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Alteryx Special Edition

Finance Analytics

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Lead a modern
finance organization

—
Create a culture
of analytics

—
Integrate silos
of data

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by

alteryx

Dan Sullivan

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Finance Analytics For Dummies®, Alteryx Special Edition

Published by

John Wiley & Sons, Inc.

111 River St.

Hoboken, NJ 07030-5774

www.wiley.com

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ISBN 978-1-394-27015-6 (pbk); ISBN 978-1-394-27016-3 (ebk); ISBN 978-1-394-28372-9 (ePub)

Publisher's Acknowledgments

Some of the people who helped bring this book to market include the following:

Editor: Elizabeth Kuball

Client Account Manager: Matt Cox

Acquisitions Editor: Traci Mengle

Production Editor:

Editorial Manager: Rev Mengle

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IN THIS CHAPTER

- » Understanding the world of a finance leader
- » Working with emerging technologies in finance
- » Fostering analytics skills in your organization
- » Finding the right technologies and the right skills

Chapter 1

Analytics and the Transformation of the Office of Finance

Finance leaders are experiencing a world of change. Finance is much more than a set of fixed, repeated processes. Sure, someone still needs to close the books and generate reports, but that is just the start of your day — a day driven by the need to leverage data strategically and build capacity for more advanced capabilities, such as generative artificial intelligence (GenAI).

The Dynamic, Complex World of the Finance Leader

Finance leaders are expected to leverage emerging technologies such as GenAI to drive efficiencies across the organization. That requires digital transformation. The complexities of compliance mean finance leaders have to understand and meet the demands of evolving regulations. They are also expected to focus

internally on technology and human resources while keeping up with changes outside the organization. These can range from new regulations to emerging competitors and disruptions to supply chains. This requires an array of technology tools.

Adopting Emerging Technologies to Finance

Using data to inform decision-making requires the use of multiple technologies, including data management, data engineering, tax engines, along with reporting and visualization tools. Data management tools, such as enterprise resource planning (ERP) and general ledgers, are the foundation of transaction processing systems. These tools provide the raw material processed by data engineering platforms for process automation and analytics. Financial platforms like tax and accounting systems support efficient and automated compliance and reporting, and visualization tools generate data-based deliverables that drive decision-making.

Developing Analytics Skills in the Organization

The best technologies are worthless if you don't have the data and the staff who know what questions to ask to address your most pressing challenges. Finance organizations are facing a chronic shortage of skilled professionals with data analytics and data engineering knowledge and experience.

Threading the Needle of the Right Technologies and the Right Skills

Successful finance leaders today are finding ways to foster skill development while applying technologies, leveraging data, and building skills to automate more mundane tasks.

IN THIS CHAPTER

- » Providing trusted data and insight
- » Anticipating risk
- » Getting a handle on performance and growth
- » Making sure you're in compliance
- » Innovating with the best of them
- » Automating your processes

Chapter 2

The Transformative Finance Leader

Finance leaders have a variety of titles, including chief financial officer (CFO), vice president (VP) of finance, VP of Tax and Audit, and VP of financial planning and analysis. Each of these roles has distinct responsibilities, but they also share responsibilities for compliance, growth, profitability, and understanding market risks. Organizations have high expectations for finance leaders, and I outline some of those expectations in this chapter.

Being the Trusted Provider of Data and Insight

Decision-makers in your organization aren't going to use data they don't trust. Why would someone not trust data? For starters, many organizations have silos of data, and it's reasonable to assume that one silo can be missing important data stored in another silo. Even when someone takes the time to research multiple data sources and build a consolidated view, there will

be concerns about accuracy. Manually compiling data in a spreadsheet with few data quality control checks is a recipe for mistakes.



REMEMBER

Trusted data requires the integration of data sources using automated processes that have been tested and vetted and are known to run reliably and consistently over time.

Predicting Risk

Finance leaders are expected to anticipate the unexpected and see around the corners. Some people have the luxury of thinking the world works according to the mental model they have in their heads. Finance leaders don't. They need to be able to see how changes in tax laws will impact the bottom line, how fluctuations in the currency exchange rate will impact this quarter's performance, or which production facilities will be affected if a key supplier is late in shipping components.

Predictive analytics can help finance leaders with all these questions. They provide the tools to identify patterns that are useful for predicting which customers will be late on payments. They also support simulations and models that allow you to understand what may happen under certain combinations of conditions and circumstances.

Understanding Performance and Growth

Finance leaders are forward-looking but also have a keen understanding of the state of operations, especially regarding performance and growth.

Finance leaders need insights into operations and the factors of production that dictate performance. If there are inefficiencies, inconsistent operations, and poorly executed operations, then overall performance can be adversely impacted. To reliably and consistently deliver data about performance, finance leaders need to have the ability to collect detailed metrics, combine and analyze them, and deliver insights to operations managers.

Meanwhile, executives will be pressing finance leaders to deliver forward-looking insights about growth. This entails

understanding the factors that contribute to growth and present risks to growth. Sometimes risks are internal, like an inefficient operation that won't scale to expected increases in demand. Other risks are external, such as competitors expanding into new geographies or market segments.

Leading Compliance Efforts

Compliance requires strategic leadership that focuses on developing a culture of compliance within the organization, as well as implementing technologies that automate compliance and reporting. Finance leaders can provide that strategic direction for both regulatory compliance, as well as internal policy compliance.

On the regulatory front, finance leaders need to keep up on changes in regulations. Changes can be as basic as updates to tax rates or more nuanced changes in how an agency interprets a regulation. For organizations operating internationally, this entails maintaining a global awareness of changes.

Compliance with internal policies has its own host of demands. They start with developing a strong compliance framework, ensuring timely and accurate reporting, training and developing skills, monitoring compliance, and collaborating with other departments within the organization.

Driving Innovation

Information technologies are constantly evolving, but recent advances are providing new kinds of opportunities to change how organizations operate. Recent advances in machine learning and artificial intelligence (AI) and generative AI (GenAI) are radically different from incremental advances made over the past two decades. Generative AI has finally cracked the nut of analyzing and understanding unstructured data. Cloud computing is enabling the use of Software as a Service (SaaS) at scales to accommodate global corporations. Constraints that are imposed by running back-office operations on-premises are no longer holding companies back — if they recognize the opportunity to change how they operate.



TIP

This is where finance leadership is so important. Advances in AI, analytics, and cloud computing are exciting to read about and ponder, but to affect the bottom line and the trajectory of your organization, these technologies need to be applied to driving business problems. Finance leaders are expected to understand these technologies and know where to introduce them effectively in the organization.

Fostering Automation

If innovation is about seeing how to use technology to do something new or more efficiently, automation is about putting that idea into practice.

By *automation*, people typically mean taking a human out of a process. The less you have to depend on humans to perform routine, repetitive, and mundane tasks, the more you can depend on them to solve harder problems and take on more complex tasks. Finance professionals are highly skilled, well paid, and in demand. They're some of the last people you want to assign to a dull, routine task, no matter how important it is that the task be completed.

Automation enables you to tune a process and perform it repeatedly and at scale. It reduces the risk of human error by augmenting and complementing human capabilities.

- » Knowing what you're up against
- » Overcoming the challenges to data-informed financial management

Chapter 3

Data, Skills, and Silos

Why aren't organizations getting more out of their data? There is no shortage of data. Data engineering platforms are mature, scalable, and ready for use. Many data analytics and data science tools and libraries are readily available. So, what's holding us back?

Identifying the Challenges to Data-Informed Financial Operations

Operations in finance benefit from the effective use of data and analytics, but several challenges are often unaddressed or insufficiently addressed in organizations. This is an opportunity for strategic leadership around data that goes beyond numbers on the ledger.

Lacking quantitative data skills and literacy expertise

In today's finance organizations, having a strong affinity for numbers is not sufficient to meet today's demands. Having the ability to look beyond the ledger and build the insights into operations, sales, compliance, or other critical functions requires an ability to harness insights from data. The problem faced by many

finance organizations is that auditors, accountants, and other finance professionals don't come readily equipped data literacy skills.

Data literacy encompasses a set of competencies enabling individuals to derive insights from data. This entails grasping various data types, such as numerical and textual, organizing data effectively, applying mathematical techniques to manipulate and interpret data, and effectively communicating findings derived from data analysis. Fortunately, in the realm of business, possessing basic data literacy capabilities can yield significant benefits, even for those without advanced academic credentials like a PhD.

As a financial leader, you have an opportunity to encourage and foster the development of data literacy skills. In some organizations, formal training programs may work well; in others, informal mentoring and cross-team training sessions may be the right mix for building quantitative data skills. The right approach will depend on your team members' current level of comfort with data and analysis, the resources at your disposal to develop skills, and the specific goals you're trying to achieve.

Providing a unified approach to data analytics

When exploring analytic platforms and tools, the abundance of options can quickly overwhelm. From general-purpose platforms to specialized models, the array of choices presents a significant challenge. So, why is it so tough to find the right tools?

The initial obstacle lies in identifying which tools align with your specific needs. This requires a comprehensive understanding of your business data and objectives both currently and into the future. You must also navigate your organization's IT architecture to determine where these tools fit and how they integrate with existing systems. Moreover, quickly building proficiency in analytics without adding to organizational complexity is crucial for effectively building analytic capacity.

Assuming you surmount the first challenge, you're then faced with the task of deploying a capability that is easy for your finance professionals to grasp, utilize, and self-service for a bulk of their analytic needs.

By leveraging a comprehensive platform that addresses flexibility in deployment, scalability, ease of use, and adaptability, you can build a very strong analytics capability that will unify the use of data across your finance operations.

Wrangling growing data volumes

As organizations undergo digital transformation, the volume of generated data increases. Digitizing existing processes introduces new software, applications, and processes that generate additional data types, including metrics and logs to monitor performance, compliance, and the bottom line.

Additionally, in various departments like sales and marketing, professionals compile comprehensive customer profiles comprising contact details, demographics, behavioral traits, and purchasing habits. Ultimately, across the organization, there's a surge in data collection efforts driving a need for more automation and innovation when it comes to harnessing the power of data.

Moreover, as more devices, channels of engagement, and reporting requirements are added, even more data is added. All of this data is valuable for the insight it contains not only for current performance but also for providing the ability to predict results and understand risks.

All of this points to that need to gather, wrangle, and ingest data into your analytical processes seamlessly before you can effectively develop and deploy predictive capabilities.

Developing trust and certainty with governance

The adage, “Fool me once, shame on you; fool me twice, shame on me,” explains a lot about the level of trust some people have with data. If you make a decision based on faulty data and have to live with the adverse consequences of that decision, you'll think twice (or thrice) before using that data source again.



REMEMBER

Developing trust in your data is difficult. You have to be confident the source of the data is correctly collecting and generating data. You also need to know that the processing, transformation, and analysis of that data is sound. You have to trust the processes are reliable and repeatable (in other words, they won't break down

just because the volume of data increases or someone was on vacation and a manual step in the process was missed).



WARNING

Organizations need to have governance procedures and policies in place around data management and processing. Without them, you risk undermining trust in data.

Overcoming These Challenges

You can overcome the challenges to data-informed decision-making with an ensemble approach to the problem. No single solution or technology will alleviate the lack of skills or difficulty deploying and maintaining analytic applications, but a multi-pronged approach that addresses the breadth of challenges will get you a lot closer to achieving your goal.

Developing a culture of analytics

Technology must be usable to be effective, and in the case of analytics, that means developing a culture that promotes data-informed decision-making and provides tools that are easy to use.

To promote the use of data analytics, use a combination of tools and expectations. Tools should be designed for the people using them. In the past, analytics tools designed by quantitative experts for other quantitative experts were of little use to most professionals without formal training in statistics and other areas of math.



REMEMBER

Tools should meet people where they are: thinking about business problems, not wondering which non-parametric test to use for a non-normal distribution.

Promoting data-informed decision-making means you expect data to back up a decision or recommendation. If an operations team thinks a new process will be more efficient than the existing process, it's reasonable to ask why. The answer shouldn't be just that the new process performs better — it should be that the new process performs better by X percent, along with some other key metrics.

Leveraging AI effectively

Artificial intelligence (AI) in general — and generative AI in particular — is proving to be a general-purpose technology like electricity. It's useful in many different areas. In finance, we'll certainly see a continuation in the use of discriminative AI solutions, including classification, regression, and time series analysis for specific problems. We'll also see the increased use of generative AI in content production and data analysis.

Already, basic tools like spreadsheets are enhanced with generative AI tools to help with data exploration and data analysis. Using finance platforms that incorporate AI both in the backend in the data processing pipeline and in the front end to assist finance professionals in the last mile of analysis is an effective way of addressing the challenges to data-informed financial management.

Embracing the governance of data across the full data life cycle

The quality of data and analysis of that data must not be questioned if it is to be trusted. Sure, you could tell finance professionals not to worry, that the AI took care of quality control, but that likely wouldn't go over very well. Humans and AI can both make errors.

Data governance is the set of policies and procedures that help you manage data effectively but also catch those moments when something goes wrong. Comprehensive guidelines on how to protect data, standardized and automated operations, and the combination of summary and detailed reporting provide the core elements to help ensure that your data operations will lead to insights that can be trusted.

Employing Alteryx as a trusted partner

The extensive effort required to leverage data effectively in financial operations is evident. Much of this effort entails technical, data engineering-focused tasks such as extracting, transforming, and loading data; implementing access controls; monitoring infrastructure usage; and ensuring resource availability. While crucial, these operations do not yield the most significant rewards.

The true value lies in the insights gained about your operations, products, and market. These insights result from a combination of skilled professionals who understand your business and advanced analytics and AI tools that aid in extracting insights from data.



TIP

Alteryx serves as your ally in this endeavor, offering advanced data engineering, analytics, and AI services that establish the data foundation necessary for building efficient, effective, and data-driven operations. With Alteryx, you can streamline the process of deploying analytics, empowering your team to derive actionable insights from your data more efficiently and effectively.

Chapter 4

Ten Skills That Define a Modern Finance Leader

Here are some of the big takeaways from this book, including key skills to develop as a finance leader:

- » **Driving innovation:** Modern finance leaders drive innovation. They look for opportunities to apply technologies to business problems. They focus on specific business challenges and understand how to identify technologies that will address those needs without getting caught up in the latest tech hype cycle.
- » **Promoting a culture of analytics:** All the AI and analytics tools in the world will not help your business if your employees don't have the skills to apply them. Modern finance leaders foster learning about and applying analytics to business challenges.
- » **Choosing technology based on driving business problems:** Finance leaders should avoid getting caught up in acquiring technology for technology's sake. Information technologies and artificial intelligence (AI) can help in many areas. Make sure you know what those areas are before bringing in new technology.
- » **Thinking strategically about data and innovation:** Data is an asset, but like raw materials, what you start with as inputs to a process and what you get at the other end depend on

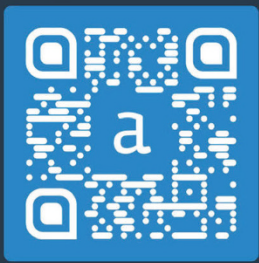
processes that combine, refine, augment, and reshape those initial ingredients. Similarly, leaders who can think strategically about how they can combine and refine data and apply it to driving business problems are primed to drive innovation in their organizations.

- » **Identifying risks:** Finance leaders can identify risks across a range of domains, including internal operations, market risks, supply chain disruptions, and geopolitical issues. A more complete capability based on data to see around corners will help the finance leader navigate rough waters.
- » **Using finance and technology to mitigate risks:** In addition to being able to identify risks, modern finance leaders know how to use finance and technology to mitigate those risks. In particular, data analytics and AI can help subject matter experts evaluate multiple scenarios and plan for a range of adverse events.
- » **Understanding compliance and leveraging technology to support it:** There is little room to get anything wrong with compliance. Finance leaders need a firm understanding of compliance requirements and an awareness of how to apply technology to efficiently and reliably meet those needs.
- » **Deploying automation:** Automation reduces errors and improves scalability of operations. Finance leaders must embrace automation and deploy it throughout finance and operations workflows.
- » **Preparing data and leveraging AI:** As much as you may try to minimize silos of data, data will always be distributed across multiple systems. In addition, you'll always need to combine data from multiple systems for analytics. Well-established data engineering pipelines and workflows can help with this. AI is also needed to automate some of the more complex operations in finance. Modern finance leaders depend on the mundane data-munging pipelines and cutting-edge AI models to keep data flowing and leading to insights.
- » **Building your team with data skills:** You can have a car capable of breaking land-speed records, but without a driver, it's going nowhere. Finance leaders must facilitate analytic skills development. Hiring your way out of analytics skill deficiencies isn't practical, partly because of the cost, but more important, because your existing staff has valuable knowledge that is essential for understanding and optimizing your business.

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AI PLATFORM
FOR ENTERPRISE ANALYTICS

According to McKinsey,
81% of tax processes
can be automated



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Lead a modern finance organization

This book offers insights into the evolution of finance, now heavily influenced by analytics and cutting-edge technologies. Gain an understanding of the dynamic environment in which finance leaders navigate, and the imperative to embrace analytics proficiency and appropriate technologies. Explore how forward-thinking finance executives harness data for valuable insights, risk management, performance monitoring, regulatory compliance, and innovation. Uncover the obstacles encountered by finance leaders, such as the scarcity of data expertise and the surge in data volumes, alongside governance challenges. Discover potential remedies like nurturing an analytics-driven culture, harnessing artificial intelligence, and adopting comprehensive data governance throughout the entire life cycle.

Inside...

- Create a culture of analytics
- Know the challenges of data technologies
- Apply data analytics to compliance
- Leverage AI for finance analytics
- Predict risks informed by data
- Foster finance innovation
- Build trust in data

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Dan Sullivan is a data architect and the author multiple book, articles, and online courses focused on data analytics, data science, machine learning, and cloud architecture.

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ISBN: 978-1-394-27015-6

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