and we can see clearly that having a strategy matters.

We may hear often about data strategies, but the reality is a data strategy should be in place to support a business strategy. I hope you don't work for an organization where you see a data strategy full of buzzwords (my friend Viktorija Diestelkamp shared something about strategies being full of buzzwords at an event I attended, too).

Don't make your strategy one that is full of buzzwords. A data strategy should have a direct tie to the business strategy. If the main goal of a data strategy is to support a business strategy, then it is important that you have a sound understanding of what a business strategy is.

In this chapter we will cover and define what a business strategy is, including its key components. We will help your understanding of why a strategy is so important for every business. We will explain the role of a vision or mission statement. And finally, we will cover the role of data and data professionals with regards to the business strategy.

What Is a Business Strategy?

At this point, maybe really quickly write down in your journal what you think a business strategy is.

OK, now that you've done that, compare it with this definition from Harvard Business School and see how you did:

Business strategy is the strategic initiatives a company pursues to create value for the organization and its stakeholders and gain a competitive advantage in the market. This strategy is crucial to a company's success and is needed before any goods or services are produced or delivered.¹

Just after this definition, their article says:

[a]n effective strategy is built around three key questions:

1. How can my business create value for customers?
2. How can my business create value for my employees?
3. How can my business create value by collaborating with suppliers?

I like those three questions. How are we creating value? Think about the organization you work for or an organization you wish to work for. Can you answer those three questions? Then, can you describe how data is there to support those three questions?

Another possible journal moment for you here!

My friend Viktorija, mentioned before, shared the problem with using buzzwords as a part of your data strategy. That is not the way to do things. The data strategy shouldn't read like this, and thank you, Viktorija, for this example of a data strategy that basically contains all the buzzwords you can possibly think of:

Empower our organization with a cutting-edge data ecosystem that leverages advanced analytics, artificial intelligence, machine learning, big data, blockchain, and cloud computing to drive data-driven decision making, foster innovation, ensure data security and privacy, and enhance customer experiences while promoting sustainability and ethics in data management.

So, what do you think of this data strategy? Does that sound familiar to your organization? If it does, please speak up and tell them to

knock it off. Instead, the data strategy can be as simple as this: “Our organization harnesses the power of data to help drive its business strategy forward.”

Now, that is a simplified strategy. Does it have everything you want from it? Well, you can add to it to include how you are harnessing the power of data to help the organization move forward with its business strategy. You can include the data personnel you may want to hire, the tools and technologies, maybe some of the processes you already use or will use to accomplish things. The simplified strategy is straightforward, and then you build into it. Don’t add a lot of buzzwords just to add them. Have them if you are using them or will use them.

Keep the data strategy simple and, hopefully, it will capture what the organization should be doing with data.

Now let’s go back to the idea of a business strategy. To help us understand it, let’s take a look at key elements that should be part of a business strategy:

- **Vision and mission statement:** We will cover this more in a bit, but a vision or mission statement should help each internal and external person know what your organization is looking to accomplish.
- **Goals and objectives:** This goes without saying. We want to have good goals and objectives that help us to create value and to reach the vision and mission statement. These goals and objectives can be built at the top of the organization and then filtered down to teams and individuals. Can you think of goals and objectives you currently have, and can you tie them back up to the company’s overall goals and objectives? If not, take the time to learn them.
- **Market analysis:** A business strategy should help to illuminate and illustrate the market the organization will be competing

in, including potential competitors.

- **Sales and customer success strategy:** A business strategy should help the organization know how it will be going about sales, how it aims to attract new customers, and how it plans to retain and keep existing customers happy.
- **Product strategy:** What direction do you want your product to go in? Do you have a solid understanding of the product's fit in the market? Do you know how you want the product to evolve? Do you understand external trends and what could happen to your product? A business strategy certainly should address the product.
- **Marketing strategy:** You want to spend your marketing dollars and you need to know how you want to do that. Who are you marketing to? What events, potentially, do you want to sponsor or attend? A business strategy should include how you want to market.
- **Iteration:** A business strategy should include what the organization does to study external and internal trends and how it will pivot when needed. Think about the year 2020: how many companies needed to iterate on their goals, objectives, and strategy for that year? How many had in their strategy a plan for a global pandemic that would alter the world for that time? We need to be able to iterate on the strategy when needed.
- **Financial planning and budget:** Organizations need to know how they plan to spend money and the budgets they will be giving to their teams.

These are just some elements of a business strategy. I hope that is opening up your eyes more on what a business strategy is. But why does this strategy matter?

I think we can see why this strategy matters given our example

from the beginning about running a race. Is a business the same as running a race? Well, obviously not exactly, but the reality is that when you don't have a plan, just like when you run a race, you may not accomplish the outcome you are hoping for.

One key thing a business strategy should do with iteration is to help it understand market trends and where to go. A good example of not following trends or setting them is the story of Blockbuster Video.

Blockbuster Video is definitely something from my past, as a kid and early in my marriage. Before the streaming world took over, you had to rent DVDs and VHS. For me and many, Blockbuster Video was the place. It may have been what you were looking forward to on a Friday night. Now, Blockbuster had a chance to buy Netflix and declined the opportunity to purchase it for \$50 million in 2000. Need I spell out how many Blockbuster Videos still remain, and where Netflix is today?²

Let's think back to 2000. How many people knew streaming would take over? Netflix was a mail-rental service that eventually went into streaming. The reality is, though, that maybe Blockbuster held on too long with its mainstays that had helped it grow and be amazing. Unfortunately, Blockbuster just became part of nostalgia and the streaming world is dominating.

Another thing you may hear or see within an organization is the one-, three-, and five-year plan mentality. It is OK for organizations to have long-term ideas and thoughts around where it wants to go. This is a totally fine idea to have, especially as the one-, three-, and five-year plans tie back to the vision and mission statements. The key to long-term vision and plans is to understand that a long-term vision needs to be iterative, and an iterative approach may be necessary for long-term success.

Now, let's quickly look at the benefits an organization can realize with a business strategy. From the business strategy, here are some

key benefits:

- **Direction and clarity:** we don't want our boat or plane going to a destination without a clear direction on where we are going. Businesses can benefit from a strategy to help it have clarity and direction.
- **Resource optimization:** Organizations have budgets and want to be strong in their financial budgeting and resource usage. Through a business strategy, I hope businesses intelligently work with resources and assets, hopefully maintaining a strong positive income and cash balance.
- **Measurement:** Organizations need to measure performance and how things are going. In order to measure how things are going, organizations need a strategy with goals and objectives. With these goals and objectives, we can measure how the organization is doing and look to see where the failings are. Then, changes can be made to help improve the situation.
- **Innovation and growth:** If organizations are harnessing the power of data correctly and utilizing a business strategy, hopefully they are gaining new customers and growing where appropriate, they are retaining customers, and they are innovating and bringing the products forward towards success.
- **Risk management:** A business strategy can help to mitigate risk and the potential roadblocks and issues that arise.
- **Employee motivation and engagement:** The business strategy shouldn't just address the external things the business is doing, but also internal issues. The business strategy should not neglect the culture and workforce of the organization. If the organization doesn't focus on its employees, it may lose them.

Business strategies are very important to a business. A good

strategy, coupled with good leadership, can help drive the business forward and be more successful. Let us remember that with a business strategy, the end goal is to help the organization achieve its vision, mission, and goals. You need good leaders in place at an organization to drive the strategy forward to success. You also need good data professionals helping in the ways they can. How does data help in empowering a business strategy to succeed?

Before that, let's look at vision and mission statements.

What Are Vision and Mission Statements?

To go along with a business strategy, let's provide a quick definition and background of vision and mission statements. According to [MasterClass.com](https://masterclass.com), a vision statement is the “why” behind a company's strategy, its purpose, and itself. The mission statement can cover how to accomplish said vision and the strategy of the company.³ Pretty straightforward.

If you were to take a step back and think of your own organization itself, could you identify its vision and mission statements? What about companies you like or admire; can you think of theirs? I encourage you to look up a few of these companies and see if you can find their vision and mission statements. Then, ask yourself if they are fulfilling those statements. What about your own organization?

What benefits does an organization receive from its vision and mission statements? Here are a few:

- **Clarity and direction:** Much like a business strategy, the vision and mission statements of a company can help provide direction and motivation for the employees of the company and those who are not a part of the organization.
- **Inspiration:** If employees buy into and understand the vision and mission statements of the company, you may find them

more inspired. This may make sense to you. Imagine you don't believe in the company you work for: what is the motivation for the work you are doing going to be like? Now, imagine you believe in the company and the work the company is doing. I feel that is an easier one to get on board with and employees will be more inspired to do the work.

- **Attracting and retaining talent:** By having vision and mission statements that are appealing and strong, more people may be attracted to apply to jobs with the company and you may find it easier to retain employees.
- **Cultural strength:** The culture of an organization can be a powerful way for businesses to find success. Through cohesive and strong vision and mission statements, you can align your workforce in the same direction and in the work they are doing.

These are just some benefits of vision and mission statements. Now, with business strategy and vision and mission statements defined for you, let's see how data supports these two things.

How Does Data Support a Business Strategy?

To begin, I will clarify that in this section we are talking about the data itself. In the next section we will speak about how data professionals help with the business strategy.

Ask yourself this question: how should data be supporting a business strategy? I emphasize the word *should* here because that is the ideal situation, and I think a lot of the time organizations aren't utilizing data for the business strategy effectively.

Organizations can find pockets of data and teams that are empowering the strategy, but, holistically, I don't know if it exists.

Viktorija has a great quote on data work or a data strategy: "Are you spending time solving data problems, or using data to solve

problems?” In reality, a lot of organizations may just be solving data problems, such as “Why isn’t the data ready?” or “Why does the data look like this? It doesn’t make sense.” They are doing this instead of using data to solve problems. Why do we find that often data work ends up being the solving of data problems and not using data to solve a business problem?

The reality is that it isn’t simple. Let’s be honest that this is simply the reality in a lot of organizations. And anyone who tells you it is simple, please let me know and we can have a conversation. In concept, it is easy to think of how a business will use data to support its business strategy. In practice, that’s harder.

Organizations are investing lots of money to achieve success while utilizing data to help them out. In fact, according to one estimate: “Worldwide spending on big data and business analytics (BDA) solutions is forecast to reach \$215.7 billion this year.”⁴ And that was in 2021, before ChatGPT and generative AI became a thing. I wouldn’t be shocked if that number has gone up. So, organizations are spending money on data and AI, but probably not finding the ROI they are looking for.

One key thing to understand is that organizations want to utilize data and analytics to support their business strategies, but on the other side of the scale the investment needs to match this desire. What I mean by this is that we can desire all we want, but if we want data to support the business, the business needs to invest in data, tools, technologies, and personnel appropriately.

Another reason data isn’t supporting business strategies as well as it should is a lack of understanding around data and its limitations in achieving goals. Yes, data is a great asset when used effectively and we want to see it succeed, but the business side and the data side need to have a solid understanding of how well data can actually help the business, and the time it will take to get data in a good position to help. I wish we could snap our fingers and poof,

the data would be ready to roll, but unfortunately it doesn't work that way. Data takes time to build, engineer, and architect.

The reality is, though, if you are part of an organization looking to utilize data to help meet the business strategy, you should have a blueprint for how the data should be organized to empower the organization to succeed. How should you engineer and architect the data for business use? According to the uses you want for the data and the goals and objectives you are trying to meet. If in the calendar year XXXX you want to achieve X, Y, and Z, then you should be architecting the data for this purpose. E.g., if you are looking to help retain customers, what data can be utilized to support current customers?

Utilize your business strategy to help design the data as a support tool. Allow the data to be a powerful asset for the business strategy. Don't just spend time cleaning up your data.

How Do Data Professionals Support a Business Strategy?

OK, data supports the business strategy from a data perspective. What do data professionals do? They help support the business strategy with data.

Let's go over the elements of the business strategy, and tie in how you can help support the different areas of the strategy. Note: I won't go over every possible data professional role and title as I do this, but I hope you can get an idea of how you as the data professional can help different areas of the business strategy.

Vision and mission statements

This one you may be asking yourself: how does a data professional support the vision and mission statements of the organization?

First, I will approach it away from data work. You are part of the organization, and part of the culture that can help these vision and mission statements form the identity of the organization.

Have you learned your organization's vision and mission statements? Do you live them? Take the time to study them and live them, help to bring the vision and mission statements to life. Herein you might see the importance of picking a company whose vision and mission statements you support.

Along with the support and culture aspect, your role as a data professional will be to bring data to life to empower the vision and mission statements. In reality, if you are a Data Scientist by profession or trade, you may be running more complex models and analytics through the four levels of analytics to help the vision come to life. If you are architecting the data on the back end as a Data Engineer, help to design it in ways that the front-end analytics teams can bring the data to life and help drive insight, decisions, and outcomes for the company.

Goals and objectives

Data professionals play an integral part in supporting the goals and objectives of the organization. They are a direct line of support and, hopefully, a direct decision line to the company. Let's use an example to understand how different data professionals help in this capacity: say a goal or objective is to retain existing customers of the company through a marketing campaign. How can data professionals assist with the goal of retaining customers?

If you are a Data Engineer, you may have the task to design, architect, and build out the engineering and modeling of the data. If you know one of the goals of the organization is to help retain customers, you need to help design the data to help the front-end analytics paint a picture of your company's customers. The data

needs to be designed in a way to help drive understanding of the clients.

If you are a Data Analyst or Data Scientist, you might be working to help drive analysis around your customers. If your company is looking to retain customers, you as a data professional can build front-end analytics to understand the customers better, paint a better picture, and, hopefully, find insight into how to retain those customers effectively.

Through data governance, management, and analytical use, an organization should be using data to better support the goals and objectives of the organization.

Market analysis

Data professionals can directly help with market analysis to help the company understand its position, how to market the products better, how to retain customers, and how to understand external data to help drive forward a better company strategy around its goals and objectives.

Understanding of a market should be empowered by data and not just the human ideas around the market itself. Yes, the human element of ideas and thoughts around the market matters greatly, but it needs to be combined with data and analysis to understand more effectively the trends, patterns, and positioning. Without a solid understanding of data, I wonder if a company can truly understand the background around the market it is trying to succeed in.

Sales and customer success strategy

We spoke about this above with goals and objectives, but, overall, organizations are probably looking to:

1. bring on new customers; and
2. retain existing customers

To help paint that picture better, you can harness the power of data. Think of data as nuggets of information to paint the picture.

Now, sales and customer success are usually driven by people. Sales and customer success employees build relationships with their customers, and that is powerful. Do not neglect this by thinking data will support and provide all you need. Allow the relationships with customers to thrive and utilize data to help understand the customer better.

If you are a data professional, you may have the role of supporting the Sales and Customer Success teams. Utilize this as an opportunity to network and communicate more with the business professionals. They may ask for data, but what if you proactively created data and analysis around customers and their profiles? What if you were able to not just provide some descriptive analytics around the customers, but diagnostic and predictive analytics for the Sales Reps? What if you joined sales calls to talk directly to customers and learn what they are thinking, their needs, and then utilized that to build analytics and data for the rep and the client?

There is a powerful relationship that can exist between Data and Sales/Customer Success. Don't just be a support system; be proactive and truly provide data and insight for the Sales and Customer Success reps, and maybe even the clients themselves.

Product strategy

Data professionals can play a strong role in product strategy at an organization. Collecting and designing data around the product in an effective and efficient way can be powerful to help understand the good and bad of the product. Then, with front-end analytics, analysts and scientists can show insights around the product.

If combined with external trends and understanding, the organization can now build a smart data-driven product... not just take guesses into the wind, and hope it blows you the right direction.

Marketing strategy

I hope it is easy to see how data professionals can help the marketing strategy. From the engineers and architects designing a sound model around the data and market itself, to the front-end analysts and scientists designing analytics to help shape the picture, data can be a very valuable asset to the Marketing function.

One thing to note with data professionals supporting marketing, and this goes for other areas of a business strategy too, is that it should not be a one-and-done mentality but an iterative mentality. When driving a marketing campaign, let's say for the third quarter of a year, you need to analyze the results and then iterate on things, if that is the desire of the company. If you think you can just use data and not bother to assess the campaign afterward, what is the point?

Instead, assess, iterate and see if you can create effective marketing campaigns over time.

Iteration

Data professionals need to have an iterative mindset, meaning you can't just engineer the data one way and leave it alone, never to return to it. You can't set an analytical model or statistical model and forget it. Instead, data professionals play an iterative role.

Data Engineers and Architects make sure the data you are building is still supporting the goals and objectives of the company. If it isn't, maybe you need to take a step back and understand what

is and isn't working. Is the quality still good? Are the tables and models supporting the business in an effective way to help drive decision making and outcomes? If not, iterate.

Front-end data professionals don't build a data visualization, forget about it, and then in one or two years decide to evaluate it. You need to make sure the models and analytics you are building are up to date and still helping the organization. If you find that you don't know if they are supporting the business or not, then take a step back and ask some of that analytics audience. Maybe you don't need to be producing that data and analysis anymore, and you find out you can free up your time. Then, you can build needed analytics and models to help the business better.

As data professionals, have an iterative mindset in your work so you can stay on top of things and retain credibility. If the work you have done is outdated and not effective, then it is up to you to get back on track.

Financial planning and budget

Data should be a support tool to the business to help provide information on the financial plans and budgets of the organization. Help the Finance and Budget teams to understand the forecasts and data of the company.

One key area where the data professional may be able to help is external market analysis. Can you help the business understand what is happening externally, maybe projections of a recession, and build data to show whether headwinds are coming? Maybe you can find ways you can be even more successful because trends in the market are going in a positive direction. Maybe you can find data to support the acquisition of a company. Data professionals, like in other areas, should be the support tool the organization needs to succeed.

Conclusion

When it comes to a business, the data and analytical world really plays an important role in supporting an organization's business strategy. Data is a support tool for an organization, and good data should help support data-driven decisions. Data professionals play an integral part in ensuring an organization can harness the asset of data to help empower the outcomes it wants to see happen from a business strategy perspective.

Data professionals need to ensure they are part of the business, and not classify themselves separately to business professionals. They should have the business-oriented mindset to ensure they are tying their work directly to the business. If you don't know where you fit in with the business, then take the initiative yourself to figure it out. Ask your boss and the business.

One key thing you can do, and I will include this in your journal assignment, is to network with the business professionals you support and get involved more with them. The more information you possess, the stronger you can be in your role.

Chapter 2 Journal Assignments

Understanding how data intersects with a business strategy is crucial for a data professional to find where they fit into the big picture and how their role can support the business. If you don't know where you fit into the business picture, take the time to figure it out.

Here are your journal assignments for [Chapter 2](#).

1. Write your own personal definition of a business strategy. Don't just write some generic definition that you find on the internet. I want you to write out what you think a business strategy is, and how your data work can go to help support and bring success to the overall business strategy.
2. Write down in your journal, using real-world examples, how you think data supports a business strategy. Utilize the definition you created for a business strategy for this part. How can data support your definition of a data strategy?

3. Write in your journal how your specific role right now can help support your organization's vision and mission statements and its business strategy. What can you do on a daily basis to help support the business strategy? What roadblocks get in your way when you try to accomplish that? What skills can you learn to help you be more successful in your role and its support of a business strategy?
4. Network with three business professionals in your organization, and write down what they are working on and how data can be a support tool for their work. They can be business professionals you know, or ones you don't. Set up a 30-minute chat with them to get to know their work better, and then figure out how your data work could help support it. Try to not only think of simple ways, but things you can do to truly help and support them in their work.

Notes

- 1 M Boyles. What is Business Strategy & Why Is It Important? Harvard Business School Online, 20 October 2022, <https://online.hbs.edu/blog/post/what-is-business-strategy> (archived at <https://perma.cc/X32G-FKCE>)
- 2 M E Cagnassola and L Giella. Fact Check: Did Blockbuster Turn Down Chance to Buy Netflix for \$50 Million, *Newsweek*, 11 March 2021, www.newsweek.com/fact-check-did-blockbuster-turn-down-chance-buy-netflix-50-million-1575557 (archived at <https://perma.cc/9NBW-7J2A>)
- 3 MasterClass. Vision vs. Mission Statement: What's the Difference? 13 December 2021, www.masterclass.com/articles/vision-vs-mission (archived at <https://perma.cc/AHR4-5ZMD>)
- 4 BusinessWire. Global Spending on Big Data and Analytics Solutions Will Reach \$215.7 Billion in 2021, According to a New IDC Spending Guide, 17 August 2021, www.businesswire.com/news/home/20210817005182/en/Global-Spending-on-Big-Data-and-Analytics-Solutions-Will-Reach-215.7-Billion-in-2021-According-to-a-New-IDC-Spending-Guide (archived at <https://perma.cc/NW7E-JKBE>)

3

The Areas of a Business

Finance, Marketing, Sales, Product, HR, Operations, and Others

To help us start off [Chapter 3](#), I want you to think of your favorite restaurant. Now, at the restaurant are different elements that help the restaurant be successful, and there are different roles that people occupy to help ensure it succeeds.

Let's start with the product itself: the food, right? One of my absolutely favorites is pizza. Now, the product is the food, but you also have the ambiance, the décor, the seating and availability. To build the product, you have the chef and the cooks. You have those who help take the orders and those who clean up. You also have the owners and the marketers trying to sell the restaurant to others and get people to eat there. Finally, you have you, the customer at the restaurant, consuming the product.

Now, this is simplifying it down, but to have a restaurant (in my case, a pizza restaurant), operate correctly, these different areas of expertise are important to help it thrive. Think of the owners of the restaurant as the CEO. Think of those working on sales and promoting it out there as the Marketing and Sales functions. Think of the chefs as the product producers and think of maybe other cooks or kitchen workers as support functions. Think of those in charge of cleaning up, taking orders, as the Operations of the organization. Think of the consumer of the food as the consumer of an organization's product. (The product of a restaurant is of course

the food the restaurant is producing. Hopefully, tasty food at that.) Finally, we can't leave out the Accounting and Finance arm; they are there too, ensuring cash flow and that the restaurant stays in business.

Each of these plays a role in the restaurant's survival and ability to thrive. Every business is similar, with different departments and units tasked with different things to help the overall machine be successful.

In this chapter, we are going to go over the different areas of a business and lay out knowledge to help you as you build out your own personal foundation and understanding of business.

To help us get started, let's look at the key areas of the business we will be covering:

- the C-Suite
- the Board of Directors
- Accounting and Finance
- Sales
- Operations
- Marketing
- Data
- Legal
- Product
- Human Resources (HR)

Now, I may not cover every single unit your organization has. It might even be that I have one on here that your organization doesn't have. Overall, businesses have different functions and units that help them to be successful in their goals and objectives.

One thing to note is that the size of the organization matters. A larger organization may have more business units than a smaller one. A smaller one may have one or two missing, and you may see that one person may take on more than one unit in their role. Think

about it this way, though: the end goal of the business units should be to empower and help the organization achieve its goals and objectives.

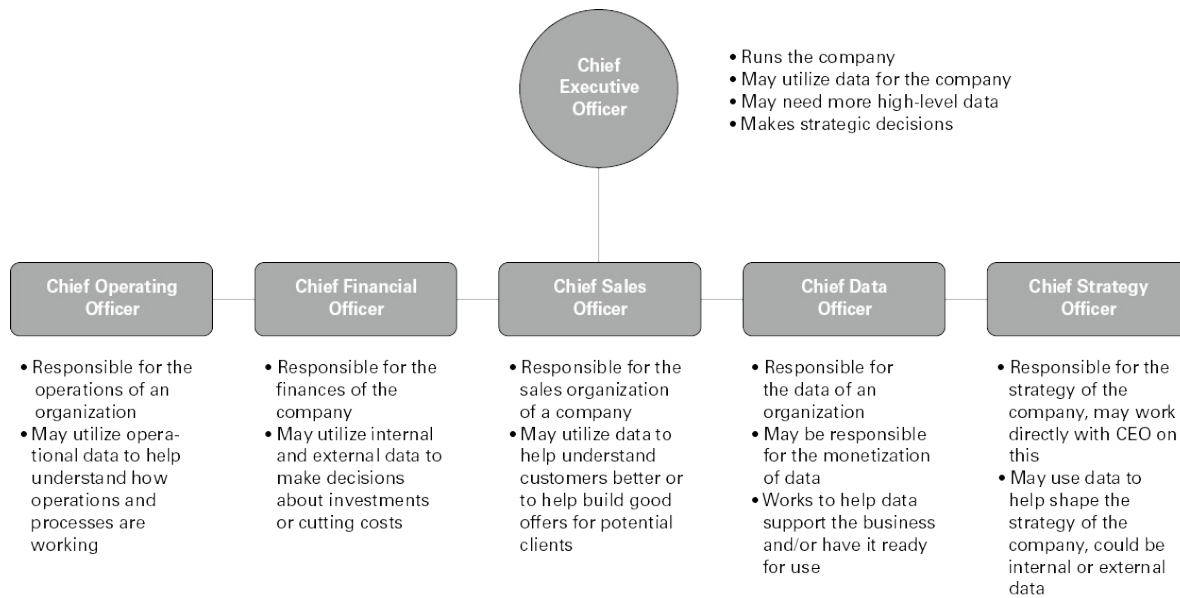
Let's dig into each of these that I have mentioned and share different aspects of them. We will examine what each unit is, the tools that may be used therein, and, finally, how data and data professionals support these areas of a business.

The C-Suite

In practical terms, the C-Suite is essentially the senior leadership of an organization. As a more formal definition, McKinsey says: “[t]he C-Suite comprises all the executives that run a given organization.”¹ That's an easy definition and pretty straightforward.

Within the C-Suite you may find many different executives, which you'll also see in the organizational chart in [Figure 3.1](#).

Figure 3.1 Example organizational chart



► Figure 3.1 details

Here is a list of the primary responsibilities of the C-Suite:

- **Chief Executive Officer (CEO):** Think of the CEO as the top of an organization. They are the leader or the one running the organization.
- **Chief Operating Officer (COO):** The COO is the one in charge of running the operations of the business. We want a person who can keep the ship sailing smoothly.
- **Chief Financial Officer (CFO):** This person is responsible for the finances of an organization. Pretty straightforward! We need to make sure there is cash flowing through the organization and the financial assets are managed well.
- **Chief Information Officer (CIO):** Think of this role as being in charge of an organization's information. Information and knowledge can be powerful, so we want to make sure we are managing the information well.
- **Chief Technology Officer (CTO):** This role plays an important

part in owning the technology of an organization. They may control investment in new technologies. With powerful technology, we want to make sure it is managed well.

- **Chief Marketing Officer (CMO):** The CMO is the person in charge of the marketing of the organization. I hope you have a good CMO because having a strong brand reputation can be an important thing to help an organization succeed.
- **Chief Human Resources Officer (CHRO):** Think of this role as the one that is in charge of the personnel and the tasks associated there. People matter, and hopefully you have a good CHRO in place to manage everyone.
- **Chief Legal Officer (CLO) or General Counsel:** Well, as the title says, they are in charge of the legal side of a business. We wouldn't want the company to get into trouble, would we?
- **Chief Data Officer (CDO):** Hmmm, not sure a lot needs to be said here. They are in charge of the data for an organization. We need to make sure we are managing data well.
- **Chief Strategy Officer (CSO):** Think of this as the "chessmaster" of an organization. They will be in charge of strategy for the business. Strategy can be key to success, so a good CSO can help the organization to move forward. Hopefully, they have built a strategy to achieve the organization's goals and objectives.
- **Chief Compliance Officer (CCO):** Similar to a CLO, this one is in charge of ensuring an organization complies with laws and regulations.
- **Chief Sustainability Officer (CSO):** The CSO may be a newer role at some organizations and is in charge of sustainability for the organization. It could also be a Chief DEI Officer. They are there to ensure sustainability and/or diversity, equity, and inclusion.

Phew, did you make it through all that? The reality is, not all organizations may have all these roles and you may see different ones in your organization. You may have a CAIO, your Chief AI Officer, or a Chief Diversity Officer or something along those lines. All of these people, the C-Suite, are responsible for the running of the organization.

The C-Suite also interacts with the Board of Directors of the company. We'll find out what the Board is and does in the next section.

Different departments in an organization will have different tools they utilize to accomplish their jobs, including data or non-data tools and technologies. When it comes to the C-Suite, they probably will and should have access to the whole tool suite the organization possesses. This doesn't mean they will be utilizing all the features and functions of the tools in the organization. Think of advanced data tools: does a CEO need to be able to code or do advanced data science? Maybe, but maybe not

The C-Suite should be aware of all the tools of the organization, or at least those their organization is using. In particular, the C-Suite would want to access and have access to the data of the organization. They don't necessarily need to be data experts from a technical standpoint, but proficient enough to understand it, use it, and then make decisions with it.

The Board of Directors

According to Investopedia: "A board of directors (BoD) is the governing body of a company, whose members are elected by shareholders (in the case of public companies) to set strategy, oversee management, and protect the interests of shareholders and stakeholders."² The Board of Directors oversees the organization. They can act in different ways, and the C-Suite reports to them.

The primary responsibilities of a Board can be:

- helping to make key decisions in an organization, such as the hiring of the CEO or setting pay
- protecting the interests of the shareholders
- managing the organization's risk
- engaging with stakeholders³

When it comes to which tools and technologies the Board will use, they may not be utilizing many themselves, but are instead recipients of data and information from the organization to help make informed decisions. They will have access to help them understand what is going on in the organization and how it is performing. They can also bring their external knowledge and experience to help with the decision-making processes of the organization.

OK, we have looked at the top of an organization. Now let's dig into other areas of the business.

Accounting and Finance

Accounting and Finance manage the financial records of the organization and make sure it is following the applicable laws in the countries where they operate. In a way, they are using data, but financial data to help ensure the business is in a good position.

We will cover some key terms for the Accounting and Finance team in the next chapter. For now, let's look at some roles you may hear about in the organization:

- **Controller:** The controller of the organization can be seen as the head accountant. For organizations to succeed, good accounting principles should be followed to help the organization maintain its books and ensure compliance with regulations. One key standard in accounting you may hear

about in the US is the Generally Accepted Accounting Principles (GAAP).

- **General Accountant:** This person helps build and prepare the financial statements of the organization. This role also ensures compliance with rules and regulations.
- **Financial Analyst:** This is a role I held when I first left university. My role was within regulatory accounting for a bank. Sometimes a financial analyst can have a more specific role to help with overall accounting and finance tasks, like the one I had.
- **Payroll Specialist:** This is a person that helps you stay happy in your job. This role will help the processing of salaries within the organization. You want to keep this person happy, of course.

The Accounting and Finance function is simply about managing the money of an organization. The organization needs to ensure the money is there to operate the business, and it should ensure budgets exist and investments are accounted for.

What kind of tools are utilized by Accounting and Finance? To begin, one tool they will have is a dedicated accounting system. Another tool the Accounting and Finance function may have is an Enterprise Resource Planning (ERP) system. An example could be SAP or Oracle. Another tool could be a budgeting and/or forecasting system. Finally, one example I will share is that of a payroll system. An organization utilizes this to ensure that payments are being made in a timely manner.

Overall, the Accounting and Finance area of an organization is an important one. Organizations need to ensure their accounts are in compliance with regulations and that they have cash flow to survive. Accounting and Finance are the money house of an organization. The data may be different than maybe what the

Marketing department is using, as obviously the data for Accounting and Finance is directed towards those topics.

Sales

OK, I hope it comes easily to you what this team does: they drive sales for the organization. An organization may have a Chief Sales Officer (CSO) or Chief Revenue Officer (CRO) to oversee their sales practices and activities.

Sales is crucial for any organization. An organization's product needs to get out there, and your Sales department may be the frontline of the work with external clients or potential clients.

As a data professional, take the time to meet with Sales professionals. Learn about their struggles, what is working with clients, and find out what data would be helpful to support the Sales professional in the work. Allow data to be a powerful asset for the Sales Reps. By doing this, you may help drive better relationships between the Sales Reps and their clients. The world of data storytelling can be a powerful way for Sales Reps to help their clients and/or potential customers.

To begin to help you understand Sales more, let's jump in and take a look at the roles you may find within the function. As mentioned, there may be a CSO or CRO at the helm. The CSO or CRO is a role the data world can greatly support. You may provide good descriptive, diagnostic, or predictive analytics to them, plus the advent of AI can help drive more prescriptive analytics. This can help them paint the picture. The CSO or CRO may help to set the annual targets that need to be met. Revenue is a lifeblood of an organization, and so the targets are important, and Sales are necessary for the organization to survive.

Beyond the CSO or CRO, there are a number of other roles that might be working in the Sales department:

- **Sales leadership:** Here, you may have Vice Presidents and/or Directors that help the work move forward. They may report directly to the CSO or CRO and help to lead the Sales teams out in the field.
- **Sales Enablement:** This team can be in place to help “enable” the Sales function. They can provide training on the product or help the Sales teams understand how to do sales calls and improve their techniques.
- **Business Development Rep and Account Executives:** A Business Development Manager or Business Development Rep can be the first line that is getting leads and turning them over to the Sales Reps; in our case here, Account Executives. Sales Reps can have different names given to them, such as Account Manager or Account Executive. They are the ones who take leads from the Business Development Reps and help to drive sales.
- **Customer Success Manager:** One role you may hear of is the Customer Success Manager. Their role is not to get new clients, but to help with the existing clients of the organization. One of their key functions is helping to get customers to renew their contracts.
- **Industry Solutions Specialists:** Within the Sales function you may have people who specialize in certain industries, like Federal, automotive, or healthcare. They can help to drive solutions and answers for potential or existing customers in those fields.
- **Solutions Architect:** A Solutions Architect can help, like an Industry Solutions Specialist, to help drive solutions for customers or potential customers.

This may not be all the roles or titles that exist in the Sales function, but there are various roles that can exist, and data is an important

asset to them.

What tools do Sales Reps utilize? One key tool is a customer relationship management (CRM) system. Salesforce, who are a big player in this space, define as CRM as:

[A] technology for managing all your company's relationships and interactions with customers and potential customers. The goal is simple: Improve business relationships to grow your business. A CRM system helps companies stay connected to customers, streamline processes, and improve profitability.⁴

This tool can be the world for a Sales Rep. It is where the Sales team inputs, maintains, and controls the relationships between customers or potential customers and the business. As you can imagine, the CRM system may contain a lot of data, but if it isn't entered well, you may run into problems with the cleanliness of the data and how well it can be utilized.

Let's jump into this: how can data and data professionals support the Sales function? Without a doubt, data should be an integral part of the support provided. Picture one Sales Rep receiving both internal and external data that could be in place to help a client. This could be data that has come in from the client, but it could also include looking at external data such as economic data.

This Rep takes the time to understand the business they are looking to bring on as a customer. They look at the company profile and compare it to the profiles they are seeing of similar customers that are already customers of the organization. They are also looking at trends outside of the organization and pulling in external data that can be combined with the internal data. This means that the Sales Rep is armed with good information to help this client.

Imagine you are the data professional supporting the Sales team. You have a data set that is set up to look at company profiles. You also have a data set that helped drive the win for a previous company. You are working with the Sales Rep, and the rep asks for any support that could help them close the deal.

As you are digging into the data, you make a profile of, say, 10 companies that are like the one they are pitching to. You notice that in eight out of 10 times where the sale was successful, the final thing that helped the client say “yes” was three data points. This is not something that is common knowledge, so you want to share it. You also notice that within the two that didn’t close, they didn’t pull in enough data points to help drive the sale, and they didn’t close the deal.

You work with the Sales Rep to get these three data points and to build a good data story for the potential client, and they work to close the sale. Data was a good supporting tool to help close the deal.

For a second example, let’s take a look at the renewal of a customer. You are looking to help a CSM as they try to renew a deal with a customer. This CSM is really hoping to get this customer to renew because it represents 50 per cent of their annual amount; it is a big client. The client has expressed doubts on the product your organization sells because they don’t understand its value or usage. The CSM comes to you and just says: “HELP ME!”

So, you start to build out the data and start to take a look at the client’s data. As you do, you are noticing some trends, both good and bad, but the key to the bad trends is that it appears that there are areas of sporadic usage. So, you build a data story around the good and the value the product is bringing, and in the same story you build the story that shows there is sporadic usage in different areas of the product. But, you help the CSM move beyond just the data and pose some questions to ask the client around the sporadic usage. Maybe it is seasonality? Maybe the people using the data don’t have enough information on the value of those parts of the product that are successful. Maybe they are confused by data points that are sporadic.

You then help the CSM craft solutions around training on those

areas that are sporadically used and reinforcing the areas that are already good.

Through the project, the CSM has the ability to paint a good data story for the client and the client is happy to renew and implement some more training to get more value from the product. As a data professional, you are providing information for the CSM to utilize with the client. In some cases, you can join in on the calls as a data professional and help with the renewal.

Data should be a critical support for the Sales function. If your organization isn't using data very well to help them, jump in to enable it. Allow the data to be a support to help bring in new clients and to renew existing clients.

Operations

The Operations function of a business manages just that, its operations. The Corporate Finance Institute (CFI) states that business operations are what the business “engages in daily to help increase the value of the organization.”⁵

Essentially, think of Operations as the things an organization does to run the business and achieve its goals. The definition from the CFI speaks of operations by industry. The retail industry is an example in the article, and that had me thinking of a business from my own career: Grainger Industrial Supply.

Grainger is a company I worked for when I was younger. I worked in the warehouse helping to get products that were purchased out of the door. In this example, I am going to take the operations of Grainger and simplify them to the one warehouse I worked out of. I worked on a team that received orders coming in and then we would pick the product and pack them. Then, after packing, depending on the shipping courier, we would place the boxes where they needed to go. Sometimes that would be on a pallet

and then wrapped and put into a truck container. Other times, we'd set them in a certain area for a different courier. In this process, we would write down and track certain data points.

Now, this was not a sophisticated way to collect data. I wonder, had we systematized and collected data better, could we have improved our processes? Probably.

This is a simplified showing of operations in a job I had: getting orders out of the door. Think of your organization: what operations do you have running there?

HubSpot says:

Business operations refer to all the activities and procedures a company undertakes to create and deliver its products or services. This includes all the routine tasks and functions essential for the efficient running of a business, such as managing the supply chain, production, customer service, and administrative duties.⁶

Think of all the things that go into making your organization's products and services. How does data support the Operations world? Before we think about that, let us first take a look at the roles that may exist.

The first role to think about comes to us from the C-Suite: the Chief Operating Officer (COO). This person is in charge of the operations of the company. They may be in charge of or have a say in decision making, strategy, budget, product decisions, the opening and closing of facilities, and other aspects. Effectively running operations can be a lifeblood to the organization.

What other roles may exist? Here are some from Indeed⁷:

- Operations Coordinator
- Operations Analyst
- Operations Supervisor
- Operations Manager
- Project Manager
- Program Manager

- Operations Engineer
- Director of Operations
- Vice President of Operations

This may not be a comprehensive list, but maybe you recognize one of these titles at your company. Perhaps you recognize more?

How can you as a data professional support this group? Let's take a look.

Remember HubSpot's definition: how can data support this? Think about it. The truth is that data can help drive efficiencies and, hopefully, improve the Operations part of the business. How, you may ask?

One thing to ensure you are doing is driving the four levels of analytics throughout every area of the business, including Operations. In my time at Grainger, we looked at the number of lines picked and errors in picking. Again, this wasn't sophisticated data grabbing; it was a very manual process.

That said, maybe we could have analyzed the data better and followed trends. Maybe we could have created a dashboard for us to use? This could have been a direct build of descriptive analytics that was shared with the Shipping team and leadership regularly. Maybe we could have found peak order times throughout the day to ensure we were staffed to align with these? Maybe we could have found that certain picked items drove more errors? Were they small items or large items? Was it one person or another with more errors? What was the average errors per a certain number of items? What was reasonable, and what wasn't?

The data could have helped in this case, and we could have built descriptive analytics, come up with a diagnostic analytic theory, maybe multiple, and built a prediction on how to improve. If our goal was to limit errors to improve our efficiency and effectiveness in getting orders out of the door, then we could have built data to

find what was hindering us, using descriptive analytics to paint a story of the days in the Shipping department. Then we could have dug in and figured out the “whys” behind the work. Why were we seeing this or that? Then, we could have moved forward.

This isn’t the only way data can be used in Operations. I turned to a personal example. What about other areas of Operations or other industries? Data is a support tool and should be utilized to help improve how operations are carried out. This includes both internal and external data. External data can include the latest science and technology to help drive improvement. It could be data showing market trends and economic situations. Internal data can be analyzed to help find where improvements and efficiencies can be made. Utilize data as a support tool to empower Operations.

Marketing

We all may have an idea of what marketing does, but let’s get a better definition for our understanding here: Marketing is essentially getting people interested in your company, product, services, and/or business.⁸ Marketing is tasked with making people “like you.”

Marketing is a tall order. If you have a wonderful business and product, but your organization is not good at telling its story and getting people interested in your product, how successful do you think you will be in getting the business to thrive? A business needs customers to succeed. It needs people wanting to buy your product.

Two examples of companies that have done an exceptional job of marketing are Apple and Nike. Let’s take a look at them.

Does Apple sell the least expensive products in their field? No, they don’t. I could go and find a cheaper phone than an iPhone. I could go and buy a cheaper computer than a MacBook. Apple has done a good job of marketing and building good products and

services. Steve Jobs was good at unveiling products and bringing them to light. Think back to Apple's marketing. Do you remember the older iPod commercials? If I remember right, I can see a silhouetted person dancing, but the iPod and headphones had color.

Not only does Apple make good products, they have gotten it out there through marketing. One thing that also helps is what I will call "word-of-mouth marketing." This isn't necessarily marketing Apple has paid to put in place, but because people like the products, they talk about them, and the products are getting purchased.

Another company that doesn't sell the least expensive version of something is Nike. Nike makes shoes and some of those shoes are expensive, but Nike has done well getting things out there. It doesn't hurt to be tied to Michael Jordan. It doesn't hurt to be tied to Tiger Woods. It doesn't hurt to be tied to other celebrities. Plus, the shoes are out there and when you see them you may think, "Yeah, I want a pair of those."

These are two examples of companies that have been good at selling a product and having good marketing. Can you think of other examples of organizations that have done a good job of marketing? I can think of old Budweiser commercials that still are in my head a little bit. They must have done a good job marketing at some point.

Marketing has different roles that help drive the business forward. Let's take a look at some of the roles you may find within the Marketing function:⁹

- **Marketing Director:** This is a supervisory role in Marketing and will have people reporting below them. Think of a Marketing Director as someone who is overseeing Brand Managers and/or Copywriters.
- **Brand Manager:** A Brand Manager's role is to help to promote a product and get out it to the public.

- **Copywriter:** A Copywriter's role is getting information and scripts together and writing the advertising of an organization.
- **Digital Marketing Manager:** A Digital Marketing Manager is responsible for the digital marketing of an organization. Think of an organization hitting the e-commerce scene.
- **Chief Marketing Officer:** This is the lead of the Marketing function for an entire company.
- **SEO Specialist:** An SEO Specialist is in charge of helping the organization's brand get traction on search engines. They will use keywords and phrases to get their organization positioned well.
- **Social Media Manager:** Well, this one probably doesn't need much of a definition, as it is in the name, but they are responsible for the social media marketing of an organization.

These are not all of the possible roles, but I hope they help to paint a picture of how Marketing works in an organization. Can you think of Marketing roles at your organization and how you can help them?

Let's dive in and see how data supports the Marketing function. Data can play an important role. Marketing is about attracting customers to an organization and its products or services. What if we can help that attraction in an accelerated and powerful way by bringing in data?

Imagine you are an organization looking to attract or retain customers. You have a powerful and successful Data team. The organization wants to run a marketing campaign. It builds the campaign and runs it for three months. It now wants to understand how the campaign performed, why it performed that way, and what adjustments it can make to drive better performance of its campaigns in the future.

The business could go off gut feeling as to what drove the

success... but it can also utilize data and truly understand things. Let's use three of the levels of analytics to see how data can support this.

The first level of analytics is descriptive analytics. In this case, asking the question "How did the campaign do?" is not good enough. It's not specific enough. Instead, a good data-driven question might be: "How did the campaign do in attracting net new customers by utilizing different marketing channels?" Then, the data team can build out descriptive analytics or a data visualization to see what the numbers look like.

Imagine that, in this case, it looks like the social media channel had the steadiest increase in net new customers. So, the question then can become: why was the social media channel the most successful? Now, the Data team turns to dive in and see how those numbers look, what the demographic looks like for the net new customers, and to potentially find out why that marketing channel was the most successful.

Within the data, it is found that on the social media channel, the average age of the net new customers was younger. In fact, across all channels, the average age was younger. This leads to the thought that the reason the social media channel was more successful is because it was driven by the younger generation that is spending more time on social media.

Now, the organization looks to reshape and run the marketing campaign again, and put emphasis on the social media channels of the organization. In comes what we'd call predictive analytics.

The Data team builds out a prediction that by advertising more on social media, the organization will see an even greater increase and better attraction. With this new prediction, the campaign is run again. When it is complete, you build out the three levels of analytics again and continue to analyze. When an organization is advanced enough with data and analytical work, the fourth level of

analytics can be brought in and an organization can have prescriptive analytics, too.

Overall, this is an example of how data can support marketing. Data can help build market analysis, show numbers through the four levels of analytics, and bring information and data to light. One key thing to remember is that it needs to be done in an ethical and compliant manner. We don't want data to ever be used for malicious or poor intent. That can lead to issues.

Data

We will not spend a lot of time in the world of the Data team, but let's talk a little bit about how it supports the business strategy.

The Data function should not be seen as a standalone, siloed group. The team should be integrated into the business and in a position to provide support towards the organization's goals and objectives. Data professionals should be vigilant in ensuring their work supports the overall organization. The Data team should understand the business's goals and objectives. They should provide products and services that the organization can utilize to help drive the goals forward.

If you are wondering where you fit in at your organization, take the time to write down in your journal or somewhere how your role fits in. If you don't know, then take it upon yourself to learn. You may have an idea, but I want you to truly dig in and understand your role as it relates to the organizational goals and objectives. If you don't know those goals and objectives well, then be accountable and learn them. Then, study your work and find where you are supporting and where you maybe aren't. This evaluation may be helpful in your work to help you truly be a supportive and proactive role.

I hope that data professionals have this knowledge. If not, get

back to the drawing board, find your spot in the business, and work to empower the business with data.

You may be familiar with roles in the Data space. One may even be your current role. Even so, I will define them more concretely so that you can see where they can lend support:

- **Data Scientist:** I am going to come at data science from a direct method. A Data Scientist is someone who should be using hypothesis testing, possibly statistics, coding, and doing more advanced data and analytical work. This data and analytical work should be in support of the overall goals that the organization is trying to achieve.
- **Data Analyst:** A Data Analyst is a data professional supporting the business, but who may not possess the skills of a Data Scientist or do the same work. A Data Analyst may utilize more business intelligence work to support the business.
- **Data consumer:** These are the non-data professionals of the organization. They could be your CEO, a Marketing Manager, or some other role. The Data team should be building powerful products that data consumers can utilize for information, insight, and to make decisions. Ensure you are a data professional who is frequently networking and chatting with data consumers. Don't just build products you like. Build products they will like.
- **Data Engineer:** The Data Engineer is tasked with engineering the data of the organization. The Data Engineer should be in contact with the business and front-end data professionals to ensure they aren't just building data models in a way they want, but in a way the business can use.
- **Artificial Intelligence (AI)/Machine Learning (ML) Specialist:** This could be AI/ML Operations, AI/ML Engineer, or maybe other titles. These people will be working in the AI/ML

space for the organization. Again, they need to be designing useful products and work for the business according to the needs of the business, and not only in ways that they think are strong or powerful.

- **Data Visualization Specialist:** This role is one that will be working with business intelligence tools to help empower analytics for the organization. The Data Visualization Specialist should build the data visualizations to provide information, insight, and value, and not because they think it is a cool visualization. Also, you don't need to make the visualizations overly complicated. Make them useful for data consumers so they can gather information and insight. In some cases, the Data Visualization Specialist can use the power of data storytelling to get information out to the data consumers.
- **Data Storyteller:** This can be part of a larger role within the Data team, or it can be a role in and of itself. Think of a Data Storyteller as someone who is helping craft stories around the data that can empower the business. It is one thing to just build a data visualization and hope people can get insight. It is another to build a data story and have people use it.

Overall, the Data team should be a supportive team to the rest of the business. Ensure that as a data professional, or whatever your role is, you are using data to support the business.

Legal

The Legal team could be one person, depending on the size of an organization, or it can be a team of people. A Legal team has different responsibilities within the business:[¹⁰](#)

- **Providing legal advice and guidance:** The Legal team needs

to help the business with legal advice and guidance. They provide recommendations based on the laws and regulations that apply.

- **Drafting and reviewing documents:** They are in charge of reviewing and drafting legal business documents.
- **Litigation and dispute resolution:** The Legal function is responsible for litigation and resolving disputes on behalf of the organization.
- **Compliance management:** They also help to ensure an organization is in compliance with the laws and regulations it needs to follow.
- **Risk assessment and mitigation:** The Legal team may be involved with assessing risk for the organization and putting mitigations in place.

Overall, the Legal team has an important role to “help keep the lights on” for the business.

From a data support perspective, a data professional can help the Legal team by ensuring the data of the organization is compliant with relevant laws, like the General Data Protection Regulation (GDPR) in Europe, and ensuring the ethical use of data.

The Data team can help to keep data secure, too, so that threats can be prevented and there is no needed resolution or litigation. Also, a data person can provide data to the Legal team when necessary. This could be if the Legal team is looking at how the organization’s data falls in line with regulations. The Legal team may also want some helping pulling data to help them understand the market, or maybe a different topic.

Product

The Product team has a pretty clear connection to the business from a simple definition perspective: it is in charge of the products the

organization produces. Pretty straightforward, right? Well, the definition might be straightforward, but the building of a successful product is not as simple as snapping your fingers. Let's look more into what a Product team does.

From Dribbble we get the following definition:

A product team is responsible for designing, developing, and shipping a product. In simple terms, a product is anything that fulfills the target customer's needs... Some companies focus on B2C products, or products sold to consumers, while others focus on B2B products, or products sold to other companies.”^{[11](#)}

Essentially, a product team is in charge having a product meet the needs of its desired customers. How does the team do this?

Again, Dribbble says that the Product team may use a structured plan called a product development process for developing its products. No matter what industry you work in, there's probably someone using a product development process. This process can help empower the business to understand the needs of the customer, conceptualization of the product, gaps in the areas they need to fulfill the customer need, and more.

Overall, organizations utilize Product teams to help design the various products the organization will use.

One thing to note: I will refer to services as a “product” here, even if it isn't a tangible object. Think of consulting. Consulting may be the product an organization sells, and maybe a product development process is utilized to build it out. It isn't just a tangible product in hand. Services may be the product of an organization.

What roles exist in the Product function? There are various roles, and some of those include the following:^{[12](#)}

- **Product Manager:** A Product Manager oversees the product life cycle from beginning to end. They are the owners of the product and will be interacting with different areas, like the engineers or data professionals, to ensure the product is

meeting the goals and needs of the business. The Product Manager will work with the Project Manager, if one is available, to ensure projects are completed in a timely manner and mitigate any risks happening with production.

- **Project Manager:** They are responsible for managing the product projects that are taking place.
- **Product Marketing:** The Product Marketer is in place to boost awareness of the products being built. They may work in the Marketing team or within the Product group, which will be determined by the organization itself.
- **Chief Product Officer:** Well, this is pretty straightforward. The Chief Product Officer is the senior leader responsible for the product team.
- **Operations:** This group is in charge of the operations and monitoring of it through metrics, possibly KPIs. They oversee the vision and operations of the Product team.
- **Research and Development (R&D):** R&D is in charge of doing research and development. They may be tasked with researching the market or the product, and can help with understanding the fit of the product in the market. They also may be working on the development side of the current products or may be involved with the future of the product.

Data can play a pivotal role for a business in support of a product. Let's look at a couple of examples, starting with predictive modeling around a new product launch.

One thing that can be helpful for the Product team, and leadership too, is understanding predictions around what could happen when a new product launches. Imagine being a Data Scientist tasked with this project. You sourced internal and external data, maybe from prior product launches and bringing in some external economic data. You ensure the data is clean and

trustworthy and you build a model around the data to create predictive model/s for the new product. You then communicate through a powerful data story the success the product could have, with the caveat that there are many possible outcomes and this will be ongoing.

Another possible support example would be a Data Analyst helping to understand how a product did after launch, bringing in both data from the launch, possibly total sales, marketing success, and bringing in sentiment analysis from customers or those who ended up not buying the product. You then create a story around this data and present it to the appropriate teams. In this case, you may build descriptive and diagnostic analytics for why you have good or bad results. Then, the Product team can make necessary modifications to the product, if needed, and the journey can continue forward with you analyzing it again with the modifications.

The Data team can play a good support role for the Product team. If you are tasked with helping the Product function, take the time to get to know the team, figure out the product, and find ways you can support them with the four levels of analytics.

Human Resources (HR)

HR provides a great lifeblood to an organization, with a strong focus on the people side of the business. They are in charge of hiring, retention, benefits, and layoffs/firing, and help to drive a good company culture. You may also find the Learning and Development (L&D) function within this team.

From Indeed we learn:

Human resources (HR) is an important department for businesses across all industries. In this department, managers, specialists, generalists and coordinators manage the concerns and needs that relate to the human capital of the organization.^{[13](#)}

From the same article, we learn there are 12 functions of HR:

- recruiting
- fostering a safe work environment
- managing employee relations
- administering payroll
- managing compensation and benefits packages
- handling disciplinary needs
- ensuring compliance with labor laws and regulations
- overseeing training programs
- supporting employee development
- developing a talent acquisition (TA) strategy
- managing diversity, equity, and inclusion (DEI) efforts
- assisting employees

Through all this, you can imagine that data can be a great support here, but let's look at roles first. The names of the roles are pretty straightforward and we need to think of them relating to the human capital mentioned in the definition from Indeed. Here are some roles to think about:¹⁴

- **Chief Human Resource Officer:** This is the leader of HR for the company.
- **HR Manager:** A Manager within HR, helping to lead its initiatives.
- **Recruiter:** This role is involved in the recruiting and hiring of personnel for an organization.
- **Compensation Specialist:** This may be a role for an Analyst or Manager, but this role will help with the compensation of the organization.
- **Trainer:** Someone who is dedicated to helping deliver the necessary training to the organization.
- **Instructional Designer:** This role can be tasked with developing the training materials for the organization.

- **Chief Diversity Officer:** This role may head up the diversity, equity, and inclusion (DEI) initiatives of the organization.

HR plays a key role in helping with the human capital of an organization, which may just be the most important capital because with the right employees, hopefully, a company is succeeding. Now, how does data play?

First, data can play a good support role for an organization. Think of compensation and benefit analysis. A Data Analyst or Scientist may be tasked with working through the external and internal data to try and understand the market, and how an organization's compensation and benefits compare to other organizations. They may look at different markets for rates. They may need to bring in additional information for international regions where the rules and laws may be different. The data professional can work with HR to help set the right compensation and benefits for internal personnel and recruiting new hires.

Another project that may involve using data professionals is retaining employees. This could involve studying external data to see what is happening in the market and what benefits and working conditions employees are looking for, and it may involve internal data. Within the internal data, the data professional can study different employees and what they like and don't like, and turn that data over to HR and leadership, who can then use it to make more informed decisions on retaining talent.

Overall, HR should be empowered with data, and not just guessing in the wind on what to do to help drive the human capital at an organization. Be a support tool for them.

Conclusion

I hope you were able to learn something in this longer chapter. When it comes to the areas of a business, you need to know how

your role as a data professional can help.

Data is a supportive tool to help business strategy succeed. Understand where you are helping in an organization, and work to be more involved with the business.

Chapter 3 Journal Assignments

Understanding how you fit into the different business areas of an organization and how you play a supporting role can be critical for you in your job. You need to ensure you understand where you fit so you are providing the best support you can as a data professional.

Here are your journal assignments.

1. Within your current role or one you are looking to move into, discover and figure out how data helps that part of the business. Write in your journal what your role is and how you are supporting the business.
2. Write in your journal three new ideas you can do in your current role to network better with the business department/s you support.

Notes

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4

A Dive Into Key Business Concepts

In the last chapter, we covered different areas of business. Now, let's go through some key concepts in the business world. You might have worked on a data dictionary. Let's create for you a business dictionary with some key terms to hopefully help you with your understanding and business knowledge.

As I define these terms, I will try to help you understand how data supports them. Think back at what you have read so far and also how data applies to the data role that you might have. See if you can apply these terms in your current and future roles.

The terms we will cover are:

- balance sheet
- assets
- liabilities
- shareholder equity
- income statement
- cash flow
- cash flow statement
- strategy
- EBIDTA
- sales cycle
- revenue
- revenue cycle
- gross and net revenue
- attrition
- churn
- retention

- customer/client success
- hiring/recruiting
- key performance indicators (KPIs)
- objectives and key results (OKRs)

Along with the terms above, I have some more that may be more “off the books” or unofficial. They are more jargony. Some of these terms were found with a search and come from Indeed.^{[1](#)} They include:

- skip-level
- one-on-one
- disruptor
- “level-set”
- senior leader
- innovation
- content
- performance improvement plan (PIP)
- year-end review
- request-for-proposal (RFP)
- impact
- boil the ocean
- best practice
- empower
- bleeding edge
- lots of moving parts
- low-hanging fruit
- drill down
- key takeaways
- game changer
- aha moment
- bandwidth
- mission critical

- hard stop
- synergy
- circle back
- reinvent the wheel
- table the conversation

OK, let's jump into some definitions.

Definitions

Balance sheet: Investopedia describes a balance sheet as a financial statement that is built for a specific period of time and contains information about assets, liabilities, and shareholder equity.² If we think about it, this could be like your online bank account or a bank statement. It shows you the balances you have in your account or the liabilities you are making payments on. Of course, a balance sheet is full of data and may be prepared by the company's Accounting and Finance team.

Assets: What are the assets of an organization? They are things that are bringing value or that are valuable to the business. These could be buildings, desks, and/or people.

Liabilities: What are the liabilities of an organization? These are things that "cost" the organization. This could be salaries or debt.

Shareholder equity: This is what it sounds like, the equity of the organization that is held by shareholders. You may have private shareholders or you may be a public company and have many shareholders. Think of equity as the ownership of the company.

Income statement: An income statement is focused in on revenue, expenses, gains, and losses.³ It is simply a statement about an organization's income. From a data perspective, the income statement is full of data and numbers, but again it will

probably be prepared by a company's Accounting and Finance team.

Cash flow: This is a straightforward definition. It's the cash flowing in and out of an organization. If you have positive cash flow, that can benefit the company or indicate it is doing well. Negative cash flow isn't necessarily a negative, for example if the company is investing. But if it isn't investing and there is a negative cash flow, that may be a bad sign.

Cash flow statement: The income statement is one of three important financial statements along with the balance statement. The cash flow statement is the final one. From Investopedia, we learn that a cash flow statement is an important statement that shows the comings and goings of cash and cash equivalents for a company.⁴ This is an important one because cash is a top priority for a company so that it remains solvent. Like the balance sheet and income statement, the cash flow statement will be put together by a company's Accounting and Finance team.

Business strategy: Business strategy is something a data professional should really focus on because you should have a data strategy in place to support your business strategy! Harvard Business Review describes a business strategy as focusing on how a company brings about strategic work and initiatives to create value for itself and any shareholders, and achieve a competitive advantage.⁵ I also like to think of a business strategy as something in place to help an organization achieve targets, goals, revenue, and bring forward their mission and vision.

Data is very supportive to a business strategy. It may be that many don't understand the data strategy side of a business. I don't think a data strategy should be that complicated. A data strategy should cover how data is used to support the business strategy. That is the key. Now, that involves data management,

data engineering, governance, data science, data visualization, and data literacy, but it needs to focus back on data supporting the overall business strategy and goals.

If you are wondering where you fit in with a business strategy, look at your data work and ask how it is helping the overall business strategy. If you don't know the business strategy, then take the initiative and learn it. Then, evaluate your data work and find how it fits in.

EBIDTA: EBIDTA may be something you have heard of, or maybe not. EBIDTA stands for earnings before interest, taxes, depreciation, and amortization. It is another way for us to measure income for a company.⁶ Again, EBIDTA has data, but it may not be prepared by the Data team; it is something that you might hear being discussed in your organization. It will be prepared by the company's Accounting and Finance group.

Sales cycle: The sales cycle is a step-by-step process that details each stage of a sale.⁷ From MasterClass, we learn there are seven stages to the sales cycle. This may vary, depending on the resource you read, but here they are:

- prospect
- qualify
- make contact and present
- address objections
- nurture
- close the deal
- request referrals

Throughout the sales cycle, as you can imagine, a data professional can be a key support person. The Data team may build up information on prospects. As a salesperson works with a data professional, they may get help on data for qualifying offers

and what to offer current or potential customers. When at the addressing objections stage, data may be used to help address the objections of the potential customer. Data can also help with nurturing and closing the deal.

Overall, data is a good support tool for the Sales team. As a data professional, network with the Sales team to better understand its world and then help them with data.

Revenue: This is pretty straightforward. This is the money coming into the company.

Revenue cycle: From WallStreetMojo, we learn that the revenue cycle is the entirety of the accounting process, including the operation and production of statements. This will include all the processes of accounting, which normally start when an order is received and then end with delivery to the customer and receiving payment.⁸ A revenue cycle may be completed by the Accounting and Finance team, so a data professional may not be called upon for this. However, it is still important to know the term.

Gross and net revenue: What is gross and net revenue? Well, gross revenue is the total revenue coming in before expenses, and net revenue is total revenue after expenses.

Attrition: We know that organizations will lose employees and that is what is being described by the word “attrition.” We can define attrition as the reduction of numbers.⁹ We could look at attrition in a business as the reduction of anything, but here, we can apply it mainly to the reduction of workforce.

Investopedia gives us a direct definition, stating that attrition is the deliberate reduction in the workforce that won’t be replaced or where the plan is to not replace them.¹⁰ Of course, as time goes on, those plans may change. Indeed defines attrition as the rate at

which a company's workforce is being reduced.¹¹

Overall, attrition is the reduction of the workforce. In this way, it isn't necessarily good or bad, but just is what it is. Data may be used to help support understanding of attrition rates: analysis can be done to see why employees are leaving, or an analysis may be done to see how to reduce a workforce effectively.

Churn: Churn is similar to attrition, but now we are onto the customer side of things. Churn is a reduction in customer numbers, no longer with a focus on employees.¹² Churn happens over a defined period of time, and can be described using a number or rate.¹³ Organizations will obviously want to know what the churn is. Customers of course are a giant part of keeping a business running and working, as they are there buying or using the product and, therefore, the ones bringing in revenue. As you can imagine, data can be a great supporting tool for understanding churn. One big thing the data professionals of an organization can do is help to explain the "why" behind customers leaving the organization. Is it seasonal? Is it external market factors? Are the company's products priced wrongly? Is it a personnel issue?

Retention: Let's think about customer retention. Customers help drive revenue of an organization and so keeping customers, retaining them, and finding new ones can help drive the revenue continually for the company. Organizations probably want to retain customers and have positive relationships with them, so retention can be a key and powerful thing.

Data is again a supportive tool for retention. Can a data professional find data pieces that help support the retention efforts of an organization? If you don't know how to use data to do this, study it out and find key ways to support the work to retain employees and customers.

Now we are looking at a piece that can tie to attrition or churn: retention. When it comes to employee retention, you can think of it as the strategies an organization is using to retain its employees.¹⁴ You can also think of it as when employees are choosing to stay at an organization instead of looking for other work.¹⁵ In essence, employee retention is where an organization is retaining employees and it can involve the choice of the employee to stay, or it can involve the strategic work of the organization to keep its employees.

Hiring/recruiting: Another lifeblood of an organization is its employees. Recruiting is the process organizations use to help bring in employees. Organizations may go about hiring and recruiting in different ways, but what it boils down to is how they are bringing in employees and then, with retention, how they are retaining them.

From a data perspective, data may be used in diverse ways. Data may be used to understand the external market that exists. Data may be used to analyze and understand the current employee base an organization has in order to help understand hiring and recruiting needs. Analytics may be used with the analysis of candidates. Overall, data is a supporting tool for hiring/recruiting.

Customer/client success: Clients, again, are a great source of success for a company. Hopefully, they are helping to bring in revenue. Organizations want to maintain customers and develop strong relationships with them. So, in comes customer or client success (organizations may land on different ways to name this area of a business).

Essentially, customer or client success is about the relationship with the customer or client and is there to help it succeed. I would say that organizations with better relationships with clients are probably going to be more successful. Can you think of any

organization you like to work with in your own life? They may have a good, strong customer or client success group that is ensuring that you continue to like working with them.

From a data perspective, think of the support you can provide to your clients. Imagine you have the opportunity to find trends or key things for a client within the data that can wow them or help their customers. Imagine building a powerful data story for the clients that helps them understand their business better or helps them understand how your organization can help them better. Utilize data to help customer/client success.

Key performance indicators (KPIs): KPIs are things companies utilize as metrics or points of measurement. You may have KPIs for sales, client success, hiring, or even for the Data team. KPIs are measurements that help support the organization as a whole and you may see KPIs put in place for the goals and objectives of an organization. From a data perspective, you may need to build the data and analytics around the KPIs to see how they are performing. On top of it, you may need to help drive what KPIs an organization puts into place. As a data professional, help ensure that the KPIs an organization sets are good, strong metrics.

Objectives and key results (OKRs): OKRs, like KPIs, are ways to measure and put things in place that an organization can measure and hopefully utilize to help drive success; they are a collaborative way to measure and, hopefully, drive results.¹⁶ Like KPIs, data is in place to help drive and support OKRs. Utilize your skills as a data professional to help drive what the OKRs are and how they are measured. With OKRs, too, you can help the business to understand what data is available and what data is not available.

One-on-one: This is a meeting with just two participants. A common example of a one-on-one is a meeting with your direct

leader. You can use this as an opportunity to review your work, discuss how things are going, and use it for your own personal development. Now, you don't have to call a meeting a "one-on-one" every time you have a one-on-one. You can have different names. You may also see it shortened to something like 1:1.

Skip-level: A skip-level is a one-on-one, but you are skipping your direct leader. For example, you are a Manager that reports into a Director. A skip-level will take you to the next level up. You are now meeting with the Director's boss, maybe a senior Director or vice president. In this case, maybe this isn't a direct review of your work; instead it is more like a mentoring session or the opportunity to get advice. It may be a review of your performance, for example.

Disruptor: What is a disruptor? Have you heard this term before? Think of this person as someone who is innovative and is maybe disrupting operations or practices at your business. A disruptor can be seen as a good thing as they are bringing changes to an organization.

"Level-set": OK, this may be one of my least favorite terms. This disdain for the term comes from my past when I worked in the financial services industry. We had an outside consultant brought in to help us, and he used this term way too much. Level-setting is bringing everyone to a common understanding on something. You can "level-set" where a project is. Yes, the intention can be a good thing, as you are bringing everyone to a common knowledge or level playing field on information. If you like this term, use it, or use a different term to define this process. Getting everyone to the same level of understanding is a good thing.

Senior leader: A senior leader may seem an intuitive thing to understand, but maybe it isn't across organizations. A senior

leader in one organization may not be the same as a senior leader in another organization. That's OK. In your organization, the key is to find out how a senior leader is defined. When you have a good understanding of what a senior leader is, then you can maintain that knowledge until it is changed. If you change organizations, that's OK, just find out what a senior leader is at your new organization.

Innovation: What is innovation? In this case, think of it as coming up with new processes or modifying existing ones. Think of innovation as the effective improvement or changing of something in an organization. You may innovate new dashboards and analytics. You may innovate new sales processes. You may innovate a leadership structure. That's all great.

Content: Think of content as the material produced by an organization. This could be the creative content that Marketing uses to get more brand recognition or new customers.

Performance improvement plan (PIP): This is one of those we are defining that may not be the most fun to know about. A PIP is a measure an organization uses for employees who are underperforming. If an employee is not succeeding or doing as well as they should, the organization can put them on a PIP, giving them a set of things that need to be accomplished to help them stay at the organization. You don't necessarily want to be put on a PIP.

Year-end review: A year-end review is a meeting with your leader to discuss how you have done over the year. This could be a more formal one-on-one to review an employee's yearly performance and set them up for their merit increase (a raise) or to help determine if they met requirements or partially did for a bonus.

Request-for-proposal (RFP): An RFP is when a potential customer, or an existing one, says they want you to put together a proposal to see if they want to buy your services, or whether they want to keep using your service.

Impact: Think about this as the effect of something that is going to happen to the organization. For sales, it may be that a deal would have a big impact for the organization. If you are in data, it may be that your data work may have a big impact for the organization. Note, impact can also be negative.

Boil the ocean: This refers to trying to do it all. Don't try to take on too much. If you are a data professional, don't try and do everything. Take it step by step. If you are in Sales and trying to nail a big customer, then don't worry about doing everything at once. Take it a step at a time.

Best practice: Best practice is what it sounds like. It is a best practice. This can be a good thing to share in the data world. If you are a data professional, you can share best practices for dealing with the data. These might be the right tool to use, or how to deal with your customers or leaders. What do they like? How do they want the data presented? What can you do to help drive best practices and help things to thrive?

Empower: This is a phrase I use, but it may be becoming a bit overused. How are we empowering people to succeed? Are we giving them the skills and tools to do their roles? If you are a data professional, how is the organization empowering you to do your job? Are they giving you a good budget? Good technology? Do they have a good understanding of how data works and the investment it takes?

Bleeding edge: With bleeding edge, think of it like being on the cutting edge. If you are a company looking to produce a new

product that is on the bleeding edge of a revolution or in another way, data can be such a great support for this. Are we able to use data to help build predictions that can be used by the business? How can data be used to help keep an organization on the bleeding or cutting edge going forward? For example, it can be used for descriptive and predictive analytics.

Lots of moving parts: This means there could be many pieces that need to be involved to achieve an outcome. It could also mean that there are many issues that could make success more difficult.

Low-hanging fruit: This is taking on something easy. In data and analytics, low-hanging fruit can be a good thing to help drive proof of concept or successes that can be shared. Don't always focus on low-hanging fruit, but you can utilize it to show quick success.

Drill down: This can be similar to doing exploratory work or drilling down into data. If a leader or someone in an organization wants to learn more, the person can themselves or have others dig into the information further.

Key takeaways: Key takeaways are important things that someone wants to remember from a meeting. Think about a meeting you have had. Someone might summarize what the takeaways from the meeting are. You can have key takeaways that help drive data work forward. A data professional can use them to drive the data and analytical work they are doing.

Game changer: A game changer is something that changes a situation. This could be something like an insight from data or a pivot in the industry. Game changers can be both positive and negative for an organization.

Aha moment: An "aha moment" is like when a lightbulb goes on.

Data can be a catalyst for aha moments. Imagine a group not having data before, and then suddenly they do. They'll be able to see new information and they may have that aha moment.

Bandwidth: Bandwidth is your availability to do work. Bandwidth may be described as limited if you are busy. This can be a good one for data professionals to understand because if you are a busy data professional and are being asked to do more work, you can say "I don't have the bandwidth." Make sure that if you say you don't have bandwidth, you have the info to back it up.

Mission-critical: This is when some task is essential for an individual or the business to do. It could be a sales meeting for a potential customer because they represent a nice large revenue stream for the company. It could be new branding for the organization to help the company become more established or more recognized. Data can be a supportive tool to mission-critical work so it isn't only based on gut feel.

Hard stop: How many of us like having tons of meetings that we don't want? Well, we should learn the word "no" better and we should use the phrase "hard stop" when we need to end a meeting on time. If you find yourself busy and don't want to go over time, or shouldn't, then let people know you have a hard stop. Be honest as you use this, but tell people you have a hard stop and establish boundaries with those you are talking to.

Synergy: This phrase means to make sure you have alignment. It can also be used to describe alignment between things. Within the data space, a data professional can help to find synergies between things that the data illuminates.

Circle back: This means you will get back to something. "We will circle back on this." With data, you may need to use this to help

educate on topics. If you are a data professional, make sure you have understanding as you communicate things. You don't want to lose people. Also, make sure you can circle back on things if needed. If it is something that doesn't need to be explained in the meeting or is something that isn't relevant, then you can circle back on it. You can make sure people feel comfortable even if they aren't answered at that time.

Reinvent the wheel: Have you heard this one? You don't need to reinvent the wheel. If things are already working well, then sometimes it makes sense to keep doing them. Don't waste time if it isn't necessary.

Table the conversation: If you are in a meeting and someone asks something that distracts from the meeting, you can "table the conversation." If it is something that can be solved in a one-on-one, then you can suggest that instead. Make sure you are effective in your communication: if something is derailing a conversation, you can suggest that it be tabled for further discussion. If you have time, you can get back to it.

Conclusion

As you can imagine, this is not an exhaustive list of business terminology, but like a data dictionary, you now have your own personal business dictionary that you can utilize and have handy to help you move forward as a data professional.

Keep an eye out for terms you may hear in business, write them down and look up a definition to help you understand the term you heard.

Your journal assignments are nice and easy this time around, hopefully.

1. Take the time to study a new term each week and find ways to apply it to your current work. Think about your role and the work you do: how can understanding business terms help you? Write a business term in your journal each Monday (or you can do it daily) and then write ways you can apply it in your role or to help the business achieve its goals and objectives.
2. When you hear a business term you are unfamiliar with, write it down in your journal and then look up its definition. Then, write one way you can use data to support that term, if it is possible. With this one, it may not be a business term you hear that you write down. You can also proactively look up business terms, write one down you don't know, and then consider how you can support it.

Notes

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5

Using Data to Drive Value and Impact for a Business

Data, analytics, and AI are cool, fun, and big topics as I write this book, but the reality is, they are there to support the overall business. In the business world, data and its work can be siloed or thought of incorrectly by the rest of the business. Data, analytics, and AI are there to support the goals and objectives of an organization. In essence, we want data, analytics, and AI to drive value and impact. That means helping your organization achieve goals and objectives, or, in some cases, bringing out value and impact for a business that the business didn't realize was there, hidden or unknown.

With this in mind, when you think of your role as a data professional, can you define right now what value and impact you are bringing for your business? It is OK if you can't; that gives us a starting point to start to understand and define value better.

I want you to think of this in depth and evaluate your own work (this will be a journal assignment at the end of the chapter). Think through your current work and define, if you can, the value it will bring to the organization and how it is helping the business realize its goals and objectives. The value and impact may be there, you just may not understand how to define it.

Let's use this chapter to cover a few different things:

- The monetization of data.
- Different ways in which organizations can monetize data.
- The roles of different data professionals in the monetization of

data. We will look at the following roles:

- Data Analyst
 - Data Scientist
 - Data Engineer
 - Data Architect
 - Data Consumer
 - Chief Data Officer
- Data-driven decision making: What it is and how it impacts the monetization of data and help support the goals and objectives of an organization.

Utilize this chapter as a way to understand your own role better when it comes to the business. Data is a wonderful supportive tool for an organization, but we have to make sure we truly understand how data can support the business. Is it to help build better marketing campaigns? Is it to help the organization develop better retention tools and practices? Is it to help a Customer Success Manager or Sales Rep develop better proposals for current or prospective customers?

The monetization of data comes in different shapes and sizes and directly impacts organizations, from supporting sales and client success to supporting marketing that can help drive better brand awareness and success.

What Is Data Monetization?

When you think of this term, the “monetization of data,” what comes to your mind? Is it the bringing in of money through data? Yes, that is certainly one way of looking at it. What else comes to mind? You may think that the monetization of data is the support data brings to various parts of an organization to help drive the goals and objectives of the organization, which in turn is to help

support the organization (and yes, revenue and money are a big part of this). It could be helping Marketing with data to help drive campaigns. It could be helping Sales teams to understand their prospective clients better. It could be helping the C-Suite to understand how the business is doing, with concrete data as an input versus just gut feel.

Does using an organization's data and selling that data for profit come to mind?¹ That also may be a part of it. Let's pull in a definition or two of "monetization of data" and then look at some examples. With these examples, I want you to see if you can relate them back to your own work as a data professional. See if you can find ways your work is like these examples.

To define data monetization, I turn to [mostly.ai](#), which states it is the generating of revenue or value for an organization through the use of its data assets.² Pretty straightforward. I like this definition because it goes beyond just the selling of an organization's data for profit. It is the use of an organization's data assets to bring about revenue or value, which could mean the selling of data for profit, but could also mean using data to bring value to the brand through marketing. It also could be the use of data to help shape the customer experience. It could mean using data to support a relationship with a client and furthering that relationship.

From [mostly.ai](#) we learn it also is the use of data in data-driven decision making. Overall, the monetization of data is about bringing revenue and value to an organization.

Let's take a look at some examples.

Example 1: Mastercard Advisors³

In the past, I worked for a credit card company. Credit card companies can bring in data on their customers. Mastercard brings in transaction data that Mastercard Advisors, their consulting

business, has used to provide “insight and consulting services to financial institutions, merchants, and governments.”

Some of the ways it did this (and may still do so) is through:

- data aggregation
- data analysis
- customized solutions
- consultancy services

The reality is that using transaction data has empowered Mastercard Advisors to possibly find trends and ways for other organizations to improve experiences. How many of us DON'T want improved experiences when working with organizations?

Can you think of ways that your organization is bringing in data right now that your organization could utilize as advisory or consulting services? Could you utilize data to help your organization advise your customers and improve the overall experience for your customers or partners?

Example 2: Zalando⁴

Zalando is one of Europe's leading online fashion platforms. In this example, Zalando has harnessed the power of data to provide insight to brands and retailers. I don't know about you, but I like good clothes and always want to dress well and look good. I would love it if the retailers I am going to online to purchase my clothes were more in tune with what I wanted.

One thing we want to do is balance between the human element and the data element. Sometimes, we need the human and gut feel to test it out and run with it. At other times, we may need the data to supersede and be a part of it. We can use both the human and data sides to allow brands and retailers to understand the customer and put things in place to help establish maybe more brand or retail

loyalty.

Here are some ways Zalando monetized data:

- **Data collection:** In order to provide insight and information to brands and retailers, Zalando needs to collect good data. With the monetization of data, let's look at two ways it can be utilized:
 - You may have a specific direction in which you are using the data, like building a predictive model for a customer that wants it.
 - You may not have a guided direction to use the data, and so you are just using it to be exploratory.
- **Data analysis:** Through data analysis, Zalando has empowered brands to target customers.
- **Collaboration:** Zalando has shared data-driven insights and this has allowed better partnerships to occur. Within organizations, good partnerships with your customers or partners can be a good way to collaborate and drive monetization of data. As you share thoughts and insights back and forth, hopefully, both organizations are prospering.
- **Customized dashboards and insights:** Through dashboards, Zalando has empowered brands to make better decisions.

Overall, Zalando has been able to monetize its data. The retail space provides a nice environment for us to understand the monetization of data. Can you think of ways your organization can operate like Zalando and monetize data?

Example 3: General Electric (GE)⁵

GE is a large, global company. In fact, you will have probably used one of its appliances before. And if you have, then you should

probably know that this large global organization used a platform called “Predix” to develop and deploy analytics and applications to improve and build their products.

Think about that from a data perspective. Think about building and designing kitchen appliances. The organization can start to collect and utilize information about their customers, what they trend towards and like, and it also collects and analyzes data on the appliances. Maybe the organization starts to test where its appliances start to have issues and what features aren’t used as much. It can then utilize this power to make smarter decisions and eliminate some of the guesswork from its decision making. What a great way to make better decisions within the organization and the work it does.

Summary

These were three examples showing how organizations can utilize data to make smarter decisions. Hopefully, these companies are utilizing this data to power their business forward and achieve greater success. As a data professional, how do you see yourself fitting into possibly a scenario like the ones we have shared in this chapter? Can you think of ways in which you are already directly or indirectly helping your organization to monetize data?

Now, a better question to ask might be: how is my current work helping to monetize data for my organization? This may be a journal exercise at the end of this chapter, but I want you to really evaluate and think on your work. Really try to determine if you feel that your current work is allowing you to help the organization get value and some sort of return on the data and analytics work being done.

Sometimes, this can require a hard conversation with yourself or with a leader about your work if you find that some of it isn’t tied to

value for the company. If it isn't, take the time to meet with your leaders or customers and discuss the work. Yes, you may need to stop doing some of your work if you are finding that it isn't helping the organization. Guess what? That is OK! We can evaluate and pivot, then bring about better value-added data and analytical work.

Let's jump in and take a look at how organizations can monetize data in different ways. We have already covered this a little bit in the previous area.

Ways to Monetize Data

There are multiple ways in which organizations can monetize data, but we are going to break it down into three:

1. selling of data and/or insights
2. project-based data work
3. everyday data use/needs

Selling of data and/or insights

This may be the most straightforward way an organization monetizes the data: it can simply **sell the data**. That should make sense, right? Organizations gather data and this data can be valuable for organizations and give them a possible revenue stream as they work through and bucket the data or sell it.

Let's look at an example of selling data. Think about social media and all the information it gathers about individuals who use the services. It can be a tremendous amount of information! Think about what a person may follow on a social media site. Maybe that can paint a picture about an individual and their likes and dislikes.

Then, the social media company can gather lots of information about individuals. They can create categories of individuals, what

they like and dislike, the trends and patterns they have, and then bucket this information and sell it off to companies. Maybe the social media company decides to sell it off to a retail company that wants to build ads for the social media channel. Now the retail company has information regarding the social media company's users and it can target its marketing better.

Now, I might be simplifying this a little bit, and we have to ensure that regulations and laws are followed, but this is one way an organization could gather information about its users and then bucket that information for monetary value.

Another thing an organization may do is **sell insights**. What a powerful way for organizations to monetize data! Organizations can anonymize data and share trends and insights in a powerful manner. Mastercard utilized what it calls its "Market Basket Analyzer" tool to provide insight for a national department store. Imagine utilizing data to help a customer or client to better understand their clients. Through the power of insights that you are sharing, you can create value both from an internal and an external perspective.

Project-based data work

Another way organizations can monetize data is through project-based work. Imagine you are a Data Scientist or Data Analyst (we will cover data roles and how they can help monetize data in the next section) and you are placed on a marketing campaign analysis. You have a role to help understand how the campaign performed, and then you can work towards driving insight to help improve the campaign to retain customers and keep them from churning.

Another possible project you could work on is building insights and dashboards that can be shared with customers to help them understand their own clients better, like my previous example on

Mastercard. This may be a strong way for a company to drive strong relationships with customers.

A final data-driven project could be the design of a new product for the company. Imagine a company is looking to expand the products it offers. Your job is to help understand the market, what types of products could be good, and to help drive the pricing. You may be a Data Engineer, whose job it is to make sure the data the company uses is in a good position to do so, or a Data Analyst who is understanding the market and building out the information so that the decision makers can make informed decisions.

One thing you could do to help you stand out is to help find insight towards a new product, and not just provide data. Share your thoughts on what may and what may not work. Be proactive and lead as a data professional.

Everyday data use/needs

Another way organizations can monetize data is through the everyday work of the data professionals and/or data consumers. Think about your career: have you ever been given an urgent task or needed to “put out a fire”? Well, every day, organizations have things they are doing, whether they are routine or they are fires to put out or things that need to be done quickly.

Think of the use of data as proactive and reactive. Utilizing data as a key part of an organization’s DNA is good. Now, you can use it for proactive work, maybe predictive modeling with your customers to understand churn, or for reactive work, when fires need to be put out or when clients have requests, which may help build a better relationship with a client. This in turn may drive more sales or longer contracts. In this case, organizations can be monetizing data through day-to-day operations and work.

For example, let’s say you are a Data Analyst who has a

responsibility to put together a weekly report for senior leaders to review on five key metrics. These five key metrics, hopefully, are tied back to the organization's business goals and may be tied to the monetization of data, whether that is understood or not. This routine work of the Data Analyst can be seen as monetizing data in some, if not all, circumstances, as long as the work is pointed in a good direction for the business.

Another type of everyday data need could be when a senior leader is put on the spot by a customer, or where the senior leader goes to a data professional and requests data for XYZ. This urgent need or “fire” can be the cause of frantic work, but hopefully you have a good data foundation and architecture so you can gather the request and fulfill it quickly. This urgent work may be to help the senior leader or other co-worker with requests that are internal needs or external needs. But, this work can help the organization to monetize data in some, if not all, circumstances.

This everyday work, whether routine or putting out fires, can be seen as a common set of work for a data professional. One thing I hope is that we aren't always putting out fires and not able to do the proactive work that may drive more value for the organization. If you find yourself as a data professional spending a lot of time working on the “putting out fire” type work, maybe take a step back and evaluate what you do. Take some time to write down the fires you are putting out; maybe you can find trends and “whys” behind them.

Data Roles and the Monetization of Data

I hope you are getting a sense of what different data professionals may do to help with the monetization and, maybe more importantly, what your role is in helping with the monetization of data. Let's break down different data professional roles and what

they may do to help in the monetization of data.

This won't be a full, comprehensive list; I am not sure I can think of everything, but I want you to think of other ways you can monetize data or how you can improve your processes that may already support data monetization.

Chief Data Officer

The Chief Data Officer (CDO) may work with the CEO and help to own how data will be monetized. More importantly, as different parts of the organization work to utilize data to help them in their work, hopefully the CDO has a strategy on how data will help different parts of an organization.

A CDO should have a good strategy for the use of data in the organization and have the data strategy point towards its end goals and objectives.

Data Engineers and Architects

The Data Engineer and Data Architect play a crucial role in the monetization of data. Without good data, an organization may not be seizing upon the potential value the organization's data has. The Data Engineer or Data Architect may be the one responsible for the overall architecture of data for the organization. This plays a role to facilitate good data through the organization, where appropriate. This good data can then feed into the front-end analytics that can be performed by the Data Scientist or Data Analyst.

It may not be thought of much by Data Engineers or people, but the back end of data is a vital piece of the data monetization puzzle. Good data is needed, whereas bad data can not only impede good analytics, but possibly lead to poor decision making for a company.

Data Scientists and Analysts

The front-end data professionals can help bring the four levels of analytics to life and create insights and information, hopefully empowering the organization with decisions and outcomes. The four levels of analytics are descriptive, diagnostic, predictive, and prescriptive. Hopefully, all four are used in an organization. Pretty straightforward.

When it comes to the monetization of data, it may be that it is hard to find the true attribution of the data to the revenue or outcome, but what we want to ensure is that you are helping drive the business forward. We want the Data Scientists and Data Analysts to help the organization with data-driven decisions and insights. Imagine the Data Scientist or Analyst helping with customer success and not losing customers or, better yet, helping to upsell current customers and make their contract bigger for your company.

Overall, whether you are a Data Scientist or Analyst, you have a great ability to help monetize data through the front-end work they will be doing. It doesn't have to be advanced, I hope we all realize this. Sometimes you may have the day-to-day work, refreshing dashboards, and things you may not think to be "sexy" data work. But sometimes it is just the fundamentals that need to be done. When the simple, day-to-day things are taken care of well, then other things can be done. Let's think of a personal example for this.

Imagine I am training for an ultra-marathon and I am trying to do big training things often, but I am neglecting some of the simple things that should be done to ensure my body is healthy; I am just trying to run lots and lots of miles. The end goal I have is the race itself, to get through it and finish, but what about all the other things I am neglecting besides the long run? Don't get me wrong, you need to put in the miles, but what about stretching? Eating

right? Strength training? Massage work, if needed? The right shoes? Sleep? Proper recovery if needed?

All these things can be a part of a good ultra-marathon training plan and should be, but if I neglect things and pieces, then I may not have the success I want. I may be going for big mountain peaks in my training, which is pretty awesome, and forget I should have done core and stretch work regularly. My body may fail and struggle.

The same can happen for data and analytical work. You may want to do the big projects as a Data Scientist or Analyst, you may want the big data story, but the reality is, if you aren't doing the small things needed for success, you may not reach your ultra-marathon "finish."

With data work, you should evaluate the small things that you may be neglecting that can help you in your journey. Is it continually evaluating the work you have already built to see if it still fits? Is it updating metrics or KPIs? Are you continually enhancing the data story work for your customers? Ensure you are evaluating your work to meet the needs.

Data consumer

This is an interesting role for the monetization of data. The reality is that most of an organization is made up of data consumers. These could be Marketing specialists, those working in HR, or part of the Sales function. When we think of data professionals and their work, a lot of it may be to support data consumers throughout an organization. What a good and powerful way to help the data consumer with data monetization!

These data consumers are going to have their roles and responsibilities, which mainly do not pertain to data. However imagine if they were to utilize data more frequently in their work as

a supportive tool. Now we are looking at data as an integral part of what these people do and a strong support tool to make data-driven decisions.

Imagine you are a part of a company where the leadership and employees don't have much data to go off or don't have a data strategy. Say they have one or two data professionals in total, and they are trying to grow revenue or launch a new product. With the majority of the employees being data consumers but not having much data to go off, do you think this strategy or not having an official data strategy is going to be effective for the organization to succeed in the monetization of data?

The organization may not be able to monetize yet because it doesn't have a strategy in place. These data consumers instead go off gut feel and ideas, which are wonderful, don't get me wrong, but they should be coupled with data and information. This organization may not even be trying to monetize data. Instead, they may just be surviving.

Now, imagine an organization with a solid data team, with a suite of professionals, led by a CDO. This organization knows the power of data. Its data consumers have access to data literacy learning and the organization is empowering all to succeed with data. They try to flow data throughout all the different parts of the organization and are working to empower the data consumer to make smarter decisions.

How do you think the monetization of data goes at this company versus the previous one? How much more successful will they be in general?

Data Monetization and Data-Driven Decision Making

Here, we get to one of the key elements where data can help within

monetization: data-driven decision making. Does this point seem obvious? I hope it does at this point! Organizations should be harnessing the power of data throughout decision-making processes in the organization. When an organization is making decisions that it can then use in the projects, goals, and things it is doing as an organization, of course they should be incorporating data into this process.

To help us understand how data-driven decision making can help with monetization through areas of an organization, let's look at some examples.

New sales deal

Of course, one thing that brings in revenue for a company is sales. Well, in this case, imagine a sales professional is working with an existing client and they are looking to upsell this client on a new product the sales professional feels fits the client well. And obviously, this upselling represents a nice bit of additional revenue for the company, and that Sales Rep wants a nice commission.

This Rep could make a decision on how to upsell this new product in whatever way they want. Maybe they go off prior experience and they have learned over time. Maybe they go off gut feel. Or, maybe they use prior experience, gut feel, AND they work with a data professional to find data points and analytics that could be helpful in bringing this new product to the client.

Prior experience and gut feel could be good ways to drive this upsell, but what does adding data to the mix do? Hopefully, it brings it from a good way to drive the sale to a GREAT way. The data can help shape the decision and help the rep to understand if their prior experience and gut feel fit in this scenario. Now, with the new revenue from a product, we have monetized data for the company.

Marketing campaign

Another way to “monetize” the data is to have the data helping the organization with a marketing campaign. Marketing is there to help an organization to grow its brand, attract new customers, and maybe bring awareness to certain aspects of the company. The marketer building the campaign could go off ideas, thoughts, and prior campaigns to build a new campaign, and that may work well.

What if, though, you combine the ideas, thoughts, and prior campaigns with data to show the effectiveness of a prior campaign? Now, you might have data that shows whether the idea or thought is a good one.

Imagine a marketer has no prior campaign information and therefore doesn’t know if it was successful, and still builds the new campaign off the old one. That’s certainly not an effective way to build a marketing campaign. Instead, let’s imagine if the marketer has been studying data on campaigns and looking at the success rate of the company’s previous campaigns. They dig in to understand what was and wasn’t done to drive the campaign forward. They look at the data and information, use their ideas and gut feel, combine these things and build a campaign. Then they utilize data to understand how the new campaign works.

One key thing for monetization of data here is that it may be hard to build attribution for the marketing campaign and revenue. What I mean is that it may be hard to understand how the data used in the campaign ties to the revenue coming in. Attribution here can be difficult. That’s OK. Instead, focus in on how the data and analytics built for the Marketing team and for the campaign help to make it better and more effective.

Salary, benefits, and bonuses/commissions: internal work

Finally, maybe we can look at how an organization is utilizing data to make better, smarter decisions on the salary, benefits, and bonuses paid within a company. The “monetization of data” here could be cost savings to the organization.

Imagine you work for a company that isn’t making data-driven decisions on how they pay employees, how benefits work, and how bonuses and commissions will be paid out. They rely on how they have always done it and ignore the powerful data and information that could be at their fingertips.

The inverse is also important. Imagine a different company, one where the organization is utilizing data and information to help understand the salary ranges for employees. Imagine using data to understand the benefits market and ways to adapt and adopt these for the employees. Finally, imagine using data to show the bonuses and commissions to pay in the organization.

The data-driven decision-making processes used to help determine salary, benefits, and bonuses/commissions for employees can help the organization make smarter decisions. It is no guarantee of success, but hopefully it gets the organization closer to ensuring it is competitive and employees are happy in their roles.

Summary

Overall, data-driven decision making is key for an organization to be more successful in today’s economy. Through data-driven decision making, organizations can help to drive greater monetization within the company. The reality is, cash is the lifeblood of an organization. As data professionals, look for ways to help drive better cash flow into the organization utilizing data.

One key thing to note: evaluate on your own how you help drive data monetization. You want to be a net positive for the company

and not a net negative. The more you can network and get involved in the business, the more it may help you to help the organization be more successful.

Conclusion

Overall, data is there as a support system for an organization. The data comes to life through analytics. Analytics helps to drive support in the form of insight and information. Individuals can then work through the insight and information to help make decisions and deliver outcomes.

Monetization of data is key for the organization to realize value from its investments into data. Ask yourself: do you feel you are bringing in revenue or value for the organization, or do you feel you are an expense for the organization? For sure, data should be a revenue- or value-generating thing, but at times, I think organizations don't realize the value they should and it is more a cost expense. An evaluation can help the organization understand.

Overall, one of the key things that an organization can do to “monetize” the data in the organization is utilize it for decision-making. An organization should be harnessing the data it has to empower decisions to be more effective. Hopefully, this in turn helps the organization to realize more value.

[Chapter 5](#) Journal Assignments

For your journal assignments for [Chapter 5](#), I want you to focus in on your data work itself. There are various ways your work may be helping the organization to monetize its data.

It is time for you to reflect on your work and understand how it may be helping the organization with monetization.

1. Take the time to evaluate your current work and figure out how it is helping the organization with monetization. Are you helping to bring in revenue? Are you helping marketing campaigns? If you are a Data Engineer, are you designing data in a way that

the organization can capitalize on it easily for decision making? Take the time to evaluate your work and ensure you understand how you are helping the organization to realize value through data.

2. Write down one new way you can help the organization with monetization through data. This may be by eliminating data work that doesn't need to be done any more, freeing up time spent doing this work and allowing you to focus elsewhere. It may be networking with new people in the company, learning about their roles, and finding out how you can work with them to empower them. Overall, find a new way you can help the organization monetize its data.

Notes

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6

Business Environment, Ethics, and Culture

If I were to ask you to list off some of the greatest factors in determining a business's success, what would you share with me? Would it be the sales and operations of the business? A good CEO? A great product? These are good things, yes, but would you include the culture of the organization?

You can have a great product, great processes, but if the culture is garbage, your organization may not be successful. It has been said that culture eats strategy for breakfast.¹ Think about that phrase for a minute: why would Peter Drucker have said that? Well, if an organization's culture isn't a successful one, if it's one where people are gossipy, backbiting, where they don't want to be there, where an atmosphere of negativity persists, and on and on, then how can a strategy succeed in that kind of environment?

In this chapter, we will cover business culture, business environment, and business ethics, while also looking at how external environments can affect different businesses. Finally, we will dive into what data professionals can do to help a business culture succeed. Let's jump in!

Business Environment

What does the term "business environment" mean? Indeed says that a business environment is the combination of internal and external factors that affect and impact how a business operates.² Pretty straightforward from a definition perspective, right? Well,

yes, it is easy to read what that definition says, but the reality is that a business environment goes beyond the simplicity of a definition.

From the external perspective, there are factors that influence how a business performs. For example, if an economy is impacted by a recession, we might see the impact of external things on the business. Then you may have a strong business, but external factors will have impacted it. You can also have internal things impacting the business in different ways, such as cultural shifts, an internal scandal of some kind, or poor leadership. The combination of the internal and external factors is a determining factor towards the success of a business and, quite frankly, the culture of the business.

This combination of the internal and the external, plus the overall culture of the business, can be probably be described as the business environment. Think of your organization or organizations in general and what a business environment means to you. Is your organization fully remote, fully in the office, or hybrid? Does the environment allow for disruptors to succeed or innovation to thrive or is it stuck in its old ways? Does it take a long time to get things done, or does it allow for things to be done quickly? These are all factors that drive a business environment. You can be a leader in your organization to help the environment be one of positivity and success.

Why would understanding the business environment matter for a data professional? Let's think back to the purpose of the role. A data professional's purpose in a business is to help use data to help drive the business's goals and objectives. For data professionals, understanding the business environment can factor into their work. The reality is that a data professional needs to be able to grasp internal and external things impacting a business as well, of course having a strong understanding of the data.

For example, imagine a data professional who is tied into the internal data really well, but doesn't include any external data or

knowledge in their analysis. They go through, build a report or data story, and then present it to leadership, excluding potentially important external data points and/or factors. What may happen to this work being produced by the data professional?

Well, it may not have the intended impact. And potentially there's a chance that it could be wrong and lead to decisions that negatively impact the organization. Data professionals need to be aware of both internal and external environments and data, and they need to ensure they are working to stay on top of the trends as best they can.

We will explore the internal and external environment more later in this chapter. For now, let's move onto a second definition/term data professionals need to be thinking about: business ethics.

Business Ethics

What do we mean when we think of the term "business ethics"? Business ethics, according to Investopedia, is the moral principles, policies, and values that govern and help an organization operate in an ethical manner (we hope).³ Essentially, business ethics are how an organization is operating and working in a manner that is ethical and principled.

Have you ever dealt with a company that didn't have good ethics, and did you want to deal with that company again? On the flip side, have you ever worked or done business with a company that had great ethics and values, and you wanted to work with them in future? There is a difference. And those companies that don't have good ethics or values might not survive due to people not wanting to return to work with them or through legal trouble.

Ethics is a valuable piece of the puzzle for an organization to operate effectively in both the internal and external environment.

Take a moment and think about your organization: do you know its values and principles? If not, go and find them out. Study them and learn them! Businesses should operate in an ethical manner. The knowledge of the employees of the values and principles of the company, and the desire to live those principles, can help the business operate going forward.

Why would ethics matter to a data professional? As a data professional, you are utilizing the data of an organization. Simply put, it can be used for good purposes, or there may be the possibility that your organization's data could be used for negative or bad purposes. You as a data professional have a knowledge base of the data that is probably more advanced than the non-data professionals in your organization. Your role is to use data effectively and ethically to help the business to move forward in any environment with values and principles. You can help the business with knowledge and insight through the data. You need to operate with good values and principles; you need to operate ethically.

Can you think of an example of an organization that didn't have good ethical practices and ended up in trouble? You can probably Google it and find examples. When you think of organizations that have had practices get them in trouble, they can find themselves with things that hinder their success. Think of reputational damage that can hit an organization when unethical or illegal practices come to life. What about criminal punishments? Imagine a financial institution where there was insider trading: it may get a fine and/or suffer reputational damage. Ensure you are a sound data professional, working in an ethical manner.

Business Culture

The final business term we want to discuss before moving on in this

chapter is “business culture.” What is a business culture? Is it a tangible thing or intangible, and does it flows through the organization?

Well, if culture eats strategy for breakfast, just how should we define the culture of an organization? Investopedia says that culture is the values, beliefs, and behaviors of the people in an organization that determine how the organization operates.⁴ I think it goes beyond this to the experience and traditions of an organization, the feeling of the organization, and maybe we can think of it as the undercurrent of how the organization operates.

Think about your organization; does it have a culture? It may, but you might not yet be able to recognize it. That culture can be for good or bad. Culture is an important part of an organization; it just may be *the* most important thing for the organization.

Think about the legs of a stool. The legs of the stool represent different aspects of an organizational culture. If one of the legs is fractured or broken, how likely are you to want to sit on that stool? How much do you trust that it will not break and cause you to topple over? Now, think about the cultural stool of your organization: how strong are the “legs”? Are you helping to build that culture up, or do you even recognize the culture there?

Culture is a key element in keeping employees in a company. I don’t know about you, but I don’t know if I could last in an organization where the culture is negative, where people are cynical and not looking at things in a positive light or the culture doesn’t bring out the best in people. Now, don’t get me wrong, frustration happens, but if a culture is overly negative and it is hard to work with it and you feel it is toxic, then that might not be a successful culture.

Key for organizations is working to have both a successful culture and a successful business. You want to create the values, practices, beliefs, and traditions that help the organization be happy, positive,

work through different aspects of business, and bring success to the company.

As data professionals, one thing to understand is that for data and analytics work to succeed, you need the culture to actually want to utilize data, analytics, and AI. What can you do to help people in the organization want to use data? Are you doing a good job of selling data to the employees of the organization? Can data literacy play a part?

If people aren't comfortable with data, don't know how to use it, don't want to use it, you as a data professional can run up against a wall that can hinder your progress and work. As a data professional, work towards empowering your organizational culture to succeed with data. If you have the ability to help teach people, can that be something you do? Maybe hold lunch-and-learns or take the time to coach people.

The Business Impact of Environment, Ethics, and Culture

Let's look at the trio mentioned here, environment, ethics, and culture, as three things that impact an organization. Now, there is one aspect of what we've discussed that we want to remember that you may not have control over as a data professional. That's the external business environment. However, you can control how you respond to the external business environment.

What I mean by this is that the external environment has an impact on a business, but you may not be able to control what happens in the external environment. Although you may not have a lot of control over it, it will still have an impact on your organization.

Think about larger macro events like Covid or the large financial crisis that hit the US housing market around 2006–09. These macro

events impacted the external and, in a way, the internal environment of tons of organizations. You may not have the ability to do much about these external events, but you can control your mindset around things. Are you acting as a good leader and helping an organization succeed or pivot where needed when external events do occur?

Now, one area where you may have more influence is the internal environment. Let's look at you as a data professional within the context of internal business environment, culture, and ethics. I want you to be thinking of what impact you can have and how you are either dealing with these three or are an effective leader within these three. That will be our first area of emphasis: be a leader.

As a data professional, you can take the lead in your organization on its internal environment, culture, and ethics. This leading on the internal environment doesn't just have to be with data. What about leading with a mindset for change or how to deal with disruption?

You can be a leader with and without data. First, and when it comes to data and its usage, you can ensure that internally you are helping creating an environment that is sound in its data and analytical practices. You can ensure that data and analytics permeate through the culture and internally, and that they are a part of the decision-making processes that exist within your organization.

Second, as a data professional, you can work towards helping the business culture succeed overall. Can you help to take the lead on a data literacy initiative, helping more people become comfortable with data? Can you network and be a leader throughout the organization to help the culture thrive? Can you help to establish a data mentoring program? As a data professional, it may not be in your comfort wheelhouse to take the lead on culture in an organization. However, you should take on the responsibility of

doing your part to ensure an organization's culture is thriving.

When it comes to ethical business practices in an organization, ensure you are always working in an ethical manner. Organizations can get in trouble when data or business practices aren't ethical. Make sure that you are a part of the solution and working ethically. Data is a way that things can get manipulated. Ensure you are helping create clean, trustworthy data in your organization.

Now, this three-headed monster of environment, ethics, and culture is important, but I want to focus on the key element of culture. Culture can be about people and how things work in an organization. You want a culture where people are comfortable using data, experimenting, and where data is a part of decision making. I want you to thrive in a business culture, and not just be on the outside as a data professional.

Let's discuss business culture in more depth and help you see where you fit into the puzzle and equation.

Pillars of Business Culture

There are key elements that can make up a business culture. Let's help you understand these elements and your role within them. The elements we will discuss come from a Forbes article from 2023:⁵

- trusting and allowing expression
- rewards and recognition
- approachability and communication
- allowing mistakes and appropriately addressing them
- team outings and celebrations
- strategic and mindful hiring

Let's jump into these areas and discuss them from my perspective, and then discuss how data professionals can fit into these elements of business culture.

Trusting and allowing expression

The word “trust” is an important one. How many of you would want to do business with someone that you don’t trust? That’s a funny question. Would *any* of us want to do business with someone we don’t trust?

Well, within the “walls” of your business, do you trust your coworkers and, maybe more importantly, do your coworkers trust you? Trust is a big deal. Do I trust others to do their jobs? Do I trust others to do what they say? Am I trustworthy in that when someone asks something of me, I get it done? Can I be trusted to get my job done?

In a business, trust is a big deal to ensure. Everyone needs to ensure that the work is being done, and done in a manner that everyone trusts. We want to have a culture of trust throughout an organization. As a data professional, people need to trust your work.

The world is doing a good job of creating cynicism towards data. Think about how data can be used in politics, and the misuse of data. That misuse of data can cause people to be skeptical of all data. Also, in businesses, you may find those who misuse data, which can cause others to be hesitant about using and trusting it. What are you doing as a data professional to ensure people trust your work inside an organization? Data professionals need to ensure they are creating trust towards their work and products so that people want to use data to succeed.

What does trust have to do with a culture? Well, if a culture doesn’t trust each other, good luck to that organization. If a culture doesn’t trust data, the data professional can be hindered in their success.

Now, what does “allowing expression” mean? Have you ever spoken to someone where you don’t trust your words to be

understood in the manner you intended? What about speaking to someone you don't trust? In an organization, people need to feel safe to express their ideas, even if those ideas may seem crazy or not in line with the way the organization operates.

In the data world, people who aren't data professionals may not have a strong understanding of data and how it works, so allowing a safe and trusting conversation between non-data professionals and data professionals can be a powerful thing. As a data professional, allow non-data professionals to express thoughts and ideas in their sphere and comfort zone. Allow yourself to be trusted and be a teacher and leader to all around you. Create an environment where people feel free to share their ideas and thoughts.

Remember, an aspect of culture is behaviors. If people feel they can trust you and share their ideas, then behaviors can help create a better culture. Then, hopefully, that culture helps bring success to the organization.

Rewards and recognition

Why would rewards and recognition matter in an organization? Why might they matter to the culture of an organization? Well, how many of us don't like having our work recognized? How many of us don't like getting a reward or award?

A business culture needs to reward performance and it needs to ensure people are being recognized. Imagine working in an organization where you feel like you are in a corner or never recognized. Imagine if your ideas aren't trusted or are pushed aside. That is not a culture where I would want to be. Those behaviors aren't a setting I want to be a part of. Instead, I want to see a business culture where people are helping drive recognition and success.

In reality, if we are all speaking highly of each other, allowed to express both positive and negative thoughts, and helping each other succeed, that feels like a culture people would want to work in.

What can your role be as a data professional in the rewards and recognition portion of a culture? Think about an organization, maybe even yours. How many people in that organization are data professionals by trade or title? I am guessing not many. Imagine an organization of 10,000 people; how many are official data professionals? Not that many, so how can we help to reward or recognize the non-data professionals in your organization?

First and foremost, does your organization have a formal rewards program? Can you send out points or rewards of some kind? If so, do so. Find ways to share these rewards with people. In the same system, you may have the ability to provide recognition. Don't miss out on these opportunities. But, beyond formal ways, take the time to give recognition to the non-data professionals and data professionals. Helping people feel like they are doing a good job in a field that isn't necessarily their background may help them to feel a part of the culture around data.

When someone asks you a question about data, recognize them and acknowledge they are trying to utilize data or understand it or whatever they are trying to do. If someone asks a question of you, don't be frustrated; work towards showing gratitude and recognition. As a data professional, don't push people off and be the reason they don't want to use data.

Approachability and communication

Communication can be the secret sauce to empowering data and analytical work success. How comfortable are you with your communication skills? Do you like to present or tell data stories? How approachable are you for the non-data professionals and, of

course, other data professionals?

Now, I have some introvert tendencies. I like to sit back and relax at the end of a busy day of speaking or interacting. But, at times, we need to make ourselves approachable and available. This might not be your favorite thing, but allowing it to happen can be a good thing for fostering a positive culture.

Now, let's talk more about communication. Think back to when you did your schooling or trained for data work. How much time did you take to study the powerful skill of communication? In reality, you may not have spent any time studying this. That's OK. What wouldn't be OK is to not acknowledge the need to develop good communication skills.

I find communication skills to be one of the greatest skills a person can have to succeed in business. First off, data work can be hindered if communication is not strong. I don't mean giving the technical ins and outs of what you have done with the data, no. I am talking about being able to sell your data, your analytics, to paint a big picture, to tell that data story. Communication is so key.

When the majority of people aren't data professionals, you'll need to learn how to communicate at their level of technical understanding. You can't go into a conversation and start to share the most advanced, technical terminology. You may lose people doing that. Instead, I want you to develop the ability to communicate so audiences understand you. That understanding your audience can be a good thing and may require you to network. It also can mean you need to be approachable.

As a data professional, it may be that people are afraid or intimidated to approach you. I want you to set a standard that you are open to conversation, communication, and questions. Allow yourself to be approachable by all. Educate them on their questions if they aren't good questions. Educate people on the data you are working on or with. Educate people with data literacy or analytical

principles. Work to help the literacy of the company to rise. Be approachable to all people!

Allowing mistakes and appropriately addressing them

Is data and analytics a perfect field? Ummmm, no, it isn't. Do people make mistakes with data and analytics? Yes, they do! When you have people involved, perfection may never be reached, but guess what: it doesn't need to be. For a culture to thrive with data and analytics, especially when the majority of people aren't data professionals, you need to allow a learn and iterate world with data and analytics.

Nelson Mandela is a hero of mine, and he has a quote that I may mess up a little, but it goes: "I never lose. I either win or learn." I want this to be the mindset of data and analytical work. Think about it. If the data and analytical work doesn't "win", that's OK, we are learning and growing. We are creating an environment where people are testing and iterating, experimenting, and that's the type of positive business culture we want to create.

Think about this with communication and approachability. We need to be open, have conversations, have learning opportunities, and we need to be approached and approachable, so we are always learning and discussing. My friend and data colleague Brent Dykes says that data and analytics isn't a set-it-and-forget-it world, but an iterative world.

Well, if we don't allow mistakes and address them appropriately, if we aren't communicating and approachable, how are we going to succeed culturally with data? We need to ensure we are allowing mistakes, we are learning from the processes, and we are appropriately addressing them.

As a data professional, allow yourself and others to make mistakes and to address them appropriately. Then, implement

changes and implement learning where needed. This can include yourself, as a data professional, too.

Team outings and celebrations

OK, so this is where any introvert tendencies I have need to be pushed aside and I need to go out to celebrate and be a part of the team outings. Overall, team celebrations can be a good thing for the culture of an organization. And they are good for data and non-data professionals alike to participate in.

Networking is a good thing, and getting to know your fellow coworkers can be fun and allow you to build trust, which of course also contributes to a great culture. As you get to know people, this can be a powerful way to build trust, making everyone be more approachable, and we can learn how to communicate with people, whoever they are. Overall, team outings and celebrations can be a way for a company to get closer and develop a better overall culture.

As data professionals, it may require getting out of your box or comfort zone, but take part in the celebrations and outings. Find ways to network and be a part of these things. Enjoy it as much as you can. Look to help the company grow and look to be a leader and help the culture be a strength of a company.

Strategic and mindful hiring

The right people help a culture to thrive and survive. Overall, hiring the right people to fit into an existing culture is key. As an organization hires personnel, they need to ensure they are hiring personnel that fit the culture and personality of the business. You don't want to bring in a bad apple and have it impact the rest of the bushel. You want to ensure the people that are brought in can

thrive and help the organization thrive!

As a data professional, how do you fit into this scenario? Be a leader and help bring in data personnel that fit into the culture that is there. Be a powerful leader in the data and analytical space for your organization so you can help it thrive with the data and analytical work. Ensure the people being hired fit into the organization. Help them as they are hired to be engrained and developed in the culture. Be that leader!

Data Professionals and Environment, Ethics, and Culture: What Can You Do?

Overall, as data professionals you need to be a valuable resource to your organization's environment, ethics, and culture. There are examples where ethics have impacted an organization negatively. There are examples of cultures where they didn't thrive. There are examples of external environments impacting a business. What you do as a data professional matters.

I am going to include your journal work right now in this section of this chapter, and I will rewrite it later at the end, but let's discuss what you can do as a data professional to help you succeed with the trio we have been discussing. Let's start off with environment.

Data professionals and environment

First, let's look at the external environment. Disruptive external environments can happen. Look at the housing crisis that started in 2007, or look at the global Covid pandemic. Disruptive forces happen that impact an organization. As a data professional, you can help your organization by the attitude and approach you bring to both good and bad external environmental impacts. How you approach the business can help. Are you being a leader, avoiding

the negative talk, and showing a drive to succeed no matter the circumstance, or are you contributing to the fear and speculation? Be that leader.

So, let's go back to your journal activity. Write down in your journal what you can do to help your organization when external environmental factors can impact your business.

For internal environment pieces, again, be the leader. Are there negative internal environment pieces happening? Is there gossiping or negative talk? On the flip side, are there great things occurring and you want to help it continue? Either way, your role is to be a leader. As you watch and find areas where internal environmental things can impact your organization, be a leader and lead by words and example. Be that person who is helping your organization thrive, with both internal and external environmental impacts.

Data professionals and culture

Data professionals, please help your business culture thrive! Please help the organizational culture adopt and adapt to data. My pillars of a data-driven culture are: data fluency, iteration, data DNA, data community, learn fast, and data skepticism. Why do these topics matter?

- **Data fluency** helps to empower people to speak a common language around data.
- **Iteration** means you are iterating on the work. Data work isn't just setting it and forgetting it. You need to iterate on it.
- **Data DNA.** We need data to be a part of the organization and not siloed off. Have it so data is a part of decisions and utilized.
- **Data communities** can exist to help have a place for people to go to discuss data questions and/or celebrate wins.
- **Learning fast is important.** Ensure people iterate and learn from the work they are doing.

- **Data skepticism should exist.** It doesn't mean the data work isn't correct, but are we just taking things at face value or do we question things?

How are you leading as a data professional with your organization's culture? Are you communicating well or developing your communication skills? Are you approachable and are you teaching people where they need to be taught? Are you meeting them where they are? Culture eats strategy for breakfast: what are you doing to develop as a leader and data professional in your organization?

Write in your journal three things you can do to help your organization's culture thrive.

Data professionals and ethics

Overall, data is a space where ethics is a big deal. Trust in data is a big deal. Trust in an organization is a big deal. If an organization is not using data ethically, it can impact the organization negatively. Trust in an organization and data could in theory break an organization.

What do you think you can do as a data professional to help the organization be seen as ethically using data? Well, be a leader and ensure the ethical use of data throughout your organization and externally to your organization. Build data that can be trusted. Be transparent and communicate. Don't allow the unethical use of data to permeate throughout your organization!

In your journal, write down ways you can ensure that data is being used ethically.

Conclusion

Business environment, ethics, and culture matter. As a data professional, you need to understand how you are a part of the

environment, ethics, and culture. Be a leader in your organization on these topics and be a leader on how they tie to data. Don't sit back and wait for others to do it. You take the initiative and drive to do it!

Chapter 6 Journal Assignments

Your journal assignments are to focus in on yourself as a data professional and how you are a part of and impact business environment, ethics, and culture.

1. Write down in your journal your role within business environment, ethics, and culture. Write down what you are doing today to impact these areas and how you can improve and develop to impact these areas more.
2. Write down ways you can be a leader to help drive a strong environment, ethics, and culture. As a data professional, you may not feel you are a leader or have the skills for it. That is OK: write down how you can develop as a leader here and how you can develop appropriately.
3. Write down your thoughts on your organization's current environment, ethics, and culture. This may not be something you have thought of before. Write down and seek to understand these three areas of your business. Study your business's values and goals. Get to know your business even more.

Notes

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7

Navigating the Perils of Data Work in Business

There are different things that can hinder data work within a business. When issues are hindering data work, it can stop data from supporting the business in its goals and objectives. Have you ever come across something that has hindered your work? What did you do about it? As data professionals, we need to help to work to overcome hurdles and things that are standing in the way of the business succeeding with data.

One thing to help data professionals succeed in business is to help them understand the perils that can exist for data work within a business. What may some of those perils be? What about buy-in from the senior leadership and all the employees of an organization? Without true buy-in from the workforce, the data work may stagnate. What about the culture of the organization? If the people in the organization don't want to use data, the data professional can be hindered in their work.

In this chapter, we will cover a few different pitfalls that a data professional can run into in their work with the rest of the business. We will look at the issues that can cause impacts on the data work within the business environment. The areas we will cover (and by no means do I say these are all the issues) are:

- bias within data and business work
- misuse and unethical use of data
- poor investment and buy-in from leadership and throughout the workforce

- poor data, analytics, and AI skills for data professionals
- poor data and AI literacy
- the culture of an organization
- data and technical debt

As we cover these topics in this chapter, in your journal (and yes, you will have an assignment at the end of the chapter), write down thoughts that pop into your head around the perils or challenges you face in your role and in data work, and how you can overcome them. We will cover ideas and/or solutions around the different perils and challenges.

Let's jump in and start looking at these pieces more in depth. Let's build our knowledge of them and what a data professional and, hopefully, a business can do to succeed and overcome them.

Bias Within Data and Business Work

What is bias within data? I like the definition from *The Beautiful Truth*, which basically says that data bias is where the data or information is limited in some way and doesn't represent the full story or isn't fully representative of the population.¹

I want to move further beyond the word "population." I want to say that bias is where the story that the data tells is not the most accurate story that exists. Now, how does bias exist within data and analytics work? How does bias within data and analytical work impact a business?

First, bias can exist in the data through the building and engineering that takes place into the architecture. Think about that. When we take a look at how data is built for analytical or AI use in a company, when it is built, bias can creep into the architecture and engineering and, therefore, flow through to the front-end work that is being done. Then, biased decisions are being made due to that biased architecture and engineering. This can impact the business

as decisions are made that may not be the decision the organization should be making, which obviously can hinder the organization. This may also be a way to lose trust if the bias is found out.

A second way that bias can creep into an organization is through the front-end analytical work of an organization. Humans can be on that front end of the data work and have their own agendas, ideas, and thoughts, and can allow bias to creep into the work.

One such form of bias within this frame is confirmation bias. This is where the front-end people are looking for data to support their preconceived ideas instead of allowing the data to be objective and tell the story. There are multiple ways that humans bring bias to the table. This can be an issue as people use their bias and possibly their emotions towards the data instead of seeing what the data is objectively saying.

This challenge or peril for data work can be immense and tough. As a data professional, your work should be there to help drive the data forward for objective truth. If you are a back-end data professional, like a Data Architect or Engineer, do your best to build clean and trustworthy data so that the outputs from the data are strong and able to be used by the workforce for good, data-driven decisions.

If you are a front-end data professional, then you need to make sure you are building analytics that can be used for objective work. You shouldn't bring your personal biases into the work. If you are helping the workforce to succeed and utilize data for decisions, help them by eliminating biases that can come up as they look for data (think confirmation bias) and help them leave emotion at the door, finding objective truth.

You, as a data professional, can work to help an organization eliminate bias as much as possible and help the organization to overcome this peril or hurdle.

Misuse and Unethical Use of Data

Bias is only one way that data can be misused in an organization. We need to make sure that other types of data misuse aren't happening. The reality is that people can unethically use data to drive work forward for a business.

Invisibly lists three kinds of data misuse:

- commingling
- personal benefits
- ambiguity²

Let's take a quick look at each of these.

- **Commingling:** This exists when a business collects data for one objective and then uses it for a different outcome. That commingling can be a misuse of data and maybe even unethical. If an organization takes a person's data and then uses it for a different purpose without their consent, although it may drive business value, it doesn't make it ok to do.
- **Personal benefits:** This is where an individual looks at and uses data for personal benefit. As Invisibly says, this isn't usually done with malintent. This is where people are utilizing personal data for benefit or gain, whether for themselves or for a business. Taking and using personal data when not for the intended purpose or breaking lines and authorization is not a way data should be used in a business.
- **Ambiguity:** This is where an organization collects personal data but isn't clear on how they will use it. By collecting data without being clear on how it will be used, this can impact the ethical use of data.

Now, let's look at a few examples of where data has been misused. These also come from Invisibly.³

Google and location tracking for advertisers

Google was fined nearly \$57 million in 2020 by French regulators for failing to disclose how it was using personal data. How does that sound to you? Sometimes, we may forget just how much personal data we are giving up to organizations that may want to use it for profit. The misuse of this data can frustrate end users.

As data professionals, we should be wanting to curtail misuses of data within our own organization, even from data professionals themselves, so that trust of data can permeate throughout the entire organization. The impact this can have on the business can be not only financial, but reputational. How many people were happy with the knowledge they were being tracked?

Facebook and Cambridge Analytica

Cambridge Analytica would be another example of what not to do. Cambridge Analytica went bankrupt and defunct. It was misusing the personal data of Facebook's users, who had only given permission for it to be used for academic research. Again, the misuse of data had big consequences. Cambridge Analytica no longer exists, and Facebook was fined \$5 billion.

Again, how happy are people going to be finding out their Facebook personal data was involved in this? I am guessing people don't want their data and information to be misused in this way.

Morgan Stanley

Invisibly mentions that it isn't only tech firms involved in data misuse. Morgan Stanley had an employee access data from roughly 730,000 user accounts, and then try to take that data to a competitor firm. For any business, trust can be lost or worry can exist with

clients when something like this happens. This is a damage done to the business, and they will want it to be improved upon. When people lose trust in something, I am not sure how easy it is to build it back.

These examples of misuse of data aren't the only ones out there, and we as data professionals want to ensure we are not contributing to a lack of trust in data. Data is power, but when that trust is gone, the culture of an organization can suffer with regards to data usage. Ensure you are working to foster trust instead of breaking it down.

Poor Investment and Buy-in from Leadership and Throughout the Workforce

The truth is that poor investment and buy-in from an organization can derail any data or AI strategy. You can have a strong data and AI strategy ready to deploy throughout your organization, but if the organization doesn't properly buy in and invest in that strategy, then you may hit a wall and, worse yet, you may have a short tenure at that company.

Plus, if you as a data professional can't get the proper buy-in and investment, you may find yourself not happy in the work you are doing and not wanting to work in that organization. Your frustration level could be increasing day in and day out. Think about your organization: how would you say your investment and buy-in from leadership and the workforce is going? Do you feel that you are getting enough? If not, what could you do about it?

Think about a lack of investment in the data of an organization. If you don't have the right personnel because they don't give a budget to hire, you may not have good data engineering or architecture, so getting data for analytics may be hard. Think about an organization that doesn't invest in the data literacy of the organization, but

wants to democratize data to people. Without the skills to dig in and use analytics, how much can the organization count on insights? Think about a lack of investment in the front-end data professionals, not given budget for the appropriate tools for success. Overall, we need good investment.

I liken the investment and buy-in to a balancing scale. On one side of the scale, you have the desire of a company to use data. The other side of the scale is where the investment is coming from the organization. If that scale is off, then I am guessing that the organization is not having that much success.

I would think a lot of companies want to harness the power of data, especially larger companies, but that desire has to be balanced properly. An organization can't just hire a Chief Data Officer or group of data professionals, or buy a tool, and think that will solve it. It is ongoing investment and work that is needed.

Let's talk about investment and buy-in from a leadership perspective, and then the workforce itself.

Leadership needs to buy in completely and not just give the data and AI space lip service; it needs to back up its words with investment. This is leadership from the C-Suite to lower levels of the company. Leaders need to have a good grasp of what it takes to help the organization succeed with data and AI. If they don't, then the data professional may struggle.

Data professionals need to take it upon their shoulders to help leadership understand the actual workload that is required to get data and AI to work effectively. Data professionals can communicate and help leaders understand the data side more. They can:

- help increase data literacy throughout leaders in the organization
- help the leadership understand the data strategy, how long it

- will take, and what is needed for the data strategy to succeed
- keep leadership up to speed with the work, any pivots that need to take place, and how it is going
- keep in constant communication with leaders so they are up to speed on the work

Now, leaders may be busy, so how do we keep in communication with them? It doesn't have to be official meetings or long emails. Instead, find channels like Microsoft Teams or Slack to send messages. Send shorter emails with updates. Schedule meetings where appropriate. Or find them in passing in the office if you can. Proper investment is needed for data work to succeed!

One thing a data professional needs to ensure is that they understand what is actually needed for the data strategy to succeed, and the kind of investment too. The data professional needs to be able to communicate with leadership so they grasp the concepts, what is happening, and what they need to do to support and empower the data strategy towards success. If the data professional doesn't know how to do this, then they need to learn.

Data professionals need to learn the power of persuasion and influence as it comes to data investment and buy-in. It can't just be about the technical work; it needs to be a story and persuasive conversation, so people understand, and not just that, but actually buy in to the strategy.

What does buy-in look like for the workforce? Once a data professional has good buy-in and support from leadership, they can enlist the help of leaders to help drive the buy-in across the rest of the workforce. With leaders buying in, the workforce will hopefully have an easier time buying into the value of data.

For the workforce buy-in, the data professional can play the part of educator to the workforce itself. The same can be said of leadership and educating them. In the workforce, an organization

will have various people and roles. The data professional can work to help the workforce understand the data strategy and data work, their place in it and how they can help; they can help drive data literacy. The data professional can provide answers and drive success by painting the picture and helping each individual understand their place in it.

Buy-in and investment is something that can break a data strategy quickly. If a data professional hasn't gained the trust of people and received their buy-in and investment, then the data professional may just watch the data strategy fail. The data professional needs to work to help paint the picture, help people understand.

Plus, they need to show and tie things back to the business strategy. They can't just do technical work. They need to show value and outcomes. Without that, people may not buy in and therefore just go back to their daily jobs, which may include the old way of doing things, which may not be as efficient and/or effective as it could be.

Poor Data and AI Strategy

One thing that data professionals need to do is reflect on their work itself if the data and AI work isn't going well. This can include a poor data and AI strategy. This is one where the peril is on the data professionals themselves to ensure the work can go forward effectively.

What can cause a data strategy to be a poor data strategy? What things can you be looking out for?

First, a data strategy can be poor if the data strategy is not tied to the business strategy. If a data strategy is connected to data work but there isn't a clear line to how the data strategy is supporting the business strategy, then you need to take a step back and reevaluate

the data strategy. If you think of the section before with buy-in and investment, if a data strategy doesn't show how it ties to the business strategy, I am not sure people can expect buy-in. Business leaders want to see their goals and business strategy succeed. A poor data and AI strategy doesn't show how that can happen.

Second, a poor data strategy doesn't include all the proper pieces for success. Things that need to be a part of a data strategy are data governance and management, data literacy, and other items like investment needed, personnel to hire, tools and technology. If a data strategy isn't fully inclusive of all that is needed, or, as Viktorija Diestelkamp says, is "full of buzzwords," then it may not have what is needed.

Third, a poor data strategy doesn't map out the work correctly. Good data and AI work takes time, and so organizations need to have a data and AI strategy mapped out to the right timeline. An organization cannot boil the ocean, especially if it has had years of poor data work or data strategy. So, organizations that are trying to take on too much data work at once can find themselves not fully finding success. They may be partially doing many things well, but not completing or doing enough.

Organizations need to work on data and AI work strategically and do it with the appropriate timing. Data professionals need to work to ensure that the strategy is timed appropriately, and that people understand that timing (this can help with proper buy-in, as they understand what it will take). By putting in a proper timeline, expectations can be set properly, and data professionals won't be held to an improper standard.

Fourth, and finally for us (but these are not the only reasons why a data strategy can be poor), is that the communication around the strategy is not done properly. Yes, as part of your data strategy, ensure communication and change management are part of the process. If you have built a good data strategy, have built a good

timeline, and then don't communicate it well so that buy-in and investment aren't great, what will happen? You may have a poor data strategy that is hindered throughout the organization. And in turn growth and effective implementation can be hindered.

A good data strategy can help drive data work forward; a poor one could break it for an organization as the data work is not successful. Ensure you, as a data professional, have a good understanding of your organization's data strategy. Think about your organization now: do you know its data strategy? If you do, do you think it is a good one? Is it full of buzzwords? Does it tie back to your organization's business strategy?

Write down in your journal thoughts on your organization's data strategy. If you don't know it, read about it and study it. If it doesn't exist, create one and be a data leader.

Poor Data, Analytics, and AI Skills for Data Professionals

One thing that can hinder data work in a business is the actual data, analytics, and AI skills of the data professionals themselves. This may sound funny, but think about your organization and the data, analytics, and AI skills that are present therein. Do you have a Chief Data Officer or Chief Data and AI Officer? Do you have a good set of back-end employees, like Data Architects and Engineers? On the front end, do you have Data Analysts and Scientists? Do you have a good set-up of employees that have the right skills to help drive data, analytics, and AI work forward? Or does your organization have data professionals who all have the same skills?

Analytics work should move forward along the analytics maturity model. If you don't know what this is, look up Gartner's analytics maturity model.⁴ Analytics work should be done across all four levels (descriptive, diagnostic, predictive, and prescriptive) of

analytics and shouldn't be focused in one area or another.

Think about your organization: is it stuck at one level? Potentially descriptive? I would think a lot of organizations do a lot of reporting or descriptive analytics, but may not be doing much else. They may be attempting to do more with analytics and front-end work, but that doesn't mean they are succeeding here.

Overall, organizations may have a shortfall of data, analytics, and AI skills. Data professionals may have gaps in their skills. So, organizations need to take an approach that upskills and/or reskills their data professionals and helps the organization to find overall success in data and analytics, and not be shortchanged for failing to hit areas of the analytics maturity model and data work itself.

In your journal, write about your skills and where you think you can improve, and also think of your organization. If you think there are gaps, write them down and be a leader, looking to help the organization move forward with their data, analytics, and AI skills.

Poor Data and AI Literacy

One of the issues that can exist within an organization is poor data and AI literacy. Not everyone needs to be a Data Scientist, but we do need people in an organization who are confident and comfortable with data and AI.

This peril isn't one to think of negatively; to be honest each one of our dangers shouldn't be thought of negatively, but rather as opportunities.

In organizations, the majority of people usually aren't data professionals by trade and title. Considering this, when an organization is working to have successful data, analytics, and AI work, it needs to keep the need for data and AI literacy at the forefront of its mind.

If an organization has a data strategy in place and is looking to

have this work succeed, it cannot just put data in front of people and say: “Here you go, go do analytical work, find insight, and help us make better decisions and outcomes.” That’s not how it works. If people aren’t comfortable with data, then they may take that work and just go back to how they did things in the past.

With the advancement of a data strategy, there needs to be data literacy work in the organization to ensure an organization can go along the analytics maturity model. To ensure the organization can seize on the power of diagnostic, predictive, and prescriptive analytics, it needs to invest in skills for the organization. It may need to do a data and AI literacy program to move forward so that investments in tools and technologies aren’t hindered.

Now, with this in mind, one thing data professionals can do is find opportunities to be educators and train people on data and AI concepts. Data professionals can help the leadership see the need for investment in data and AI literacy training. Data professionals can ensure when new tools and technologies are deployed, good data fluency and communication is used to help people understand the picture. We need to ensure people are confident and comfortable in their data work.

This doesn’t mean they need to all have the same skills or do the same work, no, but they need to know how to do these things in their roles. Data professionals can help empower people towards success.

Write in your journal how you can help empower the data and AI literacy of your workforce.

The Culture of an Organization

The culture of an organization can impede data work greatly! If the culture is one where people don’t want to use data, then the data professional can face big problems. Without the culture of an

organization getting in line with using data and AI, the data professional can be stopped in their tracks.

There are six principles of a data-driven culture. If they don't exist, then the work can be impeded: data fluency, iteration, data DNA, data community, learn fast, and data skepticism.

Data fluency

The ability of people to speak the same language in an organization is critical. If one of you “speaks data” and the other doesn't, without bridging that gap, the data work can be slowed or not move forward. Organizations need to move forward to help empower data fluency between employees. Create a common language around data.

Iteration

Remember what my colleague Brent Dykes said in the previous chapter. Data work isn't set-it-and-forget-it work, but is iterative. If an organization is just working and leaves the data work to the side, it may not be the right work over time.

Second, if a data or non-data professional works on a project with data and it doesn't turn out the way they want, they need to iterate and pivot, to learn more through the project. Finally, we want to iterate with time as work progresses. We want to ensure the work is still in line with what we want. We need to ask questions, and keep moving the data work forward.

Data DNA

In an organization, does everyone need to be a data professional? No, they don't. We want to weave the DNA of data throughout the organization. We don't need to turn everyone technical or into a

Data Scientist. Instead, we want to weave the use of data into the fabric of the organization, so DNA is a part of decision making and everyone's work.

If an organization is pushing to have everyone be technical or doesn't work on weaving the DNA of data in an organization, then the culture may resist or not use data the way it should.

Data community

Non-data professionals need a place to go to ask questions and succeed with data in the organization. As the organization moves forward with a data strategy, if a good data community doesn't exist, where people can go to learn and ask questions, the culture may struggle. People will not know what they are doing, and instead of fostering a culture of learning and growth, it is potentially creating siloes and walls.

Learn fast

Data and analytics is not perfect, and it doesn't always go the way it should. So, when the organization isn't learning through data and analytical processes, or the organization is making people feel bad through their work, since it didn't turn out the way they wanted, then the culture can be turned off to data and AI work.

Imagine a non-data professional being shamed or told their work is wrong instead of being told they will be celebrated through the learnings they have, plus they can iterate and pivot. If the culture is such that it shames people, the culture may not want to use data.

Data skepticism

In an organization, the culture needs to be one where work can be questioned. If people don't like their work being questioned, there

might be a culture of negativity or pushback. A culture needs to allow questioning and people need to allow their work to be questioned.

Overall, the culture needs to be one where data can thrive and data and analytical work is not hindered.

Data and Technical Debt

One thing that can impede data and analytical work is the idea of technical debt. Data and technical debt is essentially where organizations create debt by not doing things properly for shorter work or in lieu of doing it right.⁵ How can this be a danger for data work?

The reality is, as organizations pile data work on top of data work, or organizations are putting out fires versus doing proactive work, then the data and technical debt can grow. Playing catch-up can be hard! Think about how this can impede the data work. If you are always playing catch-up, you may not be able to in the end. This is like collecting technical debt, but we are collecting data debt. Not having good strategy and processes, you can find this impedes the data work.

Now, what does a data professional do if they find themselves in this situation? Don't try and do too much. Don't try to boil the ocean. Instead, take a smart and proactive approach to tackle the debt step by step. You don't have to do something big; you can find a process or use case and then go. Then, go again. Then again. The process can repeat itself. Don't try to solve problems overnight. Work systematically to improve your work while doing new work in an effective manner.

Conclusion

Overall, there are many issues that can impede data work in an

organization. I don't know if the list we covered in this book can cover all areas of peril, but hopefully we are setting you, the reader, up successfully to find the gaps and improve upon those. Let's tackle a good journal assignment so you can find areas to improve yourself.

Chapter 7 Journal Assignment

We have already spoken about journal assignments in this chapter, but let's make sure you have your assignment.

1. Look at the different perils that are written about in this chapter and write down how you see these in your organization or data work. Then, write how you can help to overcome or find success with these perils, whether personally or organizationally.

Notes

- 1 The Beautiful Truth. What is Data Bias? 28 July 2023, <https://thebeautifultruth.org/world/what-is-data-bias/> (archived at <https://perma.cc/D6K6-V5XK>)
- 2 Invisibly. 7 Examples of Data Misuse in the Modern World, 06 August 2021, www.invisibly.com/learn-blog/data-misuse-7-examples/ (archived at <https://perma.cc/Z3DS-3VMF>)
- 3 Invisibly. 7 Examples of Data Misuse in the Modern World, 06 August 2021, www.invisibly.com/learn-blog/data-misuse-7-examples/ (archived at <https://perma.cc/Z3DS-3VMF>)
- 4 M Desai. Understanding the Analytics Maturity Model, Medium, 05 March 2022, <https://medium.com/@milind.bapuji.desai/understanding-the-analytics-maturity-model-84982836b107> (archived at <https://perma.cc/74EJ-4YC5>)
- 5 ProductPlan. Technical Debt, www.productplan.com/glossary/technical-debt/ (archived at <https://perma.cc/EV87-9B86>)

8

The Power of Networking and Stakeholder Management

Networking and stakeholder management... Is this something you have thought about for yourself as a data professional? If not, why not? Networking and stakeholder management can be a great key to your success with data and analytical work. If you are isolating yourself, you may be hindering your opportunities and your work itself. Instead, creating collaboration and understanding your audience can help you succeed.

Another question to ask is: what kind of benefits does networking provide to a data professional? Can you think of any? What can networking do for you? How can stakeholder management empower data work in an organization?

In this chapter, we will examine the power of networking and stakeholder management. We will discuss influence and client relationships, both inside and outside your organization. Yes, you can have internal AND external customers. Managing relationships and expectations can be a powerful thing once you understand these relationships and how to interact with people more effectively.

A therapist taught me once something to the effect that expectation can cause frustration. Are you placing unrealistic expectations on your customers, or do you feel unrealistic expectations are in place for your own work? If so, what can be done here? If expectations and understanding aren't set and determined effectively, frustration and lack of trust can occur in the data world. As data professionals, networking and creating

powerful relationships and then managing stakeholders can have an impact on your data work. In order for data work to succeed, we need these two areas to help make progress.

Here, we will discuss what networking is and help you to understand how you can network better. We will talk about influence in this chapter and how you can learn to communicate better. I was a guest on Malcolm Hawker's podcast, *CDO Matters*, and we spoke at length about how persuasion and influence are a key part of data work.¹ The ability to do public speaking, to speak persuasively, and to sell things can be a great support to data and analytical work. We will look at public speaking and how to improve at it.

Finally, we will discuss client relationships, how to communicate with your clients, and how to build a positive relationship so the data work you are doing can move forward. Let's jump in!

Networking

When you think of networking or building your network, what comes to mind and how do you define it? A network is your community. It is those you can turn to for advice and it is those from whom you learn. There's a definition from Business Queensland which describes networking as interacting and engaging between people for mutual benefit.²

I want to expand beyond this. It needs to be sincere. People need to be able to be authentic. Don't just network so you can gain from those you network with. Network and discover how you can help each other. Where might this help you in the data space?

First, how many data professionals are setting up regular meetings with various people in their organization to get to know them and to learn how they can help them? Is this something you do regularly? Are you finding those in your organization who you

don't know and reaching out, setting up a coffee or tea chat, or a lunch? One thing you can do as a data professional is work to network and communicate with others in the organization. Genuinely find out how you can help them and what needs they have. Find out how you can, then help them succeed in their roles. Be genuine and authentic. Be yourself. Set up time to get to know others, and then help them.

Second, how many data professionals are reaching out to clients or attending customer calls and learning about the data needs and desires of the customer? Is this something you do or is a part of your work? If not, schedule it. Get to know the Sales team and ask them if you can attend calls. Get to know the marketing group and attend their meetings. Overall, do what you can to learn and grow and become a part of these teams.

Developing and understanding the business needs of the different internal and external groups you interact with is key. By understanding better about what they are doing, you should develop the skills to understand how the business is operating and be better able to look for ways for the data world to support the internal and external customers you have.

Now, how can you get better at networking? For me, this can be a little tougher because of my introvert tendencies, but I am good with people. I think that no matter your personality, you can find how to succeed with these things. Again, this might not be your favorite thing, but you can find ways to network, to build relationships. Find them and succeed.

What tips can you follow? One thing we will discuss here soon is communication and developing communication skills which may help you network better; but beyond communication, what can be done? For me, the introvert, my ability to communicate is a great strength to me. I am able to speak on stage and share messages. I am able to communicate with people. You may not think you can,

but if you work on it, you can too.

Here are some tips from a couple of sources adapted from the University of Maryland, Baltimore County,³ and BlueSteps:⁴

- **Make sure you prepare:** Take the time to prepare to network. If you are going out to coffee or lunch, write questions down, maybe view the person's LinkedIn profile. Take the time to prepare. Come ready to learn and then offer help.
- **Ask questions and ensure you are listening:** As with the first one, make sure you prepare and have questions ready. One key thing to do is actively listen. Ensure you are not distracted. Listen actively and ensure you have an understanding of the conversation. Repeat back what is said, or ask clarifying questions if needed.
- **Stay in touch with your network regularly:** Make sure you are staying in touch with your network. Don't reach out to someone and then not reach out again. Don't forget to check in with your network. If you actively listen and hear about something important coming up from the person, then reach out and see how it went or whatever question is appropriate.
- **Present yourself well:** Ensure you are presenting yourself well. Ensure you are yourself, but make it your best self. Be authentic. Shake hands if they are comfortable. Take the time to present yourself well. This may be in appearance (but remember to be yourself), or it may be in how you communicate things with people. Be authentic, bring yourself into the conversation. Bring out your best self.
- **Ask for help:** If you have networked with someone and they have a skill that you could use, ask for help! Ask for their advice. Ask for them to teach you.
- **Pay it forward:** Again, don't just network for your own benefit. Take the time to pay things forward. Give of yourself

and don't necessarily expect things in return. Take the time to help others.

Now, let's dive into an area that can help you with your networking: communication skills. How many of you feel comfortable with your communication skills? How many of you are comfortable public speaking? Do you enjoy it? How many of you like to reach out and communicate with others and set up a coffee chat?

If this isn't something you are comfortable with, let's help you develop skills to communicate. You may not ever be totally comfortable with communication, but let's develop skills which might be able to help you develop more confidence.

Communication is something that we can define as not only taking place between two people in conversation, but also through a Teams or Slack channel. You may be communicating through email or a phone call. You may even be communicating on a stage in front of an audience. Think of communication as conveying thoughts and/or ideas to an intended audience.

One thing to note: with communication, make sure you are listening well to the one communicating with you. Don't only seek to be understood; make sure you are a good listener.

How can you benefit from the thoughts above? Let's take a look. I've added in some of my own thoughts, plus what I draw from Harvard University,⁵ BetterUp,⁶ and Manpower Group:⁷

1. **Be authentic:** Make sure you are yourself. Don't force anything into your communication work. Be you. Sometimes, people can tell when someone is not genuine or is being fake.
2. **Listen:** Make sure you are listening. Communication is two-way: the speaking and the listening side. Make sure you are listening to people. Don't be thinking of your response as you listen. Listen genuinely and then respond. It's OK to sit back and say something like: "Let me think for a second before I

respond.”

3. **Take notes:** Do you take notes as you listen? First, let the person know you will be taking notes, and second, utilize those notes. Where appropriate, build things from your notes into your communications. Where appropriate or needed, give credit to the person who inspired that piece.
4. **Treat everyone equally:** Ensure you are treating everyone equally and with respect. I am not sure who said it, but: everyone has a story to tell. We can learn something from every single person we meet, even if it is just that person’s hobbies. That’s wonderful. Be respectful and treat everyone the same.
5. **Your demeanor matters:** Be positive and communicate in appropriate ways with the audience. Different scenarios can dictate different ways to communicate. Make sure the scenario is appropriate for the situation.
6. **Understand your audience:** Do you understand who you are communicating with? If not, take the time to get to know who it is you are speaking to. Take the time to prepare ahead of time, and ensure the message you are going to share is appropriate for your audience.
7. **Build your emotional intelligence:** You need to understand yourself and others. Ensure you are improving upon your emotional intelligence. Don’t just study the technical, but understand people.
8. **Develop a workplace and individual communication strategy:** To help you build confidence in communication, have a strategy in place. The book *Legacy* by James Kerr about the New Zealand All Blacks rugby team discusses how structure helps strategy.⁸ Have a good structure. I think we may have all set goals at times and not accomplished what we wanted. Maybe our structure wasn’t a good one. Ensure your

systems are there setting you up for success.

9. **Keep it clear and concise:** How many of us like long, drawn-out communications? Well, if you don't like it, do you think others would like it? Ensure simplicity and that you are leaving out ambiguity.
10. **Context matters:** Context matters. In your communications, ensure you have context in place to help whomever your audience is, from a one-on-one to a large audience. Set the stage and use context.
11. **Communication channel:** What is the best way to deliver your message? Is it a text, email, in-person conversation, or a Slack or Teams message? Ensure you are delivering the message in the way in which your audience wants to receive messages. Maybe you will learn a person's communication likes in getting to know your audience.
12. **Be approachable:** Have you ever had a conversation with someone who wasn't approachable? It is important to ensure you are open and approachable. Don't give off a vibe that you don't want to talk to someone. Help everyone you communicate with feel comfortable.
13. **Understand your body language:** As with being approachable, pay attention to your body language. Ensure you are friendly and giving off good, confident body language.

Overall, communication is one of the greatest skills you can develop in your career. Also, it helps in your personal life. With my career, my success may be directly correlated with my ability to speak. You don't necessarily have to get comfortable being on stage speaking in front of an audience, but develop skills to communicate well.

My ability to communicate well could possibly be the main reason I am where I am today. With networking, ensure you are developing your ability to network and communicate.

Influence

When you first read that word, what comes to mind? What does influence mean to you, and why do you think I would have included it in a book about business? Well, I want you to become a better salesperson.

Why? Because, people who are not data professionals and may not be comfortable in the data and analytics space need to understand the power of the data and analytics work you are doing. They need to understand the importance of the work, the strategy and vision, how your work is bringing value, and how they in turn may be able to use the data, analytics, and AI work that you create. So, what can you do to improve your influence/sales skills and help drive the vision and strategy to success?

When speaking with Malcolm Hawker on his podcast, we spoke about the next generation of the Chief Data Office. What do I mean by Chief Data Office? Think of this as the data function in an organization. One of the things we need to understand is that a key skill or task of the Chief Data Office is to drive the message, drive persuasion, and drive the marketing/sales of your work in the organization. We need the culture to understand the work and want to use it. Here, we need internal marketing and persuasion to exist.

So, task number one is for you to learn about Sales and Marketing and how these functions work. Let's look at a few ways we can improve on our persuasive and influential communication.

To do this, I will take a few things from The Soft Skills Group and an article titled "Closing the Deal: Persuasive Communication Tactics Every Salesperson Should Know."⁹

Building rapport and trust

In this article, the first thing mentioned is building rapport and

trust. Why would this matter? First, how many of you just believe everything a person you have never met tells you? I hope none! I also hope you question people who you do know, and make sure that you have a healthy skepticism towards things. It doesn't mean what they are telling you isn't true, but, as we are working towards good data literacy, question everything.

But, with those you are working with in your organization, build good rapport and build trust with them. People may have been burned with data before, and may not trust data work. So, be the leader who builds rapport and trust and helps the data work proceed forward.

Active listening

Another thing individuals should do is actively listen. Don't go to a person and just "tell" them things. Listen to them and learn from them. The Dalai Lama said "When you talk, you are only repeating what you already know. But if you listen, you may learn something new."¹⁰ What a good quote!

Storytelling

Make sure you have storytelling in your persuasive speech. In the article, it calls this "Storytelling for Impact." Don't just use data points, use stories, bring narrative to the discussion. People are going to resonate more with stories verses hearing data points and numbers. Bring things to life!

Effective follow-up

Don't just communicate with people and leave it at that. As you are trying to share the vision, trying to push things forward, make sure you are providing a space for them to talk to you about questions

and ideas. Also, ensure you are providing effective follow-up on what you shared. If you are providing data to them, ask them how it is going and if they have any questions on what you provided. Create a continuing line of communication.

For my career, the ability to build a rapport with people may have been a natural thing for me. I can naturally communicate with people and I think they may feel they relate to what I am saying. I feel like I am able to do storytelling quite well. I have had it before where I was told not to use too many personal examples in my communication, but I feel bringing in personal examples is a good thing, as people can relate to them.

It is important to make sure you are finding ways to build rapport and trust. And at the same time, make sure you work to be a good active listener. Don't just listen to respond. Listen to learn. Make sure you can tell good stories and help convey messages well. Finally, where needed, ensure you are following up. If you commit to follow up, do so. Make sure people can trust you when you say you will follow up with them.

Client Relationships and Client/Customer Success

Remember the Customer Success Manager role we discussed back in [Chapter 3](#)? According to the Customer Success Association, customer success is a long-term business strategy to maximize success with your customers/clients.¹¹ Now, not all businesses may have an official strategy for this. But, some organizations will, and some will have Client or Customer Success teams. Their role is to manage customers and look to maximize that profit or success.

For a data professional, who are your clients/customers? Well, they are those in your organization that you are serving, providing data, analytics, or AI for. In your organization, who are your clients; can you think of them? Who are you providing work for on a

regular basis? What can you do to help with your client/customer success and relationships?

Audit your work

When was the last time you did an audit of your work and what you are providing for your clients? Do you do work where you don't know who is using it, or why? If you don't know what it is being used for or why you are doing it, maybe take a step back and ask if you should still be doing it.

Maybe you have a distribution list for the data and analytics work you are doing. Set up meetings with your audience. If it is a longer list, you don't need to set up meetings with them all. Maybe take a look at the most important on that list and meet with them.

If you decide to make changes, make sure you communicate the changes and don't surprise your audience with brand new work. Take the time to network and communicate with those on the list, even those who aren't necessarily going to be in meetings with you. Ask them what they are working on, how they are using your data, and how the work could be improved so they get more value out of it.

You may find you have the ability to stop doing some work, and you may find how you can provide more value for your work and the organization. Take the time to take a step back, evaluate and understand your work.

Be proactive

Don't sit back and wait for things to be given to you. Don't wait for your customers to find something wrong in the work or need help; be proactive. If you are sitting back and waiting, you may set yourself up to fail. This may cause more fires to be given to you, or

you may have an abundance of work hit you quickly, so then you start to feel overwhelmed and frustrated. This frustration may be directed at your co-workers, but in reality, maybe you could have been proactive and helped avoid this situation.

One thing you can do is set up regular meetings with your customers and be proactive in your work with them. Do these meetings need to be long? No, not necessarily. Do they need to be formal? Not necessarily. Have you heard of coffee breaks or chats (I prefer tea)? Go ahead and set them up. Get away from the desk. You can do a virtual coffee chat if desired. Take the time to meet with people, even doing lunch if that works and is appropriate.

As you do, you can work on your relationship with them, get to know them, network with them. Build a good relationship by being proactive.

Provide personalized support

How can you provide personalized support without getting to know your customers and building relationships with them?

Now, this doesn't mean you have to say yes to everything. You shouldn't say yes to everything. Instead, you need to learn the word "no" and understand well how the data is supporting the business. If a request doesn't align with how it will support the business, communicate that and see if there is a different solution. Provide good, personalized support.

Establish clear measurements and metrics of success

One thing that data professionals need to be doing is establishing clear measurements and metrics of success. As a data professional, you should be helping the client/customer understand how to use data and how to measure it.

Data professionals should help the client set the measurements and help to make sure one is not trying to boil the ocean or take too much on. If they don't, the data professional may be set up to fail.

Be an advisor

Who are your customers and do you understand their vision, challenges, and so forth? Data professionals should provide that personalized support, the proactive approach, establishing clear metrics, etc. When a data professional understands the needs and strategy, understands business principles better, then they can act as an advisor.

If the customer needs training on the data, then work to help them. If they are looking for help on how to utilize it, then help them. Be an advisor to your clients/customers.

Conclusion

Overall, as a data professional, you should work towards good networking and stakeholder management. Data professionals need to ensure they are networking in the business, they are influential and persuasive in their communication, and they are managing the client/customer relationships they have.

Chapter 8 Journal Assignments

For this assignment, let's do something to help you succeed with networking and stakeholder management.

1. Your first assignment is to set up time to network with people within your business. In your journal, write down a list of people or areas of your business that you can network with. If it is areas in your business, then find people in those areas. Now, with that list and your calendar, block off time to set up time to meet with people, whether in person or virtual. Finally, in your journal, you can set a time period to do this for, say

for three months then take a break, or you can say “ongoing.” But, find people to meet with and set up time to meet with them.

2. Write down areas of your persuasive or influential communication that you can work on. Using the ideas in this book or found elsewhere, write down the areas of your strengths and weaknesses and what you are going to do to improve. If you don't know your strengths and weaknesses, then ask someone; maybe your boss or a mentor or someone you trust.
3. Really start to build out your client relationship or success strategy. What can you do to improve on these things? You can start your own personal strategy. Make sure you put structure around your strategy, like from the book *Legacy* by James Kerr, and put a timeline around your strategy. Then, get to work.

Your journal should be a good partner for you. I hope you are taking notes in it and completing your assignments to improve your work.

Notes

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9

Communication and Data Storytelling

A Key to Unlock Success

OK—how many of you reading this want to talk about communication some more? Well, sorry if you don't, but it is a pretty important skill. Let's dive into communication through a powerful thing called storytelling. Communication is key to success in a career and in data, analytics, and AI, and can help a data professional work better in a business. If a data professional is just isolating themselves and not communicating with people and their audiences, then that data professional is likely to be hurting their career and hindering data and analytical work in the organization.

We have spoken about communication, though, and now we are going to go beyond just communication and dive into more areas. In this chapter, we will be covering the following areas:

- Types of communication: email, messaging channels like Slack or Teams, presentations, and vocal communication.
- Data storytelling: let's dive into this in a more in-depth manner.
- Public speaking: I want you to think of public speaking in different ways, and not just the big stage. One-on-ones, team meetings, or big stages. You can view these all as public speaking.
- Understanding your audience: I will provide some tips on getting to know your audience better.

Communication is key. I would think some of my success is because of my ability to speak well in public.

Take the time to have your journal handy and write notes beyond your end of the chapter journal assignments. Allow your communication skills to become a strength for you in your career.

Communicating Through Different Channels

There are various ways of communicating with your audiences; don't forget to improve on your skills in these different channels. I am going to go through four different types of channels, what they can be used for, and how to make the most of them:

1. email
2. messaging channels, like Slack or Teams
3. presentations
4. verbal communication

Email

Yes, email has been around for a while now and we may all use it in our daily work, but how can we improve email communications to our audiences? Why is this even important? Well, we aren't sending letters in the mail to our colleagues, and email may be a quick way to convey a message to your audience. That's a good thing. Emails can be a good way to convey messages without having to set up another meeting.

Here are a few tips to improve in your email messages:

- **Keep it short, simple, and to the point:** How many of us like to open an email and receive a novel? If we were to survey a group of people, I would guess that most people would say they have busy jobs. That's OK if you do have a busy job. Utilize email communications effectively and appropriately,

helping the reader/audience not be overwhelmed with a long email. In emails, put it in a concise manner, possibly with bullet points at the beginning. Don't put in lots of technical jargon or terminology that the audience may not understand. Plus, you don't need to explain through all of the work. You can offer a few bullet points and then offer to walk through the analysis or work further in a meeting or provide it as an appendix or attachment in the email. You can note that it is available. But there's no need for the initial email to be long.

- **Don't over-communicate through emails:**¹ Do you like long email chains going back and forth? Maybe not and others may not, either. If it needs to go back and forth, setting up a 15–30-minute conversation with the person you are writing to may be more appropriate. If a group email, maybe offering a meeting for those who want further information would be a good plan.
- **Don't hit "reply all":** Don't reply all to large group distribution emails unless necessary. Sometimes this can accidentally happen, but don't do it on purpose unless necessary. If you are wondering if it is necessary, check with someone.
- **Use the subject line effectively:** As Mind Tools reminds us, it is important that you use the subject line in an effective way.² Make sure you are using that subject line to target what you are writing about. I hope you can set the stage through the subject line, if possible.
- **Ensure you are using the right tone:** Mind Tools discusses that when communicating in person, you have visual cues that can assist you in your communication. You may not have that in your email communication. If you are unsure if your tone is a good tone, you can ask someone to help you by reviewing it. Take their feedback and, if needed, change up your email to

improve upon it.

- **Context matters:** OK, context may be key! Does your email convey to your audience correctly the theme, needs, or “why” of your email? Ensure you are providing context to your audience.
- **Be creative!** Bring yourself and creativity into your email communication. Your email doesn’t have to be boring at all; bring in creativity (one of my Cs of data literacy). We will talk about stories later, but can you bring in data storytelling? Can you bring in personal stories and make things applicable to the audience? The human touch may do more for your audience than just data points. Helping the audience understand how this applies through a human example may help them to understand the email better, if it is around data.

Overall, email is a tool for a data professional to communicate. Be smart with email and don’t over-communicate.

Now, even if you don’t want to email, sometimes it is best. How may you determine that? Know your audience. Maybe your audience doesn’t want a call and an email is great. Sometimes, though, they may want that call. But can you utilize email to get a message across? Can you use the email to set up a meeting invite like with Outlook? Utilize the tools at your disposal to help you communicate effectively.

Messaging channels

Do you have a messaging app your company uses? Is it Slack or Microsoft Teams? These messaging apps are ways for individuals and organizations to communicate easily and useful for quick messages.

How can messaging be effective for a data professional? The ability to quickly ask questions to a customer can be a good way to

help the work move along faster. Imagine you are building a dashboard and want clarification. Does it make sense to set up a meeting? Maybe. Does it make sense to message the person for a quickly reply or clarification? That may be a good solution. Data professionals can use messaging channels to simplify work, maybe eliminate meetings and avoid flooding people's inboxes with emails.

With messaging, there should be an etiquette for these tools, too. Have you ever received a very long message in these apps and not wanted to read it? Maybe you didn't even bother to read it.

The reality is, these apps are good tools for the individual and organization, but for you and your career, learn how to use them well and effectively for your organization, work, and team. We won't cover every piece of information possible for these apps in this book, but learning how to use them effectively can be a way for you to communicate better in your organization. Let's explore ways to do that:

- **Simplicity.** These apps are ways for individuals and organizations to communicate quickly. Keep messages simple and to the point. Don't write novels in your messages. Being able to convey points simply is a skill to develop not only in a messaging channel, but in other communications too, like we discussed with email. People may have busy schedules and lives, they may be on a project or something else, so keep messages simple.
- **Timing.** Timing matters. The human brain cannot multi-task, so if a message comes through in a messaging app, it can divert a person's attention. Doing so can get them off their game, maybe disrupt them if they are in the zone. Ensure you aren't bombarding people with messages. Before you write a message, think through if you need to send it right then, or if it could wait. Allow the timing and messaging to be such that you

are writing at times that are appropriate. Now, can you tell if someone is busy? Well, maybe not, but what if their messaging app indicates they are in a meeting, like Microsoft Teams can do? Should you message then, or can it wait? If it is an emergency, of course, do so, but the reality is, a lot of messages may be able to wait. Remember, you are communicating with someone else who has their own role and job. Work on timing, and you may need to develop some patience in your messaging.

- **Communities and teams.** Use these channels for good group messages that can save meetings and time. Does your messaging app have the ability to create groups, communities, or teams? If so, then do it. Use it as a way to share information and messages. Need to share files with a group? Yes, email can work, but if you can share files through the messaging app, do it. Allow the tool to be your partner and help you in your work.
- **Appropriate communication.** The messaging apps can be a place of fun, conversation, and such. If your culture is one where joking and fun are done in the app, then allow that to be. Be appropriate and yourself in your messaging.

Messaging apps can be a good thing in an organization. They can be quick, easy ways to communicate with others. Don't bombard people with messages but utilize the tools at your disposal to drive successful communication.

Also, this could be a tool to help networking in your organization. A quick invitation for a coffee or tea chat or lunch can be sent through them. Of course, make sure you introduce yourself, if you don't know the person.

Presentations

OK, how many people like to give presentations? Do you like to stand up in front of a room and give a presentation on this topic or that? I am guessing a lot of people don't like giving presentations, and that is OK. I am not going to write to you and tell you, you have to like giving presentations. That is not the point of this. You can be yourself and not like presentations.

What needs to occur, though, is that people need to get good at presenting. In the data space, this can be important as one is conveying information around data and analytics. The audience might not have a background in data and analytics, therefore they may need education and help to understand the information more.

A data professional's ability to teach while presenting and to not overcomplicate things may help the audience to understand the message more. The ability to present, share, and teach, while not overwhelming the audience or losing them is something data professionals should be developing if they don't already possess this skill.

Let's look at ways to improve your ability to present. These tips come to us from the University of Sheffield:^{[3](#)}

- **Know your subject:** One thing to do to present well is to know your subject. Understanding your subject well can empower you in your presenting. One, this can demonstrate your expertise to the audience. In presenting, you want your audience to trust you. By knowing your subject well, you can be a subject matter expert on the topic. You are able to answer questions. You can be trusted on the topic.
- **Know your audience:** You also should know your audience to present to them effectively. If you are sitting in a room, presenting to a technically skilled audience, then you can use more technical terminology. If you are presenting to a room of non-technical people, then using technical terminology may

lose your audience. You don't want to bore your audience or have them lose their trust in you. Ensure you are understanding the people you will be presenting to. This can also be impactful if you are going into more detail or if a high-level presentation is needed.

- **Take your time:** You don't need to rush through your presentation. Keep things simple and to the point, but don't rush it. Also, a timed pause can be a good thing. If you are asked a question and you don't know the answer right off the top of your head, that's OK. Take the time to pause, even saying "Give me some time to think on that." Don't just push your way through an answer, but be constructive and smart in it. Remember, we want the audience to trust us and if we are faking through an answer, we may lose that trust. Also, don't rush through your presentation; find a good pace to speak at as you present.
- **Practice:** OK, do you like to present? If not, what can you do to get better or more comfortable at it? Practice! Take the time to practice your fundamentals. Present in front of a mirror. Ask to present in front of someone else. You don't even have to practice in front of someone, you may just ask to walk through your presentation.
- **Structure:** Keep things structured. If you want to present well but aren't comfortable presenting, if you don't have a structure, you may really struggle as you may be all over the place. Develop a structure and follow it, with the ability to be flexible if the topic or questions go elsewhere. Here is a good reason to be a subject matter expert. When you are presenting, if questions come up that are on or off topic, having the knowledge in your head can empower you to be more successful with your presentation.
- **Find a mentor:** This one comes from me and not the

University of Sheffield. Do you know someone who is good at presenting? Well, take the time to network with them and get help. Ask for tips and tricks. Turn to someone who can help mentor and teach you things about presenting. You don't have to go alone in your journey to improve this communication or other areas. Find people who have the skills you are looking to develop and ask for help.

- **Stay on topic:** Another tip from me is staying on topic. You may have those who distract or ask questions that may divert from the topic. That's OK. If it makes sense to be on that new topic, answer and stay there. But, don't let the presentation get away from you. Develop the ability to bring the topic back around, and if it is a question that you don't want to or shouldn't answer at that time, then tell them you can take that question offline or table it.
- **Command the room:** The final tip from me. Command the stage, room, or area you are presenting in. If you want, go and see the room before you present and learn its layout. But, you are presenting. Use the space wisely.

Overall, presenting can be a nervous thing for people. Develop skills to present. I am not saying you have to love it or make it your favorite thing. Instead, develop your skills to be comfortable here. For me, I am not the most skilled at building good decks for a presentation and that is OK. Lots of people say don't make your decks too wordy. So, I just build my decks and present.

What is a skill you may or may not have when it comes to presenting? You have the opportunity to utilize your strengths, and you can improve your gaps.

Verbal communication

I am not going to write much here. You can think of verbal

communication as presenting or public speaking all the time. If you are meeting someone in the hall and you want to chat or discuss something, you are presenting and/or public speaking.

Follow sound advice here from the presenting side. Have good communication skills. In each communication, be yourself and present yourself well. Don't lose trust in you from a simple conversation. We will dive more into public speaking (which is similar to presenting) later in the chapter.

Data Storytelling

We are not going to write a long section here on storytelling, as you can find books and follow people within this area. Brent Dyke's book *Effective Data Storytelling* is one to check out.^{[4](#)} *DataStory* by Nancy Duarte is another you can look up.^{[5](#)}

Instead, let's discuss the power of stories with regards to data and how stories can help empower data and AI work in a business. In the world of business, how many people want to read technical jargon or how many relate well to those details? Instead, bringing in the personal stories can help people relate to them easier. Maybe a story can help spark someone's thoughts and ideas, driving them to find a story that works for them.

Let me share a story that is personal but can help drive home the importance of analytics.

One summer, I was registered to run the Speedgoat 50k, a race in Utah. I have done this race multiple times and this story comes from one of the times I ran this race. I went to race, and I struggled big time. I don't know if I have ever wanted to quit a race more in my life. During the race, climbing became a struggle for me and there is certainly some hard climbing in this race. There is over 11,000 feet of vertical gain. I struggled on the climbs. I didn't miss cutoffs and I kept on pushing (my kids were going to be on one of the peaks, so

that probably helped me with continuing). Some races have cutoffs, meaning times you have to make it to an aid station or you are cut off from the race.

In the end I finished, but it was a data point that helped illuminate the problem I had in the race: possible dehydration. My watch had estimated I had sweat loss of over 21lbs. Now, don't get me wrong, I was eating and drinking, but the race is in July in Utah. It can get warm here. So, I have a data point. The descriptive analytic is the sweat loss. The diagnostic analytic could be dehydration, the "why" could have been the summer sun/heat.

I can then use this information to make a prediction that if I were to ever do this race again (although sadly, with my foot, it looks like my ultra-marathon days are done), I could prep differently or put a plan in place to work on my hydration.

Here, I have a personal story where I use three levels of analytics to help me. I can create a personal story around this and people may receive the story better, finding it resonates with something in their lives. I hope people who are not data professionals can find areas of their lives where data is maybe more prevalent than they realize.

Here is another story of me not being smart in using data. One year, I was able to go to Finland in November to speak. The group bringing me out even took me running in a national park and we did a sauna after. You know what this guy didn't pack for himself to go to Finland? A good, warm coat. Nope, I didn't do it. I could have used a data point, a weather app, or I could have read about Finland's weather in November, and within what I was reading, maybe a data point or multiple would have pointed me to bring a warmer coat. Yes, it was not warm. I did buy my wife a coat there and, still, didn't intelligently buy myself one.

I also have two stories I can share about the misuse of data by a few people at a financial institution. In one situation, a senior

leader changed the data in a presentation and then shared the old, incorrect data. Another time, someone decided to not use the data that the dedicated team had pulled, and instead asked someone else to get data for them. In both cases, a poor result followed. Herein, I can create stories to share for listeners.

Why would I want to share these scenarios? How do stories about people at financial institutions doing poor data work pertain to data professionals? Well, if you are a data professional working with non-data professionals, we need to remember our audience and their skill levels within data, analytics, and AI. If we build stories assuming that they have the same skills as a data professional, we may create a scenario where our audience is not understanding what we are sharing. The information and/or insight we may be lost.

Non-data professionals may not have an interest in data. So, by providing them scenarios where they can relate to the data more easily, hopefully, we are pushing forward the overall data and AI strategy.

Here are some things you can do to help your data stories. Note, this is not how to build your data stories. Again, you can find resources for your help in crafting data stories, but here are what we can call “other” tips to help out:

- **Include “what’s in it for them.”** As part of your data story, help the audience understand the benefits that will be coming to them because of what you are sharing. In my ultra-marathon story, if I am sharing the data side of it, maybe someone in my audience is going to run a race and I can help them understand that using data can help the prep or plan for a race.
- **Include examples that tie to your audience.** If you are speaking to a Marketing team, would you want to include

Finance examples? Or, if you are speaking to a Sales department, are you wanting to include IT examples? No. Instead, include examples where the audience can gather in and understand data examples from their own business area. This goes for industries, too. If it is a healthcare organization, maybe provide an example or more from healthcare. If you are speaking to a retail organization, like I have spoken at Nike, maybe include retail examples. At Nike, it could be cool to include a sports example or two.

- **Chat with the audience beforehand.** Yep, here we are back thinking about networking again. Get to know your audience before you have to share a data story with them, if you can. Maybe you find out someone in your audience likes golf, so a golf data scenario comes into the story. Maybe your audience just had a team activity, and you can tie that into a data story. Find ways to personalize your data stories for the team.

Overall, data stories matter. Stories are human. In the book *The Spirituality of Imperfection*, the authors explain that stories are how humans live humanely.⁶ Data and AI can be overwhelming, intimidating, and it can be an “unknown” for people. What if we make it human again, so people are comfortable using data? Use stories to help you find more success in your business endeavors.

Public Speaking

How many of you, when invited to speak in public, are filled with dread, nervous, or don't want to do it at all? I think a lot of people don't want to do public speaking. I enjoy it and have fun with it, but a lot of people don't.

How can we help you with your public speaking? Let's consider public speaking to be not only on a stage but in a conversation one-to-one with someone. The audience size doesn't matter: one,

multiple people, or many. You can create a comfort and confidence in your speaking. Let's do this.

Dress the part

This may sound surprising, but if you were to do some public speaking and didn't feel confident in how you looked, you may lose confidence. I saw a social media post about a man who dressed better each day, and he was describing how it improved all kinds of things for him. I don't remember the details, but I am guessing it gave him more confidence or people took him more seriously. That post may have been the inspiration for this section!

When you have to speak, present yourself with confidence. If you have a style you like to dress in, well, dress in it as long as it is acceptable for the event. Be yourself.

Know your subject

This may seem like an obvious thing, but I will go further with it here. Knowing your subject can pertain to various kinds of communication, including email and/or messaging. If you want to speak with comfort and confidence, know your subject well and deeply. Don't just have a cursory knowledge of the topic. Study it. Read about it. Learn applicable examples that can be shared in your public speaking and presentation.

Knowing the subject well can help you if questions arise. I like having a discussion when I speak in public, and so knowing topics helps when questions come up as I am able to answer them. If you don't know an answer, don't fake your way through one. Ask for time to look it up or study it. It is OK to be vulnerable and not know something.

Don't be a know-it-all. Be someone who is humble enough to say

“I will look that up,” or use the words “I don’t know.” Then, you can say something like “I don’t know, but let’s go on an adventure together to find out.”

Practice, practice, practice

If you aren’t confident in your ability to speak in public, then practice. There is the phrase “practice makes perfect.” Instead of using that one, use “practice makes permanent.”

If you need someone to practice with, then reach out and find someone you can practice with. This could be reaching out to a friend or relative, or it could mean reaching out to a coworker and asking to practice presenting to them. If you want to use a mirror and practice to yourself, then practice to yourself. Put in the work to do so.

From the great soccer player Lionel Messi comes this quote: “I start early and I stay late, day after day, year after year. It took me 17 years and 114 days to become an overnight success.” Put in the work and put in the time. If you don’t like public speaking, well, you may never like it, but become good at it. Put in the time and effort to improve and get better.

Find a mentor

One final thing I will mention about public speaking is that if you want to learn how to do it better, and you admire or know a good public speaker, then reach out and ask for help. Ask if they will mentor you on this topic. Learn from them. Not only should you know your subject, which is already covered in this section, but know the art of public speaking itself. Become that “overnight success” by utilizing a mentor who helps you along your journey.

Overall, public speaking may spark fear or nervousness in a

person. You don't have to make public speaking one of your favorite things in the world, but you can, if you desire. Work on it to develop skills, to effectively present and become an effective public speaker.

Understanding Your Audience

For our last section in this chapter, let's look at something that is important if you want to become better at communicating and storytelling: understanding your audience.

Why does this matter so much? Well, if one is presenting to the C-Suite, the way you address your audience is going to be different versus addressing a high school class. Learning about an audience is a good way for a person to work at and improve their communication. By understanding the audience, the presenter or storyteller can direct the message better.

Here are a few tips for understanding an audience better, with help from the American Society of Mechanical Engineers⁷ and LinkedIn.⁸

Get to know people

This may be obvious to some readers, but get to know the audience. If your communication is smaller, maybe chatting at the "water cooler" or in smaller meetings, then the "getting to know the audience" work may be done before the communication. If the communication is a public speaking event to a group you don't know, then put in the effort to read up and study the audience before you arrive. Understand their demographics.

One key thing to learn about is the knowledge and background your audience has regarding the topic you are going to discuss. If they aren't knowledgeable, then you may need to do more background work. If they are knowledgeable, you may be able to

dive into the details more. This understanding of their knowledge and background can help you build out the presentation according to the time you are allotted for it.

Recently while I was writing this book, I had the opportunity to sit down and have a discussion instead of giving a presentation like I usually do. We did this over lunch, and the group I was speaking with was pretty small. One of the attendees was more familiar with analytics and AI than everyone else there. The discussion was a good one and the attendee with more of an understanding of data had knowledge and skepticism, which was a really good thing for the discussion.

Get to know the industry

Knowing the industry of the audience is like the previous section on public speaking around knowing the subject. If you are speaking at a sports event but using healthcare examples, it may not resonate as much. If you are trying to speak internally about a key piece of technology you are looking at to help you with data, analytics, and AI work, give examples of how it is working in your industry.

Be familiar with the room

To help you with your communication, understand the layout of the room. Will you be on a stage? Can you walk around? Is the room conducive to question asking? Do your best to know the room before you start.

Greet the audience at the door

One thing you can do is read the room. Greet people as they come in, and as you speak, read the audience. How are they coming across? Enthusiastic? Looking bored? If you are losing the room,

how can you bring them back on side? Understand the audience WHILE you present.

Understand the needs of the audience

Are you speaking to help the audience resolve issues or help them with their needs? If you want to connect with and help an audience, you should understand their needs. If you can, help them understand why they should buy in to your solution or outcome.

Buy-in is a key thing for data and AI professionals. A data professional needs to help an audience member buy in to the work they are doing. That buy-in can be key to a data professional's success. How can a data professional help the audience buy in? They can build trust, network, and ensure the audience understands the message. If the audience doesn't understand the message or the "why" behind something, why would they care?

Adapt your communication style

By knowing their audience, a data professional can adapt the communication style to fit the audience. Don't force a style onto them. Instead, understand how they like to be presented to. Do they hate questions and not want to answer? Maybe don't ask many questions. Are they interactive and want to discuss with you? Then you may need to allow this, even if you don't like it. Bring your communication to them and adapt when needed. Here, practicing and understanding your subject can help you adapt.

Overall, data professionals should get good at engaging with their audience and understanding them. This can take time and effort and maybe it isn't in the comfort zone of most data professionals, but you should work at it.

Conclusion

Communication is a characteristic in data literacy, the fourth characteristic. Utilize communication as an effective tool for data professionals to find better success.

Communication is the secret sauce of data, analytics, and AI work. You may have great data, analytics, and AI work solutions or insights, but if you can't communicate them effectively, what then?

Chapter 9 Journal Assignments

There is a lot we could assign for a journal assignment from this chapter. We could assign you to find a mentor. We could assign you to find ways to improve your email or instant messaging communications

Let's not overwhelm you, but remember, find ways to keep going after completing this chapter's journal assignments.

1. Find what your next presentation will be, and find two ways you can get to know your audience for that presentation better. Write them here, and then do them!
2. Find someone you enjoy or like from a public speaking or communication perspective. Write that person's name down. Then, reach out and ask them for mentoring help. In that meeting, whether virtual or in person, ask five questions you have written down in your journal and then write their answers down.
3. Finally, if you have expertise in or have to speak on a topic, get to know it better. Find a book, article, or podcast on that topic and read or listen to it. Then, write notes in your journal.

Overall, use your journal to find ways to improve your communication and storytelling. If you find this to not be a strength for you, find ways to improve and become better.

Find areas where you are a good public speaker and write about them. Develop those areas. You don't have to be perfect or possess all the skills. Improve on what you are good at and then find areas you can improve. Write things down and learn where your strengths and weaknesses are. Get to know yourself better!

Notes

- 1 Mind Tools. Writing Effective Emails, www.mindtools.com/apz815y/writing-effective-emails (archived at <https://perma.cc/Q8MZ-L489>)
- 2 Mind Tools. Writing Effective Emails, www.mindtools.com/apz815y/writing-effective-emails (archived at <https://perma.cc/Q8MZ-L489>)
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- 4 B Dyke (2020) *Effective Data Storytelling: How to drive change with data, narrative and visuals*, Wiley, Hoboken: NJ
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- 7 T Ricci. Public Speaking: Know Your Audience, American Society of Mechanical Engineers, 28 August 2012, www.asme.org/topics-resources/content/public-speaking-know-your-audience (archived at <https://perma.cc/9PNK-ZVPP>)
- 8 U Akinci. How to Understand Your Audience in Public Speaking, LinkedIn, 7 January 2024, www.linkedin.com/pulse/how-understand-your-audience-public-speaking-ugur-akinci-he-him--apqte/ (archived at <https://perma.cc/S4ER-C2SY>)

10

Interviews with Business and/or Data Professionals and Leaders

For this chapter, I asked multiple business and/or data professionals questions and they sent me back their responses. As a reader, the more viewpoints I can provide that help you to find pieces of information, the more useful this book will be for you. I hope bringing in different voices in this chapter can help you in your career.

I encourage you to connect with others in your career, and you might even think about asking them a few of these questions. I hope you can find insight and knowledge through the responses to the questions I have asked.

The questions I asked are as follows:

- How do you see data and AI strategy tying to or intersecting with business strategy?
- What do you feel are the most important non-technical skills data professionals can learn for success in the business world?
- How can data professionals develop the skills they need to succeed in business? Do they need to go back to school?
- What challenges have you seen or had with data professionals in a business setting, and how can they overcome these?
- How can data professionals work with leaders in a business setting to ensure success? What can business professionals do to help?
- If you could create a wish list of skills for data professionals, what would they be?

- What is one last piece of advice you would give to data and AI professionals to help them succeed in business?

I will include the person's name and title for them. I hope you can find nuggets of knowledge to learn and grow from these professionals and leaders. Your journal assignment will be to write down thoughts and ideas you can take on to improve your own skills. Feel free to add their name next to the idea.

Susan Walsh, The Classification Guru

I have had the opportunity to work with Susan in the past and she is a fun data professional. Susan's specialization is cleaning data. Having good clean data is key to finding success in data and analytics.

What do you feel are the most important non-technical skills data professionals can learn for success in the business world?

Communication and empathy are hugely important. The way you speak to different people in the organization will and should differ depending on their knowledge, seniority and communication style. If you don't understand this, then it can cause a lot of issues, head-butting and even arguments.

I've seen this myself with analysts who can't talk to clients. They'll argue that the client is wrong without understanding that from a business context the data is wrong, even though technically it might be right. They might try and talk in their technical language, but that will not mean anything to other parts of the business. Likewise, other parts of the business will talk to them in layman's terms, and they will need to be able to translate this to be able to get the job done.

How can data professionals develop the skills they need to succeed in business? Do they need to go back to school?

I don't think school will be able to teach the skills required. Hands-on experience in the workplace, shadowing colleagues and having a mentor will be the best ways to achieve the greatest learnings. We have to be able to read body language, tone of voice and communication style, and that comes through practice, trying, failing, and trying again.

What challenges have you seen or had with data professionals in a business setting, and how can they overcome these?

I've seen everything! From stubbornness when neither side will budge, to miscommunication, to lack of knowledge, understanding or even fear of data.

Setting out objectives clearly is a great start, along with thinking about what you want your end goal to be, even if you haven't started the project yet. That way you can map out all the processes and steps needed, minimizing "scope creep" and preventing as many issues as possible before they happen.

Clarifying what you mean also goes a long way; for example, in an organization a "customer" can have different meanings in different departments. State clearly what you are talking about before starting with other parts of the business to avoid misunderstandings. It might even be worth having a data dictionary for the project to make sure everyone is on the same page.

Regular check-ins and meetings also help to make sure everyone is happy and that everything is on track.

How can data professionals work with leaders in a business setting to ensure success? What can business professionals do to help?

We have to make data appealing to the rest of the business to get them on board. Find the "what's in it for me?" in each person or department and explain the benefits, not only for the business but

also for themselves. That could be anything from less stress to a better bonus at the end of the year.

If you could create a wish list of skills for data professionals, what would they be?

Communication, interpersonal skills, empathy. Not just for data, but they'll see you through life as well. So many problems and arguments have occurred because of the lack of these skills, and it's something that can be prevented.

What is one last piece of advice you would give to data and AI professionals to help them succeed in business?

Don't be afraid to fail, it's the best way to learn and we all do it. Ask lots of questions, and be curious!

Brian Ferris, Chief Data, Analytics, and Technology Officer, Loyalty NZ

I have had the opportunity to know Brian for quite a bit of time. I even helped him in his own writing of a book. Brian has great experience in the data space. Dig in to learn more from him.

How do you see data and AI strategy tying to or intersecting with business strategy?

Personally, I am not a fan of having a separate AI or data strategy. Although strategies start aligned, it can mean that your AI/data approach ends up disconnected from the overall business strategy and becomes a means to its own end rather than an enabler.

I prefer that data and AI initiatives form components of the individual strategic initiatives that are delivering the overall strategy. Then as the workstreams evolve, the AI and data components naturally evolve with them. It also means strong business ownership of the data and AI components as they are

needed to achieve the workstream outcomes. This includes foundational components like data governance and data quality that should be driven by the strategic initiative that they are supporting.

What do you feel are the most important non-technical skills data professionals can learn for success in the business world?

1. **Financial/commercial literacy:** You need to understand how your business makes and spends money and be able to explain the value of an initiative to the Finance team in language that they understand. Finance is the common language of business, and most decisions come down to dollars. If you can't speak dollars, you won't get a seat at the table. The same principles apply in a For-Purpose organization (or non-profit), but the value delivered may be measured in something other than dollars. The cost side stays identical.
2. **Enterprise awareness:** I dislike the term "politics" as it has negative connotations. However, you need to be aware of who is who in your org structure, who has explicit power and who has implicit power. Who is a supporter and who is not. The organizational topography is way more than just the org chart. Large groups of humans create complex structures that you need to understand to get things done.
3. **Influencing:** If you can't explain your point of view in a way that your audience understands and cares about, your technical skills will be wasted. You will make more shelfware than productive deliveries and will forever feel frustrated and thwarted.

How can data professionals develop the skills they need to succeed in business? Do they need to go back to school?

You don't need to go back to school for these, but at the appropriate

level an MBA can help a technologist broaden their awareness of the enterprise. I would suggest starting to add some of these skills at the intermediate analyst level. They shouldn't take a huge amount of time as technical skills are still the focus, but they can start to broaden their portfolio:

- Attend some finance training and start talking to the Finance people at your business. Take an active interest when accounts and figures are shared at team meetings. If it is OK to do so, ask questions when the results are presented.
- For enterprise awareness, start taking notice of how decisions are made. Ask your direct leader questions about how things are done. Build knowledge by reading around organizational topographies, e.g. Team Topologies.
- Influencing can start small by being intentional in supporting your direct leader or working within their team. Lead on getting a new standard aligned and agreed with the team. Help the lead get a business case approved. Resolve a process friction issue with a supporting team. Move customers' opinions on something. There are lots of opportunities. The important thing is to get the training and then intentionally take calculated risks to practice the skills.

What challenges have you seen or had with data professionals in a business setting, and how can they overcome these?

I think the biggest challenges I have seen are related to influencing and are based on two assumptions:

1. That people make decisions logically based solely on data.
2. That other people understand the context and nuances of the data as well as they do.

The first is that data professionals need to learn how humans make decisions and realize that it is not like a Vulcan on *Star Trek*. I

would recommend Daniel Kahneman's book *Thinking, Fast and Slow* as a great resource for this.¹

The second is that their audience doesn't live and breathe the data set like they do, so things that are blindingly obvious to the analyst are not so obvious to the audience making the decision. A statement like "MFAT_sales is up 2 per cent compared to DFAT!" may make perfect sense to the analyst, with the required actions clear to them as well, but that is unlikely to be the case for the audience. They must learn to tell the story through the lens of the audience in a way the audience understands and cares about.

How can data professionals work with leaders in a business setting to ensure success? What can business professionals do to help?

I think if data professionals learn those key skills in question two, they will be much better prepared to help. If they understand what really matters to the organization and can speak the language that leaders understand, they will be able to unleash the value of the data to support the leader's decision making.

The leaders can help by making time to coach and tutor their data teams on their financial and commercial literacy. The leaders can make it a high-trust, growth mindset culture where it is safe for analysts to make data-driven challenges to received wisdom. And the leaders can invest in their own data/digital literacy.

If you could create a wish list of skills for data professionals, what would they be?

These are the skills I would like to start germinating at an intermediate level and then build steadily as a person moves towards the executive level. They will grow at different paces, but can evolve steadily and will help at each level of development. Obviously, they start at a very rudimentary level as compared to the

level required as an executive:

- **Finance:** Financial and commercial literacy.
- **Strategy:** The ability to understand and articulate a strategy and ultimately able to create one. Initially, should be able to locate themselves in a strategy and understand how to contribute.
- **Functional:** The technical data skills.
- **Executive presence:** The ability to manage your persona and how you show up in a particular situation.
- **Enterprise awareness growing to enterprise leadership:** Understanding how things actually happen in an org, who is who and how to get things done.
- **People leadership:** Balancing challenge and support to grow and nurture people.
- **Delivery leadership:** How to get things done (ideally without burning bridges everywhere).
- **Operational leadership:** How to run and support a platform or application; monitoring, maintaining, issues resolution, incident learning, continuous improvement, etc.
- **Management:** The important but unsexy stuff that keeps the wheels turning. Leave management, resource scheduling, expenses, etc.

What is one last piece of advice you would give to data and AI professionals to help them succeed in business?

It is about the business value delivered, not the coolness of the technology. Projects fail because of people, relationships, and communication, not technical shortcomings. Ensure you have a solid foundation of support based on real business value. Don't just focus on the sexy tech.

If you are not working with a business owner that is willing to stake their political capital on the value of what you are delivering,

you are going to run into problems. Ensure you understand the real business value of what you are doing, then use your influencing skills to get a partner in crime from the part of the business that will use what you are building. You are then set up for success.

Mike Roe, CEO, Tensense.ai

Mike Roe is the CEO of Tensense.ai, which helps organizations with their culture. This tool is like an early warning system that detects issues within an organization's culture, allowing leaders to know when things may be going wrong.

Culture is a big deal when it comes to data and analytics, so his company may be a good one to help an organization in its data journey.

How do you see data and AI strategy tying to or intersecting with business strategy?

Data and the rise of AI will increasingly become the differentiator for leaders who need to build successful businesses and make decisions in complex and turbulent times. Data will augment decision making without taking away the need for leaders to listen to their gut as well as the data. Leaders will need to understand the benefits and upside, whilst recognizing there will be unintended consequences that will need managing.

What do you feel are the most important non-technical skills data professionals can learn for success in the business world?

The hubris and egos of some leaders will always need to be managed. Data professionals will need emotional intelligence, empathy and great communication skills to help the C-Suite navigate the new world, understand the opportunities and inspire them to a course of action they don't yet know exists.

How can data professionals develop the skills they need to succeed in business? Do they need to go back to school?

There is a plethora of training available for Managers and leaders. All can help and complement experience.

In my experience the best leadership training is a “coaching course,” not necessarily to turn people into coaches but to have the coaching techniques as a tool in their tool kit. They gain the self-awareness to ask great questions of themselves and others, to listen authentically and have new problem-solving skills.

What challenges have you seen or had with data professionals in a business setting, and how can they overcome these?

There can be a potential disconnect in ambition. It is vital that there is alignment on purpose and mission. An inhibitor to this can be language and style. CEOs will need to work very hard to understand and relate to their data professionals.

Start with the big “why” and be clear what the destination is before worrying about the “what” and “how.”

How can data professionals work with leaders in a business setting to ensure success? What can business professionals do to help?

For CEOs, seek to understand before you seek to be understood. Listen very carefully and adapt your style.

For the data professional it is all about making sure their contribution and focus is aligned with the goals and performance of the business. There will need to be a level of pragmatism and flexibility around the roadmap and milestones.

E.g., those CDOs building a compelling data strategy must ensure the data is relevant and supports decision making and change. It's so much more than making sure it works! It's what is collected and the insights produced that makes the difference.

If you could create a wish list of skills for data professionals, what would they be?

The ability to translate complicated, complex and detailed software language into a common-sense, “sensemaking” narrative.

Communicate, communicate, communicate.

What is one last piece of advice you would give to data and AI professionals to help them succeed in business?

Complete a psychometric profile (for example Insights Discovery) and share with everyone in their ecosystem, particularly the direct reports.

Bernard Marr, Founder and CEO, Bernard Marr & Co

Bernard is a worldwide leading voice in data, amassing a large following on LinkedIn for his insights and opinions. In fact, he helped me to publish my first book after I interviewed him.

How do you see data and AI strategy tying to or intersecting with business strategy?

Data and AI are fundamental to shaping and executing modern business strategies. These technologies not only aid companies in identifying and refining their strategic direction, but also deepen their understanding of customers, markets, and emerging trends. By integrating data and AI across their operations, businesses can develop smarter, more personalized, and responsive products and services.

Additionally, AI enables innovation in business processes, transforming traditional methods into more efficient, data-driven practices. It is crucial that business strategy and the strategic questions about how well a company is executing its strategy should guide data and AI activities. This ensures that data-driven

insights are aligned with the company's goals and are effectively leveraged to enhance decision making and operational efficiency.

In today's competitive landscape, viewing your business through a data and AI lens is not optional—it's essential to staying relevant and ahead of the curve.

What do you feel are the most important non-technical skills data professionals can learn for success in the business world?

The most important non-technical skills for data professionals in the business world encompass a broad range of competencies that enhance their effectiveness and integration into organizational roles:

- **Creative problem-solving and critical thinking** enable them to navigate complex data challenges and devise innovative solutions.
- **Emotional intelligence and empathy** are crucial for understanding team dynamics and client needs, enhancing collaboration and service delivery.
- **Team-working skills** ensure they can function effectively within multidisciplinary groups.
- **Adaptability and flexibility** allow them to thrive in rapidly changing environments.
- **Ethical awareness** is essential in responsibly handling sensitive data and making decisions that impact stakeholders.
- **Curiosity and continuous learning** drive them to stay ahead in a field that is constantly evolving.
- **Effective interpersonal communication** is key to articulating data insights in ways that are accessible and actionable for all business stakeholders.

These skills collectively empower data professionals to contribute significantly to their organizations beyond just technical expertise.

How can data professionals develop the skills they need to succeed in business? Do they need to go back to school?

Data professionals can develop necessary business skills through a combination of on-the-job experience, mentorship, and formal education such as workshops or online courses. Participating in cross-functional projects can provide practical experience and insights into business strategies, while mentors can offer guidance and advice on navigating the business landscape.

Formal education can also help fill any gaps in knowledge, especially in areas like business analytics or management.

What challenges have you seen or had with data professionals in a business setting, and how can they overcome these?

One common challenge is the difficulty in translating technical data insights into terms that non-technical stakeholders can understand and act upon. Data professionals can overcome this by developing their storytelling skills, using visualizations to illustrate key points, and focusing on how their findings impact business outcomes.

Continuous learning and adapting to new tools and techniques also ensure they remain valuable as the business evolves.

How can data professionals work with leaders in a business setting to ensure success? What can business professionals do to help?

Data professionals should proactively engage with business leaders to align their work with the company's strategic goals. Regular communication and updates on how data projects contribute to these goals can foster collaboration.

Business professionals, on the other hand, should provide clear direction and support for data initiatives, ensuring data teams are equipped with the necessary resources and understand the business context of their work.

If you could create a wish list of skills for data professionals, what would they be?

My wish list for data professionals encompasses a blend of technical prowess and soft skills essential for navigating today's data-driven landscape. Advanced analytical skills and proficiency in AI and machine learning form the technical backbone, enabling them to tackle complex data challenges effectively.

Strong business acumen is crucial for aligning data-driven insights with strategic goals, while exceptional communication abilities ensure these insights are clear and persuasive to stakeholders. Creativity is also vital, empowering data professionals to think outside the box and innovate beyond standard solutions.

Additionally, a robust ethical grounding is essential for navigating the complexities of data privacy and security, ensuring that data use respects both legal frameworks and public trust.

What is one last piece of advice you would give to data and AI professionals to help them succeed in business?

My final piece of advice would be to always remain curious, humble, and committed to learning. The fields of data and AI are rapidly evolving, and staying informed about the latest technologies, business strategies, and ethical considerations is crucial.

Moreover, learning how to work effectively alongside intelligent machines and to delegate tasks to AI efficiently is essential. This skill will enable you to harness the strengths of both humans and AI, optimizing productivity and fostering innovation. Embrace continuous learning as a core part of your professional development to not only succeed, but also innovate and lead in the business world.

Kate Strachnyi, Founder, DATAcated

I have known Kate for a while now, and she is a leader in data marketing and has done a great job of establishing her brand. Kate has established herself as a leading marketing voice for data and analytics, partnering with tons of companies. Check her out and her company, DATAcated.

How do you see data and AI strategy tying to or intersecting with business strategy?

Data and AI strategy enable companies to leverage their data for better decision making and competitive advantage. By aligning AI initiatives with business goals, companies can drive innovation and efficiency across all operations. If we aren't aligned to the business, then what are we doing?

What do you feel are the most important non-technical skills data professionals can learn for success in the business world?

Communication and business/domain knowledge. Being able to translate complex data insights into actionable business strategies and effectively communicate them is key to bridging the gap between data teams and business units.

How can data professionals develop the skills they need to succeed in business? Do they need to go back to school?

Data professionals can develop essential business skills through on-the-job experience, mentoring, and targeted online courses rather than returning to school. Engaging with cross-functional teams and working on diverse projects within their organizations can provide practical insights and enhance their understanding of business dynamics.

What challenges have you seen or had with data professionals in a business setting, and how can they overcome these?

The disconnect between data professionals and business units, often due to differing priorities and communication barriers (not speaking the same language). Data professionals should work on developing a strong understanding of the business context and objectives, ensuring their work directly supports business goals. The business should also work toward becoming more “data literate.”

How can data professionals work with leaders in a business setting to ensure success? What can business professionals do to help?

Data professionals should proactively seek to understand the strategic goals of their organization and demonstrate how data can influence these outcomes.

Business leaders, on the other hand, should invest in data literacy initiatives to help bridge the gap and foster a culture of data-driven decision making. The main point here is frequent communication between the business and the tech/data teams.

If you could create a wish list of skills for data professionals, what would they be?

Strategic thinking, problem-solving, adaptability, and technical proficiency. These skills ensure that data professionals are well-rounded and can contribute significantly to their organizations. If you have the technical skills, can think strategically, solve problems, AND communicate—you are golden!

What is one last piece of advice you would give to data and AI professionals to help them succeed in business?

Stay curious and keep learning. Stay informed and adaptable; it's important for success and can help you make an impact in the business world. I'd also say build your personal brand, because that's something you get to keep forever.

Andrew Jones, Founder and Lead Instructor, Data Science Infinity

Andrew is a fun, tall gentlemen who wears an orange suit. He has set up his own company where he helps to teach data science skills. If you are looking to advance yours, check out his work with Data Science Infinity.

How do you see data and AI strategy tying to or intersecting with business strategy?

The intersection is extremely important. AI and data teams are in place to help businesses make faster, more informed decisions, and to help facilitate better customer experience. These completely underpin the overall business strategy and therefore must be integrated and closely aligned.

For an AI and data strategy to be set, however, we need a fluid, two-way collaboration between the business leaders, and the AI and data leaders. This collaboration must start with the overall business objectives and then step backward to the technical components that will support them, ensuring that investments in data infrastructure, AI tools, and talent are directly linked to measurable business outcomes where possible.

What do you feel are the most important non-technical skills data professionals can learn for success in the business world?

Data storytelling and communication. You'll hear a lot of people mention these, but perhaps not elaborate on exactly why they're so crucial, so let's break it down. If we cut through the noise, our job as a data professional is simply to add value to the company we work for. At our disposal are a variety of technical skills, tools, and concepts. But these don't organically translate straight to value, and

this is where data storytelling and communication come in.

As data professionals, we work with complexity. We need to translate this complexity into understanding. This understanding from our stakeholders builds trust. Trust, in turn, leads to action. And action is what drives value.

Without data storytelling and communication, we can't transform complexity into understanding—and this breaks the chain, resulting in little or no value being added.

How can data professionals develop the skills they need to succeed in business? Do they need to go back to school?

You can develop skills in several ways these days: you can do it for free using resources such as YouTube, you can learn using online courses or bootcamps, and you can learn from formal institutions such as colleges and universities.

No method is right or wrong, but from my experience and as a coach and mentor I strongly advise students to:

- **Learn the right skills.** There is an ocean of possible topics to learn; make sure you're using your time wisely. Ensure any curriculum is driven by evidence and data itself.
- **Learn in the right way.** Make sure you're not just learning at the surface level. Find a curriculum that teaches based on intuition and understanding, as well as a focus on real-world, hands-on application.
- **Think ROI, not cost.** If a paid program can get you a result in half the time, a much higher success rate, and/or dedicated mentorship as you learn, don't be afraid to invest in your future.

What challenges have you seen or had with data professionals in a business setting, and how can they overcome these?

In many cases where projects fail, it's because we are guilty of

jumping to complexity too early. We should always start projects with an MVP (minimal viable product) mindset. This applies to both individuals and teams.

The more simplistic approach of the MVP can be easily understood by all key decision-makers and it gives all teams a clear entry point for the project. Scaling up from this position to a more complex version 2.0 and beyond becomes a much more manageable and efficient task

On top of this, if what we build isn't successful, it's equally valuable information. We can pivot or change direction easily without the burden of heavy time or financial investment.

How can data professionals work with leaders in a business setting to ensure success? What can business professionals do to help?

When working with leaders, firstly ask yourself "What are their KPIs?" or, in more blunt terms, "What will earn them their bonus at the end of the year?" If you can communicate your work in a way that relates to the things they need for success in their role—they will pay attention.

With that in mind, you need clear communication channels, you need to ensure everyone has the same interpretation and understanding of key business objectives, and you need to collaboratively create metrics that will measure success and failure in each case.

If you could create a wish list of skills for data professionals, what would they be?

Everyone can't know everything, nor should they, but some core skills should be present in all data professionals.

From a technical point of view, knowledge of basic data manipulation and analysis is crucial, as is high-level knowledge of

basic statistics. These allow a core understanding of how data works, and how it moves from being standalone data to data that is the basis of products and/or insights. They also are the foundation of an intuition of when the numbers aren't as they should be. The ability to interpret reports and data visualizations is key to taking insights and translating them into decisions or actions.

From a soft skills point of view, you won't get far without curiosity, patience, persistence, and collaboration:

- **Curiosity** leads to questions, questions lead to answers, and answers lead to solutions.
- **Patience** ensures you always keep moving forward and make decisions on their merit.
- **Persistence** will push you through inevitable hard times.
- **Collaboration**, because this is a team game. No one person or team can do it all on their own.

What is one last piece of advice you would give to data and AI professionals to help them succeed in business?

Always start with the business problem and work back to an appropriate technical solution, never the other way around!

George Firican, Founder, LightsOnData Consulting & Training, and Director, Data Governance & Business Intelligence, University of British Columbia

George is a leader in data governance and has his own podcast: *Lights on Data Show*. Check him out to learn more and data governance is very important topic, one that is good for data, analytics, and AI.

How do you see data and AI strategy tying to or intersecting with business strategy?

The relationship between data and AI strategy and business strategy fundamentally depends on the nature of the business. For technology-centric companies, especially those in fields like e-commerce, fintech, or software services, data and AI strategy should share center stage with the business strategy, acting as co-leads that drive innovation and operational efficiency. In these instances, having the ability to leverage data and AI can lead to groundbreaking product enhancements and superior customer service, among other benefits.

On the other hand, in industries like manufacturing or traditional retail, while still crucial, data and AI tend to more effectively serve in a supportive role, for example, optimizing supply chains or improving market analysis. In these instances the data and AI strategies need to align and support the business strategy.

In the end, the different degrees of integration for the data and AI strategy with the business strategy should be tailored to amplify the company's unique objectives, culture and competitive edge.

What do you feel are the most important non-technical skills data professionals can learn for success in the business world?

- **Communication:** Most essential as it allows data professionals to articulate complex insights in a way that influences decision-making and drives business strategies.
- **Adaptability:** Considering the rapidly changing technological landscape and sometimes even the business landscape, this is a good skill to have. It would ensure that one would not only be able to quickly embrace new tools and technologies, but also be able to pivot towards new business opportunities and changing social circles.
- **Emotional intelligence:** It helps navigate interpersonal dynamics often found within the business environments. Being able to understand the perspectives and emotional

states of colleagues and stakeholders is very helpful when presenting data insights, advocating for changes, mitigating conflict, or motivating teams.

How can data professionals develop the skills they need to succeed in business? Do they need to go back to school?

While traditional education can provide a solid theoretical foundation, I believe that much of the learning happens in the trenches of real-world application. That's why I would recommend seeking out mentorship and immersing themselves in projects within or outside of their workplace, as well as participation in industry groups and forums.

To complement this experiential learning, regularly reading articles and books on both successful and failed business ventures will enrich one's understanding and experience.

What challenges have you seen or had with data professionals in a business setting, and how can they overcome these?

Often, data professionals are very knowledgeable in their technical domain, but struggle to convey how their findings impact broader business goals. This can lead to valuable insights being underutilized or misunderstood by decision-makers who are not as data-savvy.

To overcome this challenge, I recommend that data professionals enhance their storytelling skills. Being able to craft a compelling narrative around the data catered to the specific audience at hand is as crucial as the analysis itself. This involves not only presenting the numbers, but also contextualizing them within the business's objectives, and telling a story relatable to the business person.

How can data professionals work with leaders in a business setting to ensure success? What can business professionals do to help?

I think that constant and effective communication and a mutual understanding and support is the key to success. Data professionals should reach out to the business leaders and help demystify data/tech jargon. Having the business invest in training and resources to enhance data literacy across the business will help business be more receptive to the needs and requirements of the Data team.

At the same time, business professionals should also make the effort to keep data professionals in the loop as to their business strategy, goals, and challenges and endorse a data-informed culture.

If you could create a wish list of skills for data professionals, what would they be?

Besides the well-known data and technical skills, I think it's also important to have communication skills, emotional intelligence, collaboration, integrity, and ethical (especially now in the age of AI) and business acumen.

What is one last piece of advice you would give to data and AI professionals to help them succeed in business?

Stay curious, connected, and committed to ethical excellence. Achieving success does not mean much if it requires you to sacrifice your integrity. Remember, in a world inundated with data, the true north for any data professional is to transform complexity into clarity and data into decisions that drive meaningful business outcomes.

Malcolm Hawker, Head of Data Strategy, Profisee

Malcolm is a great mind for the data space, having worked at Gartner and running his own podcast, *CDO Matters*. In Malcolm's work at Gartner, he was able to talk to various people and organizations, helping him to build his knowledge. Through his

podcast, Malcolm is working to disseminate that knowledge. Follow and learn from this good voice in data.

How do you see data and AI strategy tying to or intersecting with business strategy?

The intersection of data strategy and business strategy occurs through business enablement, which requires both strategies (business and data) to be operationalized. When the business is being enabled by data, either through efficient business operations or decision making, the strategies intersect.

There are many who would argue that there's no need for a distinct data strategy—and that there should only be a business strategy—but I disagree, as the same could be said about any enabling competency in the organization (data, product, procurement, etc. etc.). A data strategy cannot exist without a business strategy, but the management and optimization of data assets within a company most certainly requires its own strategy distinct of the business strategy to be successful.

What do you feel are the most important non-technical skills data professionals can learn for success in the business world?

Data professionals must learn how to effectively communicate and collaborate with business leaders. Doing this will require data leaders to develop a very broad understanding and awareness of how the business operates, and the key success drivers for each functional group within the business. This will also require data leaders to “speak the language” of the business—which is actually multiple languages—all based on the unique lexicons of each business function.

In addition, for success in a business environment of constant and rapid change, data professionals must also develop a baseline of product management skills and must integrate those into their data

and analytics function.

Effective product management demands that the creators of products deeply understand the needs and challenges of their consumers, and it also requires they take a programmatic approach to supporting their data product “go to market” efforts, including product marketing (aka “storytelling”), training (literacy), and end user support.

How can data professionals develop the skills they need to succeed in business? Do they need to go back to school?

The best way for data leaders to develop the skills needed to succeed in business is to build relationships with customers/consumers of data, and to develop an intimate knowledge of how data is used within those business functions to drive business outcomes. When it comes to business knowledge, data leaders must aspire to be “T shaped,” which requires a broad, but not incredibly deep, knowledge of the business drivers of each core business function, and the role that data plays in each.

I went to business school—and while that experience taught me plenty about theoretical frameworks and operating models of how businesses function, it provided very little incremental value to my role as a data professional beyond what I’ve learned in the field.

What challenges have you seen or had with data professionals in a business setting, and how can they overcome these?

A major challenge I’ve seen is that many data professionals have slowly but surely created a silo around their organizations—and their data—which inhibits their ability to develop meaningful relationships with their customers, and to provide tangible business value.

The way to break this pattern is for CDOs to embrace more of a product management-driven approach within their organizations,

which puts customer success at the center of everything the data team does. Spoiler alert—managing a data team is not about managing data, it's about solving customer problems.

A second massive challenge is the misguided belief that the financial value of data to an organization cannot be quantified. It's not easy, but the business impacts of data on corporate profits or operating efficiencies can most certainly be measured and modelled—and must be. For a data leader to suggest the value of data cannot be measured is the same thing as saying the value of their jobs cannot be measured.

How can data professionals work with leaders in a business setting to ensure success? What can business professionals do to help?

The best thing data leaders can do to build meaningful relationships with their business partners is to start working with them to measure and model the impacts that data has on their businesses. Every major roadblock that data leaders face in terms of their relationship with the business can be traced back to an inability to articulate the value of data.

Once this changes, business leaders will strive to support governance efforts, work to ensure higher-quality data, and be fully engaged with their data partners on any efforts to improve how data is measured, managed, or governed.

If you could create a wish list of skills for data professionals, what would they be?

1. Business acumen.
2. Knowledge of the discipline of product management and design-driven thinking.
3. Exceptional communication skills, including a baseline knowledge of product marketing. This also includes listening

skills.

4. Complex problem solving.
5. Negotiation skills.

What is one last piece of advice you would give to data and AI professionals to help them succeed in business?

It's not about the data. It's about customer success. If you develop a relentless focus on understanding and supporting your customers, and you put their success above your own, you will succeed in the world of data.

Cecilia Dones, Founder and Principal, 3 Standard Deviations, and Adjunct Assistant Professor, Columbia University

Cecilia brings her knowledge to the world of data as she works towards her PhD. She is one who is looking to tackle the culture and human side of data. She is definitely one to follow and learn from.

How do you see data and AI strategy tying to or intersecting with business strategy?

Business strategy will continue to be the fundamental and foundational strategy that drives growth and longevity of a firm. All other strategies should serve as complements, accelerants, and enablers for a sound business strategy.

My concern with the excitement of technology and the potential for it to create outsized value is that a technology (or data or AI) strategy begins to displace the foundational business strategy. It is like the tail wagging the dog.

A productive and strategically differentiable data and AI strategy should complement and accelerate a business strategy.

What do you feel are the most important non-technical skills

data professionals can learn for success in the business world?

I believe Simon Sinek avoids the term “soft skills,” and instead uses “human skills.” I will choose to use the same term.

These human skills are the basics of social-emotional development that we learned as kids going through school. Somehow, we sometimes forget these skills. The good news is that these skills can always be developed and refreshed.

When I teach or run workshops on these skills, I cover the following topics: self-awareness of personal values, awareness of others’ perspectives, managing the discomfort of uncertainty, and how to take a step forward.

I spend most of the time in groups practicing active listening skills. For individual coaching, I spend most of the time focusing on discovering and clarifying personal values.

How can data professionals develop the skills they need to succeed in business? Do they need to go back to school?

Yes for continuous learning. Learning can occur in a classroom. Learning can occur in a workshop. Learning can occur in day-to-day interactions. The point is that the mindset of a learner, which is to be curious, is what will ultimately be the intrinsic motivator to build skills.

It is up to the individual to know which formats of education work for them. And if they do not, then trying different learning modalities is a great way to build skills and also build meta learning skills which transfer to other domains. Most important is that the individual needs to try.

What challenges have you seen or had with data professionals in a business setting, and how can they overcome these?

The calculus of where and how to allocate attention and time is very difficult in a business setting. The short-term pressures to

deliver value within a business setting can sometimes be at odds with longer-term professional development.

The way I coach clients on this tension is that they need to first realize they have a choice and, second, choose to act differently.

Pragmatically speaking, this could mean choosing to discuss with your leadership that part of the goals for you is to invest in professional development every year as a core KPI. This could mean setting boundaries for what kinds of projects you choose to take on. It could mean finding projects outside of business hours to develop the skills you're seeking. It could also mean taking the courageous step to acknowledge and decide to leave your current situation because it no longer serves you as a data professional.

How can data professionals work with leaders in a business setting to ensure success? What can business professionals do to help?

Always tie what the Data and Analytics teams are doing to actions and decisions that the business is trying to make.

In my own practice and when I coach other leaders, I always evaluate data-related projects with the same lens: What are you actually trying to do? What decision is being made?

Confirmatory bias is a pervasive challenge in the data space. To move past it, it is up to the data professional as well as the business stakeholder to continuously reflect: Is the work actually leading to an action? A decision? Both are equally responsible.

If you could create a wish list of skills for data professionals, what would they be?

Aside from technical foundations, I would want all data professionals to have the following skills: curiosity, resiliency, and empathy.

What is one last piece of advice you would give to data and AI

professionals to help them succeed in business?

This is how I describe myself as a leader and as a person: Be compassionately curious.

Christina Stathopoulos, Owner and Founder, Dare to Data, Speaker, and Adjunct Professor

Christina is a friend and data leader. She is one who took the reins of her career and went out on her own. Christina seized upon the opportunity to open her own business, even leaving a big company to be on her own and do things her way. She has done so with her teaching work as well, within the education space and as a speaker.

How do you see data and AI strategy tying to or intersecting with business strategy?

I see data and AI strategy tying directly into business strategy today. They should work jointly and one cannot be unraveled without the other.

What do you feel are the most important non-technical skills data professionals can learn for success in the business world?

Non-technical skills are the skills that are most often overlooked by data professionals, and yet I find they can have the strongest impact on job opportunities and career progression. There are three main non-technical skills that I firmly believe will help any data professional stand out on the job:

1. **Communication:** Being able to effectively communicate ideas, and especially being able to translate technical terms into language that anyone can understand.
2. **Business acumen:** Being able to understand and relate with business problems, and then extrapolate to how they can be resolved using data.

3. **Curiosity and motivation:** Being genuinely curious and motivated to solve problems and innovate, and not giving up easily when things don't go as expected.

How can data professionals develop the skills they need to succeed in business? Do they need to go back to school?

There are several routes that data professionals can take to acquire the skills they need to succeed in business. You can follow a traditional path via accredited higher education programs, build your own curriculum self-studying through online resources and experience, or follow a hybrid approach.

One is not better than the other per se; they each come with advantages and disadvantages that will appeal to different types of learners.

Studying an accredited program, such as returning to school for an MBA, is a sure-fire way to get exposed to a well-rounded learning experience on the business side, while also giving you the chance to network and learn from your peers. This is a structured learning path, so you don't have to worry about building your course curriculum, and it comes with a certificate or degree upon completion, but it can also be pricey. I personally went this route.

Self-learning has been on the rise over the last decade and offers a flexible, affordable way to expand your skills and knowledge base. Depending on the resources you use, they may or may not expose you to the option for networking with peers, which is a valuable element you should consider when expanding on your business skills (due to the enhanced network, shared experiences, ideas generated through discussion and debate).

On paper, self-learning does not have the same weight as an accredited program, but your end goals might not require an official document. Though it's important to note that self-learning only works for those who are motivated enough—multiple studies

throughout the years have shown that the completion rate for online courses hovers between 5 and 15 per cent, dropping even lower to 3 to 6 per cent for MOOCs (Massive Open Online Courses) like Coursera.

Ultimately, the decision is yours to make depending on your personal situation and end goals. Skills can also be developed on the job—learning by doing is still one of the best approaches.

What challenges have you seen or had with data professionals in a business setting, and how can they overcome these?

The main challenge I see with data professionals in the business setting is that they struggle to communicate their ideas to business stakeholders and/or cannot translate business problems into data or vice versa.

Communication skills can be improved through coaching and the old adage “practice makes perfect.” You may have to expose yourself to uncomfortable situations at first, like presenting in front of a crowd, but you’ll get better at this over time. A better understanding of the business can be achieved through exposure on the job and structured learning experiences.

How can data professionals work with leaders in a business setting to ensure success? What can business professionals do to help?

Data professionals should work hand in hand with leaders in a business setting to avoid becoming isolated or pigeonholed in their data corner. This can be done in one of two ways:

1. Pair data professionals with a leader that sits close to or on the business side. This leader should act as a mentor offering regular advising sessions, identifying skill or knowledge gaps, and building a plan to improve their mentee’s business acumen.

2. Ensure that data professionals are exposed to the business side directly through their work. Achieving this is possible through data projects that require them to sync regularly with business stakeholders for alignment, or even pushing them out of their comfort zone to get involved in purely business projects. For the latter, you'd be surprised: they might bring some completely new, fresh perspectives that hadn't occurred to the business teams before!

If you could create a wish list of skills for data professionals, what would they be?

Data professionals need to have a core set of hard skills. If we start with the basics, they must have foundational knowledge of data literacy, statistics, and how to use spreadsheets. From there the technical path may vary, but I personally recommend everyone learn SQL so they can work directly with databases, become proficient in at least one data visualization tool, and, optionally, learn Python and machine learning for advanced applications.

Data professionals should also have a set of soft skills which includes critical thinking and problem solving as well as the ability to work well in teams. As I mentioned earlier, a strong candidate will also be a good communicator with both technical and business audiences, will understand business problems and how to solve them with data, and will be genuinely curious.

The best candidates I know weren't necessarily the smartest or most technical in the room, but were the most curious and did not easily give up.

Conclusion

I hope you have enjoyed reading contributions from others. Having a strong network and group of people you follow and/or learn from

can be important. Follow those that can help you succeed in business. My network is one that has helped me in my career.

From the guest authors here, what did you learn? What did you learn about the most important non-technical skills within data and analytics for data professionals? Do you feel you are hitting those skills? What did you learn about working with leaders in the business setting? Did you find some themes?

Along with the journal assignment below, you can also write themes you found and area/s you may have strength/s or weakness/es in.

I hope you find a good network to help your career. Help others in their careers, too. Have the mindset to always pay things forward.

Chapter 10 Journal Assignment

I hope you enjoyed reading from others than myself. For your journal assignment, I want you to write ideas and thoughts you were inspired by in this chapter.

1. Pick your favorite interview from the chapter and write one key thing you can do with the information you read from that person. Then, put a plan in place to help you succeed with action towards what you wrote about.

Note

¹ D Kahneman (2011) *Thinking, Fast and Slow*, Farrar, Straus, and Giroux, New York

11

The Future of Data and Business

OK, using my crystal ball, let's predict the future. Well, if I could truly predict the future, I am not sure I would be writing a book. I'd probably be retired, but who knows? Maybe I'd still be writing, and maybe still consulting and working.

The ability to predict the future of data and AI isn't something people have right now. But what if we can make ourselves indispensable in some way? What if we can build skills that help us to thrive with whatever change comes our way? Let's see if we can do that.

The reality is, we don't have the ability to predict what will be happening in the future. How many people have the ability to predict shifts or big occurrences that alter the world? How many people have those on their bingo cards? How many predicted the housing crisis of the past? Or thought that there would be a worldwide pandemic in 2020 that would alter the world? The reality is, we don't have the ability to perfectly predict the future.

In this chapter, we are going to look at three areas of focus:

- **Some data, analytics, and AI history:** Maybe you, the reader, will find some patterns or things that you think may happen again or new things in the future. Maybe you will have ideas on what could happen next.
- **Ideas on what the future may look like:** In this section, we will discuss some ideas of what the future may hold for the field of data. AI is a tool that is evolving and moving forward at a fast pace as I write this book. I want you to allow your mind and imagination to run here. Be creative. Write down

your own thoughts on what could happen.

- **How data professionals can stay on top of trends and be leaders in business:** Here, we will give you as data professionals ways to study, learn, and hopefully stay on top of trends. We will help you work towards being a leader in business with the future and whatever may be coming.

Throughout this chapter, allow your mind and creativity to be a part of your reading. I don't know the future and I am guessing most other people don't either. So, let's use the opportunity to help shape our skills or abilities.

One of the key things we can do is develop a mindset that can thrive in an uncertain and changing world. Change is going to continue to happen, so can we develop mindsets to continually thrive or succeed in an ever-changing world? Having the right mindset can help you to succeed no matter what happens in the future, so work towards that. The reality is, some of the data and analytical skills of today may not be the same in the future, so can you have a mindset to be ready to continuously learn and develop? Let's work so we can all succeed in the future.

Data, Analytics, and AI History

OK, we don't need to dive into all the areas of data, analytics, and AI history, but we can jump in and work to understand what has happened in the past. We can build a solid base knowledge of different things that occurred. One thing to help us understand what the future can be is to build a solid base of what has occurred in the field.

Imagine me and the races I have done in the past. If I hadn't learned from the experiences, I could repeat the same mistakes I made before. By studying how players succeeded in the past, athletes can learn what to do themselves. That said, don't just copy

what was done, but learn from it and evolve it, and make things better.

In this section, we will cover:

- democratization of data
- data science and scientists
- the evolution from Data Architect to engineer
- data literacy
- generative AI

We will jump into these areas and we will discuss how businesses have jumped in, invested in, and handled these different areas of the data and analytics world.

I will say, organizations have found some success, but a lot of what is found within data and analytics is a lack of success at the organizational level. Why is this? What is causing it? For the future, understanding why these organizations haven't been successful could help you with future adoption of key things that emerge. As data professionals, you should work to help the world of data, analytics, and AI be more successful in the future, and in the business. Then, regardless of what new trends and/or technologies come along, the organization is likely to be more successful with them.

Democratization of data

What is the democratization of data? Well, it is the putting of data into the hands of the masses. Think of tools like Tableau or Qlik. These are business intelligence tools that allow more people to get access to data and, hopefully, find insight or useful things in the data that can help the organization. They are tools that organizations have tried to democratize historically.

There is a problem with the democratization of data and tools,

and its success in organizations: if most people aren't data professionals by trade and/or title, how can an organization that is democratizing data expect to be super successful in finding insight? What I mean here is that if the people who are on the receiving end of the democratized tools and data aren't data professionals and don't have that kind of training in place, will putting things into the hands of the masses necessarily translate to better insight and outcomes?

This is not necessarily the case. I can put golf clubs into someone's hands, but that doesn't mean they will necessarily become instantly good at golf. The same can be said with data. I can put it into the hands of my audience, but that doesn't mean they will know what to do with it or adopt it.

This is where data literacy hopefully empowers an organization to more successful. By training, upskilling, and reskilling people, an organization can work towards more insight, information, experimenting, and, hopefully, a more empowered culture.

The reality is, you can't just hand a person data and hope they will find insights and information the organization can utilize. Even if you train the individual on how to use the tool, like filtering a dashboard or building a visualization, you still aren't necessarily helping them know how to use data. Now, this democratization of data makes sense and it should be done; all organizations should work towards putting data into the hands of the masses. Organizations shouldn't hoard data and only allow a select few to use it. But it should be done in parallel with proper change management and learning, so that everyone is not just getting the data tool, but also the data literacy side.

Now, how does this relate to the future? Well, as I write this book, AI is a big word. A lot of companies are looking at how they should invest in and get a hold of AI. How should they use it? You can't just buy a tool and think success will happen. It takes much more than

that.

As a data professional, you can help to lead on projects or work where a new tool is purchased and the organization is looking to get strong, good adoption of the investment. Data professionals can help with the PROPER training and the change management required. Help the organization to know that as new technologies become available, you will help from the front on this tool.

Data science and scientists

OK, a Data Scientist when properly used can bring success and insight to an organization, but the key word here is “properly.” If you are a Data Scientist or data professional, ensure YOU are being used properly in an organization. An organization can’t just hire Data Scientists and hope it is going to work well. If you were hired, but haven’t been given a car to drive, then does the “license” matter?

A Data Scientist needs good data to utilize in order to drive good data science work. They shouldn’t be spending the majority of their time working on cleansing and engineering data; it should be ready for them to use. There is an old metric that I don’t remember exactly, but basically Data Scientists were spending 80 per cent of their time working on the data and 20 per cent working on data science. These metrics need to be flipped, and more.

Ensure when you are in a company or interviewing with one, you are given clear directions and information regarding the data work that is already being done and what the future work will look like.

Data professionals in organizations need to be utilized properly. This is one thing that organizations can focus in on. Data professionals can help to drive the proper use of Data Scientists, Analysts, and Engineers in their organization. They should educate and help the organization understand data roles and how these

roles can be used.

If you find yourself in an organization where there is a lack of understanding as to how you can be utilized, be a leader and help people understand it. To help harness the power of data, analytics, and AI, and what the future brings, a data professional should work to help the organization be properly set up to bring success. The proper set-up of an organization will hopefully drive success in the future as the organization is more prepared to handle new technologies.

In the future, you can work towards helping the organization utilize data appropriately. Make sure there is clarity and strategy. Make sure there is literacy. Make sure the culture can thrive. This can mean being a leader and working to help the organization understand data needs and the work that needs to be done to help the organization succeed with data.

The evolution from Data Architect to Data Engineer

In the world of back-end data work, you could say that the world has shifted or evolved from Data Architects to Data Engineers. This shift is a good one and hopefully allows back-end data professionals more freedom to develop themselves and help an organization thrive more with data.

Now, are Data Architects and Data Engineers the same? Maybe not, but overall, the work at the back end is crucial for the success of data work at the front end. Help your organization understand the roles and the work. By helping establish clear understanding for the organization, hopefully, that can help shape the back-end data work into the future. Organizations need to ensure that the Data Architect and/or Data Engineer are building data that leads towards successful front-end work.

Now, the history of this work hasn't necessarily changed or

shifted if we think about it as building the back end for proper data and analytical work, and now for AI work. The approach in the future should be one that is directed towards the business objectives and goals of the organization. That is how the data back end should be architected and/or engineered. So, the future of this role may seem similar to what it has been before.

Remember, an organization is going to get out of the data the quality of what it puts in. With the growth of AI and the desire to utilize data in place, the back-end work should be moving towards architected data that enables and empowers the organization towards full success.

Data literacy

When generative AI hit the world, I wondered: was my life in data literacy over? A friend told me: no, you became more important.

The reality is that it isn't just data literacy anymore. It is data AND AI literacy. We need these skills to deal with things that are happening. Data literacy has evolved into more than maybe I was thinking it would. The reality is that organizations and individuals need to work to put into place data and AI literacy initiatives to help empower organizations to succeed.

My first real work into data literacy started in 2016. We need to continue this work. Like other things, data and AI literacy need to evolve. Organizations need to evolve and move forward with data and AI literacy work that is empowered and evolved to the needs and tools of an organization. Data professionals should help empower this work into the future and work as leaders to help organizations succeed with data and AI literacy initiatives.

By putting in good, applicable data and AI literacy, hopefully organizations can see greater adoption of data and AI work.

Generative AI

Generative AI took the world by storm, and now AI seems to be everywhere. This prevalence of AI is good, but it needs to be done appropriately. With ChatGPT and other generative AI tools hitting the market and hitting the ground running, organizations have started to invest in and utilize AI more. Generative AI made AI more consumable and friendly. That is a good thing.

But organizations can't just buy a tool and think it is going to work. In their book *The Coming Wave*, Mustafa Suleyman and Michael Bhaskar describe the term "Artificial Capable Intelligence."¹ I like this phrase. AI is fun to use and can be powerful, but, in the business world, organizations need to work towards utilizing capable artificial intelligence that is helping an organization move towards its goals and objectives.

It isn't about just buying it and thinking it will come together, like "if you build it, they will come" from one of my favorite movies of all time, *Field of Dreams*. No, it is finding the right tools and technology, training people to use them appropriately, and then using them towards meeting the goals and objectives of the organization.

Summary

Tools, technologies, disruption; things are going to happen. Organizations may look to democratize things again. New tools or technology like generative AI may hit the market again. Education is here, and who knows what evolutions will occur with it?

The key for the future is for organizations to intelligently work towards smart and effective data and AI work. You in your role can help organizations do this appropriately and intelligently. I hope you are working towards being more strategic and helping

businesses truly succeed with data and AI.

What Will the Future Look Like?

The future can be hard to determine. Things move fast, and with all the talk and the hype about AI, we still don't know where the future will be. That doesn't mean we can't think about it. Then, if we get it right, that is great, and if we don't, we pivot and continuously iterate.

In this section, let's look at what may happen in the industry. Let's also look at what a data professional may do to prepare for and succeed in the future.

In your journal, maybe write down some ideas and thoughts. Don't just take mine as the truth and not think of your own. Remember that you can work towards a better future for yourself through study and learning. Write down any thoughts you have. Write down what you can do. Figure out ways you can network and succeed more in your career. Figure out ways to lead and if you want, how you can help others succeed too.

Augmented data and analytical work

It is no secret that generative AI and its ease of consumption has shifted the world. It seems like AI is everywhere: I even saw a picture of a toothbrush that was advertising its use of AI. Who needs AI in a toothbrush? I mean, do we really need AI to tell us we are done brushing?

But the premise is not lost that the hype around AI is massive, and who knows when and where it will stop? The reality is that this is one time where the hype might be achieved and the world actually has shifted. But, what about the reality of implementing AI in data and analytical work?

Well, AI can empower data and analytical work to the point that we may need fewer technical people. With AI being implemented within various data and analytics tools and technologies, we can see it empowering data and analytical work, but also lessening the need for all the technical skills. This is a good way to democratize data through the technology.

How might it be implemented within data and analytics tools and technologies? Let's see some examples.

Data visualization

What if AI is implemented within business intelligence tools? Well, it probably should be. What if we could limit the number of hours that are spent on data visualization work and be able to drive more advanced or deeper-dive analytics because the tools have augmented our data visualization abilities?

Think about the democratization of data visualization throughout the business. If the technology can augment the human and bring insights to the surface, plus we have a skilled workforce who can interpret the data and analysis, then formulate a data story, we can maybe find more success as a business. Wouldn't that be something?

Augmenting the human can be a good thing, and I think we shouldn't be scared of this. This may take an upskilling of those who may specialize in data visualization building or dashboards. It may require a data and AI literacy initiative in the organization so that everyone can use the data and data visualization more effectively. We can help empower people to move beyond descriptive analytics and can maybe harness more from them within diagnostic and predictive analytics. That is a good thing.

The more time we can spend on finding out the "why" behind the data, hopefully the more powerful our data and analytical work

becomes. We should welcome the augmentation of data visualizations. We should welcome the augmentation of data and analytical work to empower us to go further with the work we are doing.

Data engineering

How can AI empower data engineering work? Well, one thing it could do is help augment the coding of the engineering work. What if we don't need to write all the code ourselves, but can instead audit and evaluate the work done by the AI and then implement it? Yes, we want the human element to exist, and let's make sure we know there is a combination of the technology and the human, but the technology can do a lot of the dirty work for us, and we can now spend our time evaluating the work the machine gives us.

Now, this may mean we need fewer engineers, but we can upskill and/or reskill them into different areas, like in analytics, or get them to work on more specific projects within the architecture and engineering world. Instead of spending time doing all the building, maybe they can start building more specific work. That could be a good thing for the organization. Let's make sure we view this as an augmentation of their work.

How does this impact the business? By freeing up the time of the Data Engineers, maybe we can direct their energy and efforts into more specific projects and work for the business. If we can augment them and free up their time, maybe they are free to build out more sophisticated or intelligent work for the business. Maybe we can direct them to do more targeted work to help meet the business's goals and objectives.

Data science

The world of data science, and I mean real data science, is one

where there aren't many with the skill set to truly do it. Here, the augmentation of the human with the AI can be a powerful thing. Instead of having to train up people with the skills to do data science work, the augmentation of the human with AI and technology could be a way to democratize data science work. Instead of teaching all the ins and outs of data science or statistics, we can now dig in and teach people concepts and applicability.

One key to this is the true implementation of the technology for business goals and objectives. Don't just go and buy data tools infused with AI, but utilize AI in a way that furthers a business strategy. There may need to be data literacy and AI literacy training to help get these things moving correctly. But what about data strategy? How does this impact the business?

Imagine if we can empower the Data Scientists in an organization to do more data science work. What if we make their lives easier within their jobs and free up their time to bring about more analysis, more modeling, and things to help the business succeed more towards its goals and objectives? What if we empower them to build out better modeling for the customers? What if we empower them to provide more analysis for marketing? Let's empower them to do more data science things!

Data strategy

Data strategy also should be impacted and utilized. Overall, generative AI can be a tool utilized to help start thought processes and work. Organizations who are struggling with data strategy and how to build one can utilize AI to help drive the framing or outline of a data strategy, and then utilize the human element to fill in and improve upon it. Have you ever experimented with generative AI to build a strategy? Then, using your knowledge, added to that strategy? It doesn't do that bad a job.

Remember to combine your own knowledge with the technology. It's true that AI and technology can help an organization to build the strategy itself; no need to spend all that time doing an outline of things of that nature. In the future, businesses can work to have the technology frame and build out a strategy for them. AI and technology can be an enhancement to your work.

Now, what about non-data worlds? And how does a data professional fit in here? How can technology empower the data professional to find more success in the non-data world? Think about an organization again: if the majority of the workers aren't data professionals, how does the future technology help the data professional succeed with the rest of the organization?

Business strategy and non-data work

Yes, data, analytics, and AI can help enhance these and they should! In the future, organizations should be looking to discover how to utilize AI technology to help shape the world they work in.

Now, how does a data professional work within this space? Through effective work with data and AI, data professionals can help shape the way a strategy can be built and the work is going to be done. Think about that. YOU can build descriptive, diagnostic, and predictive analytics that help shape the future. YOU can help the organization to understand the data and how to utilize AI effectively to help the organization make decisions. Don't just buy tools to utilize, but find tools that will help the organization to succeed into the future.

YOU can be a leader and help an organization thrive in the future vs wondering what they will do to compete.

The Future of Skills for Data Professionals

This area is one that I wish I had a crystal ball for and could help

data professionals understand what they can be doing on a regular basis to stay ahead and on top of current trends. The reality is, it is hard.

This is where mindset can come in and help you to be successful with skills in the future. What kind of mindset do you have? Do you have one that will pivot and iterate, helping you succeed? Or, do you have one that doesn't like change or is uncomfortable with how you do things? Think about your own personal mindset. Let's come up with a plan to help you learn and develop. First, though, let's talk about skills of the future.

The skills of the future could look different for data professionals. It may be that they don't need to know the "how to" as much as they need to know the "conceptual." That said, yes, the "how to" can be important to ensure you can read AI-generated code or the ins and outs of a visualization to improve upon it. But skills of the future may be more targeted around how to use the outcome of the AI-generated solution. We need to be able to prompt it, interpret the results, and utilize those results. You may already have the skills to do this, or you may not.

Having the "how" knowledge can be good, especially if the results aren't strong. An example may help here. Let's say you have a data professional running predictive analytics. This data professional is skilled in knowing how the predictive analytics work, like a Markov Chain or Random Forrest, but now, in the future, they don't have to build the code. The tool is doing that for them. The tool is running the predictive model.

They are now tasked with applying the model to the business's goals and objectives. That is a different story. With the knowledge of how the predictive analytics work, the data professional can direct the appropriate solutions towards the business's goals and objectives. Then they can select it, let the technology run it for them, and march forward with the application of using it vs the actual

building of it.

This knowledge of applying tools to the business is a good skill to possess now and to continue to develop into the future so you as the data professional can utilize things appropriately. So, when new advancements come on to the market, the data professional has the ability to work through it, find how it applies to the business, and then can train the rest of the business on how to utilize the technology. Here, the skill may be a new one or one the data professional is not comfortable with.

Instead of doing the technical work, they may need to do the teaching and educating. Now we see a skill of the future for the data professional: being able to understand and utilize tools, technologies, and data towards business goals and objectives, AND teaching this to the organization effectively.

Let's give you a five-step plan to help ongoing learning. Utilize these steps to help you succeed with the changes that may come to you.

Step 1: Set your outcome

What are you trying to achieve? This is what you need to be thinking about within an organization and within your data work. Is it a new skill? Is it an analytical objective? You need to know your outcome.

One key thing to remember is you cannot boil the ocean quickly. There may be a lot in the world of data and AI to learn, so take it a step at a time. Set an outcome that brings value to you or/and your organization. If you are looking to further your career and develop more skills, then pick an outcome and run with it. If you are looking to develop skills that can further your organization, then pick something and run with it. Set your outcome and have a vigilance to get it done.

Now, you may get distracted towards another outcome as you work on it. That's OK, but don't get sidetracked, as you may end up starting towards multiple outcomes but not bringing them to fruition. This leads us into our second step.

Step 2: Set your strategy

You need to set a structured strategy to achieve your outcome. I learned from James Kerr's book *Legacy*² on the New Zealand All Blacks to focus in on the structure. If you have a poor structure, you may end up with a weak strategy. If you don't have a strong structure, you may not know what to tackle each day or you may not progress as you should. But, with a strong structure, you can move forward. You may build into your structure time blocks to focus on your work. Stick to them! Have enough respect for yourself and discipline to complete those time blocks. Stick to your goals and hit your outcome.

The strategy doesn't have to be beyond restrictive. You need flexibility, but don't allow distractions to distract you from your goal. I wonder if the reason so many people don't accomplish their New Year's Resolutions is a lack of structure around the goal itself. They may really, really want to accomplish the goal, but don't have the structure or ability to stick to it, and therefore they don't. Don't let this be you; make sure you really structure out around your strategy and outcome.

One thing to put into the structure of your strategy is a timetable. Don't be so aggressive that you are frustrated when it isn't achieved, but also don't be too far out so you don't get there. Set a good timeline and stick to it as best you can. Yes, things come up that may necessitate a change to the timetable, but adjust and maybe you can restructure.

Step 3: Have the right tools

Do you have the tools in place to hit your strategy or outcome? This could be a simple tool like an alarm clock or calendar. If the goal is big, to learn advanced coding in AI or something, you need to have the tools in place to do it. Do you have a good routine in place to help you advance forward? Do you have the tools to help you be consistent on your strategy and outcome?

Don't have moments of greatness that advance you so far, but not far enough. Instead, be consistently good, moving forward each and every day. Have the tools to get you there. A tool could be resources to learn and grow, maybe a journal or books.

Step 4: Have the right skills

Now, this one hopefully won't confuse you, but don't take on more than you can manage. If you are shooting for the stars but can't fly yet, well, you may not have the skills to get you where you want. So, you regroup and tackle your outcome differently. Maybe it is getting the skills you don't have and moving forward with them.

The development of skills can be an outcome. Before you move too fast with an outcome, make sure you understand it and the skills needed to accomplish it. You may need to learn new skills before tackling the outcome. That is OK. Never think to yourself that you can't develop the skills. Instead, put a plan in place. Yes, there may be something you can't do (I am 5'10" and getting older. I may never dunk a basketball, but hey, maybe... so, be realistic), but target the learning of new skills and continuously developing.

Step 5: Create the culture or environment

Do you have things that are going to get in the way of you

succeeding in developing skills for now or even the future? Well, then find ways to eliminate them! If you need to, wake earlier and spend 30 minutes of dedicated time each and every day to move forward on your strategy and outcome.

If you have a family or things that draw your attention, that's OK. Talk to them about what you want to do and hopefully get their buy-in and support. If you want extra time or want to go back to school, get support; create the environment for your success.

Bonus Step: Mindset

One key thing you can do is develop your mindset for success. Within data and analytics, plus the future with AI, don't let the unknown phase you too much. Develop a resilient mindset to succeed. Have a mindset and positive outlook that you can succeed.

Don't tell yourself you *can't* do something. Instead, say you can't do something *yet*. That's a better way of looking at it. Also, if you get frustrated or struggle, that's OK, you can take breaks and go back to it. Go for a walk. Do something you enjoy. Develop that strong and resilient mindset for success.

Be a Leader

With the future uncertain and the kinds of skills needed for the future also unclear, one thing a data professional can do is to be a leader in their organization. Organizations know AI is here and want to harness its power and that is great, they should; but do they really know where to start? Do they know what tools will work with their organization? Do they know if their data can be trusted with the AI so that it is used effectively?

These are the types of questions an organization may not have asked, but do you know who can be a leader in the organization to

help here? The data professional:

- **Be a leader** who helps set the strategy and the organization up for success. Don't allow the things surrounding the organization to win or take control. YOU can be a leader who steps forward and says "Let's build a good data strategy that ties to the business." Then you can educate the organization around the strategy, helping to disseminate knowledge around the strategy.
- **Be a leader** who helps the culture to thrive. You may be comfortable with AI and what is happening, but others may not be. In fact, others may feel fear around it. So, be a leader that is helping the organization to thrive and have a culture of knowledge. This doesn't mean you have to go around teaching everyone. Find ways to help educate the organization. Can you help the organization to build literacy around data and AI? Maybe you can educate and share use cases and wins to the organization. You can help change management and educate on what is built and WHY. It may not be your strength, but maybe you know someone who has that skill.
- **Be a leader** who helps with tool selection. Help the organization choose appropriate tools and things that will empower the organization, and not hinder them because they don't fit.
- **Be a leader** who partners with senior leaders to help the organization thrive. Senior leaders may be thinking of AI and probably are thinking of the future. So, jump in where you can and help educate them, help them understand, and work with them to get good buy-in.
- **Be a leader** overall. Don't sit back and just do data work, even if that is where you are comfortable. Be a leader in some way. Be a leader who understands business and can work to bring

data, analytics, and AI success to the organization.

Chapter 11 Journal Assignments

You have two journal assignments in this chapter. They will try to help you set out your own plan to evaluate your current data landscape, and also to help you learn new skills and/or a new subject. You will do both by not only using the five-step plan in the first assignment, but also using it in the second.

In the first assignment, you will assess where your organization is and help develop a plan to move it forward. In the second, you will evaluate your own personal skills landscape.

In your journal, evaluate your organization's data landscape and map out your five-step plan with my help below.

1. Evaluate your organization's current data, analytics, and AI landscape. Now this may be a bigger task than you can do alone if you are a part of a bigger organization, so you may need help to understand your landscape and how your work is being utilized by the business. If you need to, reach out to your customers and ask. Truly understand your landscape and write in your journal your thoughts. Figure out pain points and things that can be done:
 - Step 1: Set your outcome. In your journal, write down an outcome you want to accomplish after your evaluation of the data landscape. This will enable you to improve upon some aspects and ensure you have the future in mind as you do this. Whether it is an improvement in some standard work or bringing in more advanced analytics, write it down and get to work.
 - Step 2: Set your strategy. In your journal, set your strategy and ensure you have it structured well so you can accomplish your goal within a given time period. Make sure you have the time period in there, and also structure your strategy to get it done.
 - Step 3: Have the right tools. With your landscape evaluation done and in place, how do you feel about the tools at your disposal to get it done? Say your outcome is to get more advanced analytics accomplished: do you have the tools to get that done? Do you need a tool to do advanced analytics, like predictive, or do you have an AI tool you want to implement?
 - Step 4: Have the right skills. After your evaluation and when you know your outcome, do you have the skills to accomplish it? You may or you may not. But ensure you are working towards having those skills in place.
 - Step 5: Have the right environment/culture. Is your environment such that you can accomplish your outcome and strategy? If not, what needs to happen? If

the organizational culture is getting in the way, can you help it to improve?
Ensure you have the right culture in place.

2. Learn a new skill or subject in the field of data, analytics, and AI, and if you can, make it one you can utilize in the future. I won't write out all five steps in this assignment; hopefully you now understand how to do that. Start off by doing a skills assessment of your own data, analytics, and AI skills. Be honest with yourself. Truly evaluate your skills. Find out where you are good and where you can work, plus what skills you may need for the future. If you don't know how to evaluate them, ask your leader or another to help. Then, build a five-step plan to help you develop a new skill.

I hope these journal assignments help you to advance your skills, knowledge, and work.

Notes

[1](#) M Suleyman and M Bhaskar (2023) *The Coming Wave: AI, power and the 21st century's greatest dilemma*, Penguin, London

[2](#) J Kerr (2013) *Legacy*, Constable, London

12

Wrapping It All Together

Your Next Steps

Well, we have reached the final chapter of the book. I hope you have found the book helpful and found ways you can improve your business knowledge. I also hope you have found ways you can apply learnings from the book to the work you are doing every day.

In this chapter, we are going to go over and review what together we have covered in the book, including the journal assignments. This chapter could be a summary of the book, an easy place to turn back to, to review and remind yourself of everything we have done over the course of the book. I'll also give you one final journal assignment at the end of this chapter.

Note, I have included every journal assignment from the book in this chapter. One thing you can do, now that you have reached the end, is review the journal assignments from each chapter and then read your responses. With the book completed, have your thoughts changed from what you originally wrote? Would you now write something different?

Now that you have gone through the book, do you feel you are growing and have a better understanding of how data impacts a business? Do you feel you have a better understanding of the impact you as a data professional can have on the rest of your organization?

That is one thing to think about as we go through this final chapter and summarize a bit of what you've learned: how has your

knowledge of being a data professional been enhanced and how can you do your job differently going forward? I hope you have found at least one thing you can do to improve your career and the data work you are doing at your organization.

Chapter Reviews

Chapter 1 Review: Business and Data: The Intersection

In Chapter 1, we spoke about the intersection of data and the business. Do you have a better understanding of what this looks like now? You might have had a good understanding before, but I hope you have learned more as you have gone through the book.

Data is a vital piece of a business at this point in time and should be harnessed as such. Organizations should be harnessing its power regularly. They should be monetizing it and investing in it. We also spoke about business professionals and just who they are. Were you able to find yourself and your role within your business? You should have familiarized yourself with the roles in the rest of the business you will interact with.

If you already had a good understanding of data roles in a business, I hope you now know your position better or can help the organization understand data and data professionals a bit better. I hope this helped you in your understanding of a business.

One area we spoke about was developing a business-oriented mindset. Just what is a business-oriented mindset? Well, I hope you know you don't have to become a full-blown business professional in the sense that you change your career path. No, I want you to be a business-oriented data professional. This is where you orient your work towards business goals and objectives. You should have a compass pointing you towards success in the business.

We also spoke about the business world itself. How familiar were you with the business world and what this in fact entails? I hope you gained some knowledge or maybe were given a reminder in this section of what that world looks like.

Chapter 2 Review: A Crash Course in Business Strategy for Data Professionals

This was your crash course in business strategy. We covered what a business strategy is. The definition I used was: “Business strategy is the strategic initiatives a company pursues to create value for the organization and its stakeholders and gain a competitive advantage in the market. This strategy is crucial to a company’s success and is needed before any goods or services are produced or delivered.”¹

We also covered what vision and mission statements are. Maybe you have one of these yourself, anyway. We used the following: “A vision statement is the ‘why’ behind a company’s strategy, its purpose, and itself. The mission statement can cover how to accomplish said vision and the strategy of the company.”²

We continued by looking at how data supports a business. This is the data itself and not the data professionals. How does data support a business? Data is a support tool for a business and should be seen pretty simply as that. We also covered how data professionals can support the business. This can vary based on role. I hope you were able to learn how you can support the business better as a data professional.

Chapter 3 Review: The Areas of a Business: Finance, Marketing, Sales, Product, HR, Operations, and Others

In this chapter, we looked at different areas of a business. We probably didn’t capture every single area of a business that may exist, but I hope you were able to get a better understanding. Take the time to learn something about the different parts of a business that might be there in your own organization.

In our review, we covered the following areas, and I have provided a little definition next to each one that we discussed. Let

this serve as a nice reminder or review of what you learned:

- The C-Suite: The ones running the ship.
- Accounting and Finance: The ones keeping the books.
- Sales: The ones driving new customers.
- Operations: The ones keep the ship moving.
- Marketing: The ones advertising and, hopefully, driving the brand.
- Data: The nerds and coolest ones, obviously.
- Legal: The ones making sure the ship isn't breaking the laws of the sea.
- Product: The ones working on an organization's product.
- Human Resources (HR): The ones building the crew of the ship.

Chapter 4 Review: A Dive Into Key Business Concepts

In [Chapter 4](#), we gave you some terminology for the business world. Obviously, we didn't cover every possible term that could exist in a chapter on business terminology, but hopefully you were able to gather some new knowledge that will help you interact in the business world. I won't rewrite all the terms here, but you can use your journal to create your own business dictionary and get to know the terminology better.

If there are terms that you hear in your business that weren't included in the book, write them down and then define them. Take the time to find them and learn about them. Also make sure to write down any jargon and phrases you hear that maybe aren't technical business terms. They might be ones that are used frequently, and you want to make sure you remember them for when you next hear them.

Chapter 5 Review: Using Data to Drive Value and

Impact for a Business

[Chapter 5](#) represents a key area for data professionals: value. What is value? How do we determine value from a data perspective? What can a data professional do to ensure value comes from their work?

Monetization of data, according to the definition we used from [mostly.ai](#), is the generating of revenue or value for an organization through the use of its data assets.³ So, data professionals need to ensure they are using data to bring value to their own organization. Also, just because one thinks there is value doesn't necessarily mean there is. Data professionals need to evaluate their work and ENSURE it has true value. The selling of data and project-based data work can also bring value for any organization.

Overall, data professionals need to ensure they are bringing value to their data work. If you are a data professional, find your place and how you can provide value.

Chapter 6: Business Environment, Culture, and Ethics

What is a business environment? What is the culture of an organization? What are the ethics of an organization? (Also remember that ethics matters greatly in data and AI work.) These are areas that a data professional maybe would have skipped over in the past, but the truth is that they need to focus in on them nowadays.

In fact, culture may be the single greatest thing that can help a data professional to drive success. The culture and the people (and people make up the culture) of an organization are deeply tied to its success. Ensure you understand your organization's business environment, culture, and ethics.

Culture is one of the biggest roadblocks in data and analytics. This

is especially true if you have an organizational culture that doesn't want to use data and analytics. Act as a leader in your organization to help the DNA of data to flow through your organization.

Chapter 7: Navigating the Perils of Data Work in Business

Wait, no one said anything about data perils... are they real? Yes, they sure are. The areas we covered are:

- bias within data and business work
- misuse and unethical use of data
- poor investment and buy-in from leadership and through the workforce
- poor data and AI strategy
- poor data, analytics, and AI skills for data professionals
- poor data and AI literacy
- the culture of an organization
- data and technical debt

Now, there are perils that a data professional can overcome and manage. What can data professionals do to overcome these perils? Do you have examples in your world of perils or things to overcome? I hope you have written about it in your journal. Did you overcome it? Put in a strategy to overcome it? Or even just write it down?

Think about your role: what challenges and perils do you have? Do any of the ones I have listed ring a bell, or are there others you are battling?

Chapter 8: The Power of Networking and Stakeholder Management

What can data professionals do to help their success in business? Well, there may be multiple things, but networking and working with stakeholders is a big deal. Data professionals may not enjoy doing that, but I hope they will and I hope they see the value therein.

I encourage you to set up regular times to meet and network with people. Take the time to network and get to know your stakeholders and audience. Make sure you are building data products or solutions with the stakeholders and your audience in mind.

Chapter 9: A Key to Unlock Success: Communication and Data Storytelling

I have called communication the “secret sauce” of data and analytics. Why does this matter so much? Because data professionals need to learn to communicate with the non-data professionals. I hope data professionals and/or any who read this will work on their communication and help drive better communication in their careers.

Chapter 10: Interviews with Business and/or Data Professionals and Leaders

I hope you enjoyed this chapter. Learn from others and be sure to find mentors. Re-read and learn from those who are featured in this book. If you want to find others, use a tool like LinkedIn and find other leaders to follow or connect with.

Chapter 11: The Future of Data and Business

I wish I had a crystal ball and could tell the future. I would definitely be able to travel more with my family if I could. The

reality is, I don't know what the future holds, but what I hope is that everyone who is reading this is developing skills, learning, and growing continually.

Let's make ourselves indispensable because we are learning and growing as much as we can. Don't stress, don't worry, but learn and grow. Stay on top of trends as much as you can, and help your organization and career succeed with the unknown future.

Conclusion

Data, analytics, and AI are power. I hope you are working towards understanding a business better, learning to network and communicate better, and continually learning to be ready for the future. Stay nerdy, my friends. But, now that you have finished this book, what is next?

The answer is to keep on learning and growing. Keep developing. Start to apply things from this book in your career. Continue to learn and grow. I didn't capture everything in this book, so keep developing. Also, be a leader. If you are a data professional, go out and lead as one. Find things you can lead in and be that leader. If you are looking to help your organization at the beginning of a data journey, great, do so. If you have a mature organization that needs to continue on its path, then help it.

Pay particular attention to your mindset. Maintain your mindset as one that can deal with change and thrive with any of the changes that come.

Finally, review the journal assignments. Have your thoughts changed? What more can you do to develop? Write new thoughts down and maybe look to keep a journal going forward as you continue to develop and grow.

Journal Assignments Review

Chapter 1 Journal Assignments

1. Create a list of questions you can ask that can help you be business-oriented. (Hint: you can use the questions from the chapter, but also add one or two more that are your own.)
2. Describe the four “rights” of data and how they pertain to you in your role. If you can, come up with examples of the four “rights” of data within your current work. Write down how you can apply them to the work, and then keep a note with your work, so you remember and stay focused on doing business driven-data work.
3. Write your thoughts on the C-Suite and CDO. How can organizations improve their understanding and use of the CDO? How can the C-Suite be more engaged with data and analytical work? What kind of investments are required for the data work to be successful? If it helps, think of this specifically regarding your own organization and the leadership’s position towards data and analytics. Do you have a CDO? Senior leader? How is your organization set up when it comes to data leadership?
4. Write any other notes you have from the chapter and, maybe most importantly, the applicability of the chapter to your work, learning, or future desired roles.

Chapter 2 Journal Assignments

1. Write your own personal definition of a business strategy. Don’t just write some generic definition that you find on the internet. I want you to write out what you think a business strategy is, and how your data work can go to help support and bring success to the overall business strategy.
2. Write down in your journal, using real-world examples, and

share how you think data supports a business strategy. Utilize the definition you created for a business strategy for this part. How can data support your definition of a data strategy?

3. Write in your journal how your specific role right now can help support your organization's vision and mission statements and its business strategy. What can you do on a daily basis to help support the business strategy? What roadblocks get in your way when you try to accomplish that? What skills can you learn to help you be more successful in your role and its support of a business strategy?
4. Network with three business professionals in your organization, and write down what they are working on and how data can be a support tool for their work. They can be business professionals you know, or ones you don't. Set up a 30-minute chat with them to get to know their work better, and then figure out how your data work could help support it. Try to not only think of simple ways, but things you can do to truly help and support them in their work.

Chapter 3 Journal Assignments

1. Within your current role or one you are looking to move into, discover and figure out how data helps that part of the business. Write in your journal what your role is and how you are supporting the business.
2. Write in your journal three new ideas you can do in your current role to network better with the business department/s you support.

Chapter 4 Journal Assignments

1. Take the time to study a new term each week and find ways to

apply it to your current work. Think about your role and the work you do: how can understanding business terms help you? Write a business term in your journal each Monday (or you can do it daily) and then write ways you can apply it in your role or to help the business achieve its goals and objectives.

2. When you hear a business term you are unfamiliar with, write it down in your journal and then look up its definition. Then, write one way you can use data to support that term, if it is possible. With this one, it may not be a business term you hear that you write down. You can also proactively look up business terms, write one down you don't know, and then consider how you can support it.

Chapter 5 Journal Assignments

1. Take the time to evaluate your current work and figure out how it is helping the organization with monetization. Are you helping to bring in revenue? Are you helping marketing campaigns? If you are a Data Engineer, are you designing data in a way that the organization can capitalize on it easily for decision making? Take the time to evaluate your work and ensure you understand how you are helping the organization to realize value through data.
2. Write down one new way you can help the organization with monetization through data. This may be by eliminating data work that doesn't need to be done any more, freeing up time spent doing this work and allowing you to focus elsewhere. It may be networking with new people in the company, learning about their roles, and finding out how you can work with them to empower them. Overall, find a new way you can help the organization monetize its data.

Chapter 6 Journal Assignments

1. Write down in your journal your role within business environment, ethics, and culture. Write down what you are doing today to impact these areas and how you can improve and develop to impact these areas more.
2. Write down ways you can be a leader to help drive a strong environment, ethics, and culture. As a data professional, you may not feel you are a leader or have the skills for it. That is OK: write down how you can develop as a leader here and how you can develop appropriately.
3. Write down your thoughts on your organization's current environment, ethics, and culture. This may not be something you have thought of before. Write down and seek to understand these three areas of your business. Study your business's values and goals. Get to know your business even more.

Chapter 7 Journal Assignment

1. Look at the different perils that are written about in this chapter and write down how you see these in your organization or data work. Then, write how you can help to overcome or find success with these perils, whether personally or organizationally.

Chapter 8 Journal Assignments

1. Your first assignment is to set up time to network with people within your business. In your journal, write down a list of people or areas of your business that you can network with. If it is areas in your business, then find people in those areas.

Now, with that list and your calendar, block off time to set up time to meet with people, whether in person or virtual. Finally, in your journal, you can set a time period to do this for, say for three months then take a break, or you can say “ongoing.” But, find people to meet with and set up time to meet with them.

2. Write down areas of your persuasive or influential communication that you can work on. Using the ideas in this book or found elsewhere, write down the areas of your strengths and weaknesses and what you are going to do to improve. If you don’t know your strengths and weaknesses, then ask someone; maybe your boss or a mentor or someone you trust.
3. Really start to build out your client relationship or success strategy. What can you do to improve on these things? You can start your own personal strategy. Make sure you put structure around your strategy, like from the book *Legacy* by James Kerr, and put a timeline around your strategy. Then, get to work.

Chapter 9 Journal Assignments

1. Find what your next presentation will be, and find two ways you can get to know your audience for that presentation, better. Write them here, and then do them!
2. Find someone you enjoy or like from a public speaking or communication perspective. Write that person’s name down. Then, reach out and ask them for mentoring help. In that meeting, whether virtual or in person, ask five questions you have written down in your journal and then write their answers down.
3. Finally, if you have expertise in or have to speak on a topic, get to know it better. Find a book, article, or podcast on that topic

and read or listen to it. Then, write notes in your journal.

Chapter 10 Journal Assignment

1. Pick your favorite interview from the chapter and write one key thing you can do with the information you read from that person. Then, put a plan in place to help you succeed with action towards what you wrote about.

Chapter 11 Journal Assignments

1. Evaluate your organization's current data, analytics, and AI landscape. Now this may be a bigger task than you can do alone if you are a part of a bigger organization, so you may need help to understand your landscape and how your work is being utilized by the business. If you need to, reach out to your customers and ask. Truly understand your landscape and write in your journal your thoughts. Figure out pain points and things that can be done:
 - Step 1: Set your outcome. In your journal, write down an outcome you want to accomplish after your evaluation of the data landscape. This will enable you to improve upon some aspects and ensure you have the future in mind as you do this. Whether it is an improvement in some standard work or bringing in more advanced analytics, write it down and get to work.
 - Step 2: Set your strategy. In your journal, set your strategy and ensure you have it structured well so you can accomplish your goal within a given time period. Make sure you have the time period in there, and also structure your strategy to get it done.
 - Step 3: Have the right tools. With your landscape evaluation done and in place, how do you feel about the tools at your

disposal to get it done? Say your outcome is to get more advanced analytics accomplished: do you have the tools to get that done? Do you need a tool to do advanced analytics, like predictive, or do you have an AI tool you want to implement?

- Step 4: Have the right skills. After your evaluation and when you know your outcome, do you have the skills to accomplish it? You may or you may not. But ensure you are working towards having those skills in place.
 - Step 5: Have the right environment/culture. Is your environment such that you can accomplish your outcome and strategy? If not, what needs to happen? If the organizational culture is getting in the way, can you help it to improve? Ensure you have the right culture in place.
1. Learn a new skill or subject in the field of data, analytics, and AI, and if you can, make it one you can utilize in the future. I won't write out all five steps in this assignment; hopefully you now understand how to do that. Start off by doing a skills assessment of your own data, analytics, and AI skills. Be honest with yourself. Truly evaluate your skills. Find out where you are good and where you can work, plus what skills you may need for the future. If you don't know how to evaluate them, ask your leader or another to help. Then, build a five-step plan to help you develop a new skill.

Final Journal Assignment

Write down how you can keep using this journal to continue to develop your career.

Final Assignment

Stay nerdy, my friend!!

Notes

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- 3 G Loizou. Data monetization: What is data monetization and how to do it well, mostly.ai, 22 November 2023, <https://mostly.ai/blog/data-monetization-use-cases-with-synthetic-data> (archived at <https://perma.cc/9PYY-LSLN>)

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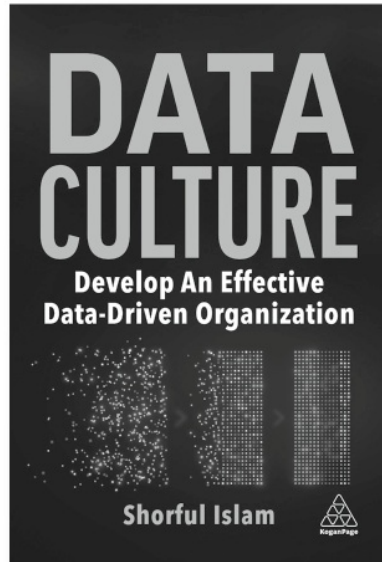
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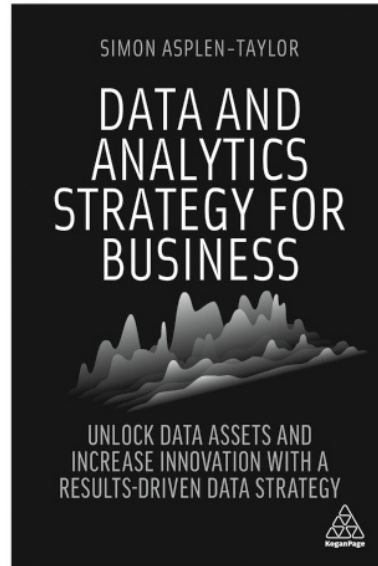


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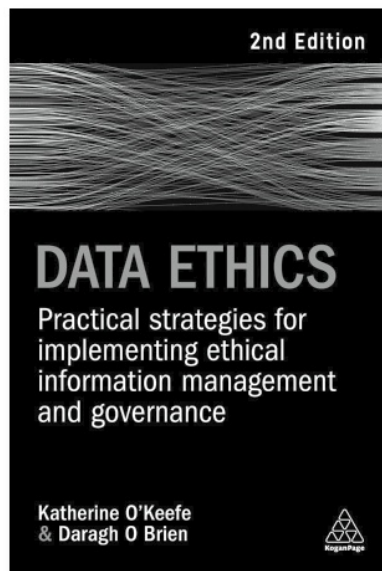
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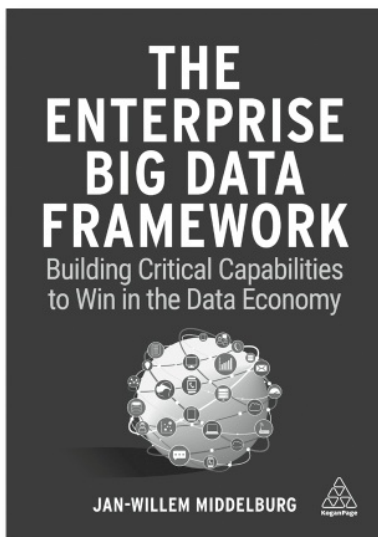
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