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DATA ANALYTICS SKILLS REQUIRED FOR ACCOUNTING INDUSTRY JOBS: ANALYSIS AND STRATEGIES

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ABSTRACT

Purpose of the research. There's a lack of specific advice / tactics for those interested in switching from public practice to industry. Purpose of the research is to fill the current gap and provide specific tactics for aspiring professionals both in terms of understanding the skills required to make a transition, as well as the ways to develop those skills.

Methodology. This study employed a qualitative research approach to explore the data analytics skills required for audit and corporate accounting jobs. The study adopted a case study design to examine the specific data analytics skills required for audit and corporate accounting roles.

Originality / value of the research. By combining the researcher's personal experience, industry insights, and academic literature, this study provides valuable insights into the data analytics skills required for audit and corporate accounting roles. The study's findings and recommendations offer practical guidance for auditors transitioning to corporate accounting positions and for corporate accountants seeking career advancement.

Findings. This article delved deeply into the data analytics skills required in corporate reporting, but absent in audit due to job differences. The article provides an overview the current software market and provide practical tips on learning and practicing new tools that could (1) provide required skills for a successful industry shift and (2) cementing and upscaling your role in reporting department.

Keywords: professional transition, public practice, audit, industry, data analytics, data science.

«I gather there are still some MBAs who believe that all the data work will be done for them by subordinates. That won't fly at P&G. It's every manager's job here to understand the nature of statistical forecasting and Monte Carlo simulation».

Bob McDonald, CEO of Procter & Gamble

INTRODUCTION

Traditionally perceived as a best place to start [1], auditing often becomes a first job for many business school graduates. Combined with extensive accounting workplace training programs, audit job provides a solid foundation for all future business roles [2].

At the same time, working in audit can be challenging. Auditors are often perceived as «the last line of defence to ensure accuracy and compliance» [3]. In top audit agencies, the competition is fierce, requiring long hours work to get a next promotion. Regularly, a proportion of auditors move to other jobs. The choices are many. One of the most natural is switching to industry.

Literature review. There is an ongoing discussion on topics of switching from public practice to industry [1] and skills required for that [2]. There's also research of relationship between accounting and data science profession [4]. However, we haven't encountered mentioning of more specific advice/tactics for those interested in switching from public practice to industry. In our paper, we'd like to fill the gap and provide specific tactics for aspiring professionals both in terms of understanding the skills required to make a transition, as well as the ways to develop those skills.

MAIN BODY

Research methodology. Research design. This study employed a qualitative research approach to explore the data analytics skills required for audit and corporate accounting jobs. The study adopted a case study design to examine the specific data analytics skills required for audit and corporate accounting roles. The study relied on the researcher's own experience working as an auditor and corporate accountant, complemented by insights from industry experts and relevant academic literature. The researcher's own experience provided valuable insights into the practical skills and knowledge required for data analytics in both audit and corporate accounting roles.

Data Collection Methods. Data were collected through a combination of document analysis and personal reflections. Document analysis involved reviewing relevant academic literature and industry reports to understand the current landscape of data analytics in the accounting profession. Personal reflections were used to document the researcher's own experiences and observations in acquiring data analytics skills.

Data Analysis Methods. Thematic analysis was employed to analyse the qualitative data from the document analysis and personal reflections. Thematic analysis involved identifying recurring themes and patterns in the data. The themes were then organized into categories to provide a deeper understanding of the data analytics skills required for audit and corporate accounting roles.

Limitations. The study's primary limitation is its reliance on the researcher's personal experience. While this experience provided valuable insights, it may not be generalizable to all auditors and corporate accountants. Additionally, the study focused on the transition from auditing to a corporate accounting position, and it may not capture the full range of data analytics skills required in other accounting roles.

Key difference of audit and industry job. (*Preliminary note:* when addressing 'industry job', in this article, we mean, mainly, working in financial reporting department, which is the most similar (and the often) job to get from auditing. However, the reader must keep in mind that jobs in industry may include many other financial and non-financial positions: treasury, financial controller, internal auditor, tax accountant, bookkeeper, business process manager, project financial manager, budgeting, or commercial roles. The tips provided in this article would relate, to an extent, to many financial jobs in industry.

Also, «Industry job» is sometimes addressed as «Corporate finance job» in literature, even though, «Corporate finance» term is specific and relates to the field of Corporate Finance (dealing with financing / M&Es), not just any corporation job within finance department.)

One of the questions to ask when switching to industry is: what skills would it require? To understand the skills required for industry, first, we need to define the general differences between industry and audit. the tempo and direction of the jobs are different:

1. Periodicity of data renewal. In auditing, you deal with external database once a year. Your audit opinion is also expressed, mainly, on yearly financial statements. As such, your focus on data extraction must be minimal as it would be done very rarely (actually, once, if your client won't renew an audit contract next year). Moreover, the data extraction process is hard to automate as client's databases are always different and have different configurations (left alone audits, where databases aren't provided by client at all).

In industry, you deal with one and the same database continuously, monitoring the closing of accounts and updating management reports each month. As such, you repeat the same tasks at least 12 times a year. There are a lot of tasks that are done repetitively in the same environment, so the optimization/automation is quite possible (and needed).

Let's underline the difference. For auditors, it's sometimes best to extract the data ASAP manually, and spend most of the time on its audit procedures. For industry analysts, the process of preparing data needs to be *constantly* optimized and automated. Even though, auditor have some knowledge of extracting/cleaning data, in a new role he/she will strive for automated query solutions (Automating data extraction is an example of technology called 'Robotic Process Automation' or RPA [5, p. 9]), otherwise, manual data provision can take all of his/her time [5; 6].

Another point is that analysis and management reporting of the information would take place monthly (and even more frequently for some reports). Such frequency would require data modelling skills in order to link the data clusters into data models. Otherwise, calculations / analysis would be highly susceptible to errors and unavailable for ad hoc requests / changes in management needs.

ИНВЕСТИЦИИ, ФИНАНСЫ И УЧЕТ INVESTMENTS, FINANCE AND ACCOUNTING

2. Direction of data analysis. In audit, mostly the past information is worked with and tested. The opinion is done on the quality of historic information with a minor look forward when addressing Going Concern issue. In general, audit relies heavily on analytics (especially for senior roles). In industry, past information is also regularly reported. Thus, auditor is well equipped to perform data analysis on a new job.

In industry, there's also a huge block of work with reporting of historic information. That's done in budgets and monthly management reports. So, for this task, ex-auditor already has a significant experience, which is his/her primary competitive advantage when competing for a job. At the same time, in industry, management reports contain versatile visualization, often interactive. The analyst is implied to work with advanced visualization tools using specialized software.

Moreover, at more senior positions, in addition to descriptive («what has happened»), the predictive («what could happen») and prescriptive analyses («what should we do») would be sought. For them, research methods (mostly, quantitative) shall be acquired.

Data analysis skills auditors need to switch into industry. Let's derive the skills required for industry job based on 2 principles mentioned above.

1. The change in job's periodicity:

a. That data extraction/cleaning skills must be equipped to refine and automate the process of data query.

b. Data modelling skills must be equipped to refine and automate the process of data analysis (for that, relational databases must be studied).

1. The change in direction of information:

a. Data visualization skills will be required for an illustrative descriptive analysis.

b. Quantitative research skills (statistics) must be required for predictive and prescriptive analyses at more senior roles.

All abovementioned differences deal with data analytics skills in more or less extent [4, p. 9] (This doesn't mean, of course, that data skills are the only skills needed for a successful industry landing. The need for additional soft and hard skills is addressed in previous literature).

As mentioned earlier, the data analysis can be divided into descriptive, predictive, and prescriptive categories (in order of mathematical sophistication) [7, p. 7]. The Venn diagram summarizes the data analyses categories with knowledge domains where required skills are situated (Figure 1) (Currently, data terms are not uniform. In this diagram, we stuck to the popular convention, where 'Data Science' term is reserved for the intersection of data analysis, data engineering and hypothesis testing):



Figure 1 – Knowledge domains with 3 levels of data analysis Note – complied by the author

Based on the Venn diagram on our analysis above, we can formulate the key data skills (knowledge domains) and possible strategies for auditors looking to switch into industry:

1. 1st level descriptive analysis (data extraction, analysis, visualization). Auditor already has some knowledge in descriptive analysis due to his substantive experience in financial analysis during audit years. Learning data extraction and visualization skills wouldn't require going into new knowledge domain, as additional learning would be based on the skills gained during audit years.

2. 2nd level descriptive analysis (data modelling, RPA). High repetitiveness of tasks would require knowledge in data modelling. Auditor would need to go to a new knowledge domain of Relational Databases to obtain that skill. Taking into account that RDB modelling would be required for effective data visualization, and lack of that training among most of accountants [8], gaining that vital knowledge would require significant effort.

3. Predictive and prescriptive analysis (financial data science). To get promoted to senior roles, data science needs to be learned (see «financial data science» sector on the diagram above). For that, the domain of statistical research must be visited.

Further exploration of significance of obtaining data skills. The utmost importance of mastering data skills for corporate accounting professionals is confirmed by several industrial reports. There are several perspectives to that topic.

• The changing role of accountants

During last years, there's emerging a concept of a broader context of the accounting profession and its role in the business world, namely, that its role would shift towards business partner role [9]. 22 % of respondents thought that the following was being achieved now and 72 % thought that it would be the case in the next five to ten years: finance teams will spend all their time on generating insights [10]. The role of accountants will shift from reactive to proactive and from accounting skills/mandatory activities to business skills/value-adding activities.

• The broader implications of data science for the accounting profession

78 % of respondents thought that new roles and skills would be needed in the finance function, among which data skills would be central [10]. A vast amount of effort will be dedicated to designing, configuring, and maintaining highly automated finance systems and processes, and to manage the «ecosystem». One of key factors in making an organisation successful is the ability to understand and use the data to its advantage [9].

• The potential benefits of data science skills for businesses

Improved decision-making, increased efficiency, and reduced costs are among potential key benefits of using data science skills for the sake of Company's aims [4]. Fundamental research lists the following rationale for business analytics [11]: 1) Achieve a competitive advantage, 2) Support of an organization's strategic and tactical goals, 3) Better organizational performance, 4) Better decision outcomes, 5) Better or more informed decision processes, 6) Knowledge production, 7) Obtaining value from data.

• The challenges that may arise when incorporating data science skills into accounting practices

Skills gaps, data quality issues, and organizational cultural barriers are among the top challenges for obtaining data analysis skills [4].

Addressing industry role with data science software. There are many developers offering software for data analysis. Below, we overviewed some basic and affordable solutions from a worldwide office soft leader Microsoft, which are quite popular in the Eurasia region. We tested all the software described below in real job conditions.

Data extraction and cleaning. A lot of query instruments are available on the market. One of the most popular is PowerQuery, a part of MS Power BI and latest versions of MS Excel. PowerQuery allows working solely with «wizards» (without command operations) making it accessible to a user with no programming knowledge. PowerQuery automates the work with vast amounts of data. It utilizes complex 'M' language, knowledge of which can be helpful for more advanced queries on more senior positions.

The more traditional instrument of data query is in MS Access. It works with SQL, the most common database query language in the world. However, we can work solely within Access interface (including many handy «wizards» for even better usability) or combine it with SQL if needed. Also, Access includes Expression builder, which transforms queries into Excel formula-like expression with built-in helpers (It must be noted

that SQL is quite intuitive and common language for the majority of data software like a more advanced MS SQL Server, knowledge of which, can benefit throughout the data analysis career). Very easy and intuitive for MS Excel users, it can suffice the most basic needs for a database query in financial analyst's work.

Visualization tools. MS Power BI currently presents one of the strongest visualization tools on the market. MS Power BI allows to choose virtually any element on the visual, and automatically re-renders all the visuals on a screen according to chosen parameter. Moreover, MS Power BI's potential is virtually limitless as it allows third parties' visuals to be included into the soft (quite strong are xViz Pro Suite visuals).

However, to utilize the full potential of its interactive visuals, the modelling of relational databases must be done first. MS Power BI includes strong relational databases (RDB) engine, one of its 3 components (others are PowerQuery and Visualization engine). Without modelling, MS Power BI becomes just a shiny (and more expensive) version of MS Excel.

MS Excel offers strong visualization tools enough for static presentations (to use in MS PowerPoint or as PDF). Moreover, MS Excel allows more manual straightforward edition which makes its learning curve flatter. MS Power BI requires more time to learn due to high level of interactivity.

Relational databases. Above, we noted MS Power BI's RDB engine. MS Power BI is mainly an analytic visualization tool, so its RDB is used for more effective visualization. However, some employers want to include into MS Power BI's universe not only graphs but sort of Excel spreadsheets, which is impossible in MS Power BI. Instead, users use Matrices, which are not based on Spreadsheets (consisting of cells) but Data tables (consisting of columnar data). Working with tables requires learning basics of DAX command language, which is a sort of Excel formulas, but for columnar data array (thus, making it more complex). A somewhat steeper learning curve of DAX comparing to Excel formulas, created a market of custom simplified visual matrices for MS Power BI, which would enable constructing matrices without much (or any) use of DAX. Financial Reporting Matrix by Profitbase is an example of such matrix software.

PowerPivot is a build-in plug-in for MS Excel allowing a very similar to MS Power BI RDB engine. First, it allows to model the relations between data tables (which are either converted from Excel sheets or queried from external files). Then it allows to construct a power pivot table, which looks like a classic MS Excel's pivot table, but utilizes RDB model and allows to construct pivot tables from all the data tables uploaded to the RDB engine. Moreover, the same DAX language is used in PowerPivot to create complex calculations and custom data columns/rows (called 'measures'). That makes combination of classic MS Excel with PowerQuery and PowerPivot functionally quite similar to MS Power BI. The obvious benefit of that MS Excel + PowerTools combo is possibility to use (and present) Excel spreadsheets and formulas simultaneously with DAX, which'd make a learning curve much flatter comparing to MS Power BI (where you don't have spreadsheets and can't use Excel formulas at all). MS Excel + PowerTools is a strong tool for internal working files, where you need to perform complex calculations without caring about visualization.

MS Access is a classic and time-tested database management system. Unlike MS Power BI which strive for better visualization, or Excel which allows complex workings directly with data, MS Access allows smooth user experience through user-friendly GUI (via «Forms» and «Reports»). With MS Access you create not just reports, you create user-oriented applications. In a way, MS Access is the most Data Engineering tool that can be used without much knowledge of programming. That's because, apart from MS Access' internal functionality and wizards, there's a branched collection of macros, a pre-written VBA codes (Access utilizes VBA programming language), ready to satisfy the most of basic needs in coding. Using macros is like Lego: you combine pre-defined parts into a line of calculations which you need to launch as part of evoked «event». Learning macros and VBA can make sense as they can be used in MS Excel and MS Word, enhancing your possibilities with them. However, due to need to learn macros and query expressions, MS Access' learning curve is steep. We'd recommend learning MS Access as an introduction course to Data Engineering (taking into account its widespread availability) for financiers.

Hypothesis testing. Statistical methods are required for more advanced analysis methods: predictive and prescriptive. As these are required for more senior industry roles, they are not the main topic of this article. However, for beginners' practice, MS Excel's statistical formulas can be utilized. Financial analyst should start experimenting with formulas calculating means, interquartile ranges, standard deviation, correlations,

trying to utilize them in his/her financial analysis and learning towards deeper statistical methods to prepare himself to more senior roles.

Methodology for implementing new tools. It must be noted, that above instruments must be implemented in working environment *without* loss of information's quality. Analyst can use ACCURATE model (information must be: Accurate, Complete, Cost-beneficial, User-targeted, Relevant, Authoritative, Timely, Easy-to-use) to stay on the pulse of information's qualities. Analyst should remember that any changes must be done *only* if information qualities rise substantially, and never solely for the sake of changes.

Let's go through an example. An analyst compiles financial statements monthly by manually uploading data from Group's several databases and pasting it to spreadsheets (i.e., compiling transformation tables). He decided to utilize PowerQuery to optimize the uploading of data and PowerPivot to optimize to formation of financial statements. What happens to information's quality – is the next question he must investigate. The following analysis may come next.

An example of information analysis:

Accurate. As manual job decreases substantially, human errors during compilation decrease at least by 50 %.

Timely. Information is prepared 3 times quicker due to automated upload from the database (currently, separate database reports are manually uploaded to spreadsheets) saving 3 days for other work.

Adaptable. Substantive improvement, as data uploaded straight from database keeps all the initial parameters (information on contracts, firms, etc.). As such, many ad hoc requests from management/parent could be addressed instantly by choosing required fields in PowerPivot.

Easy-to-use. Initially decreases, as input data is uploaded as an array of documents, not user-friendly standard database report. This decreases the possibility to summarize initial data visually. So, a customary report (similar to user-friendly standard database report) must be automated by analyst through the use of PowerPivot to keep 'easy-to-use' parameter at the level of old transformation tables.

Understandable. Initially decreases up to the point when all of users understand the basics of using PowerTools.

More empirical evidence to support the provided recommendations

Insights from other experts. There are several reports which also provide the conclusions and recommendations on increasing data analytics effectiveness in a corporate world (although, unrelated, specifically, to transition from practice to industry).

1. Data cleaning and preparation. One report underlines the importance of data cleaning and preparation and provides the following recommendations on data governance [4]:

a. Align data collection with business needs for data-driven insights and avoid collecting data for which no users exist.

b. Minimise security risks by avoiding use of personally identifiable information in analysis.

c. Ensure that data cleaning and preparation does not remove anything that could be used to identify outliers and anomalies.

d. Lead the development, in conjunction with other functions and teams, of a playbook for the correct use of data.

2. Data visualisation. One report underlines the importance of data visualisation skills for accountants at the workplace and provides the following specific ethical recommendations to avoid the popular misleading techniques within the data visualisation [8]: a. Omitting the baseline; b. Manipulating the y-axis; c. Selectively picking the data; e. Using the wrong type of graph; f. Going against conventions.

3. Predictive and prescriptive analytics. Several reports suggest the further evolution of backward-looking top accounting and finance professionals' roles into forward-leaning Chief data analysts [12] or Finance business partners [9]. They suggest initiating cultural shift and turn digital data into insight (into clients' behaviour and potential opportunities and risks) and draw conclusions [12]. To do that they stress the importance of shift of traditional finance departments into general data quality management and oversight (at the heart of finance insights going forwards is the ability to believe in the power of the data, to understand the role to be played in standardising and structuring that data and to ensure that they embrace the new realities of prediction and decision-making) [9]:

a. Establish appropriate governance over the data in the organisation to support insight generation. Invest in data skills for finance business partners, enabling them to realise these opportunities and drive insight.

b. Ensure that data is collected from various relevant sources to measure the value to society.

c. Finance functions need to develop a constructive mindset around data, to explore it and play with it, be inquisitive and understand the business impact of things rather than force structure, reconcile it to try and make it accurate.

d. There is a need to develop a balanced approach to risk taking. Appreciating that there is not always a need for pinpoint accuracy or does the 80:20 work well enough.

Examples from industry practices. There are several case studies to illustrate how the data science-related solutions have been implemented successfully in real-world settings.

Electronic Health Record (EHR) Data Governance and Data Quality (US)

The current largest challenge for health IT and informatics professionals: data quality [13]. Medicine and nursing documentation wasn't consistent between institutions or even individual clinicians. Since 2009, electronic health records to well over 80 % of ambulatory physicians and virtually every hospital in the United States were unified. Early studies on digital data quality within electronic health records revealed a long list of concerns including incompleteness, duplication, inconsistent organization, fragmentation, and an inadequate use of coded data within EHR workflows. The key problem with data was that medication data wasn't aligned with the subset of codes, known as a 'value set' [14].

The critical data analysis was implemented for the sample of 401 EHR documents [15], after which 19 critical categories were identified among which the key issues were:

- 13.7 % of medications were not coded correctly.
- 9.7 % of vital signs and results were not coded correctly.
- 6.7 % of data included conflicting status information.

Course Name	Topics	Website	Comment
Excel Power Tools for Data Analysis from Macquarie University	Power Query, Power Pivot, MS Power BI	Coursera [19]	Provides holistic introduction to MS Power Tools for intermediate Excel users. Final course of wider Excel specialization (which can be used as introduction to MS Excel)
Power BI Data Analyst Associate Certifications	MS Power BI	Microsoft Certifications [20]	This is not a course, but an exam providing a badge to showcase your practical knowledge of MS Power BI. Very popular on the market, enhances employability
Several tutorials	MS Access	Holowczak Tutorials [21]	Several free tutorials for beginners. Goes through all basic concepts
Access No VBA	MS Access	Access All-in-One [22]	Free complex intermediate tutorial teaching using Access without coding. Build a commercial database from a scratch (using hotel industry as an example)
Business Statistics and Analysis Specialization from Rice University	Quantitative Research Methods (advanced learning)	Rice University official website [23]	Rare statistics course utilizing MS Excel (1 st course is for Excel beginners) with straight practical application
Certified Analytics Professional (CAP®) certification	Data Science (advanced learning)	CAP® Official Website [24]	Ultimate Data Science certification (vendor neutral). Alternatively, a textbook (ABOK) can be studied [7].
Note – compiled by the author			

Table 1 – List of courses for self-study of data skills

However, doing a test with sample data once every few years isn't effective data governance. To improve data quality and governance, it needs to be put in routine practice with real-world data. Authors concluded that practice can be fulfilled by creating a second tier of data. Such a technical foundation will enable data

governance to scale using the full extent of advanced technologies including expert rules engines, natural language processing, machine learning and artificial intelligence. It will also ensure that data are used for the right purposes, as well as respecting patient consent and privacy. A tiered architecture also better supports specialized applications such as clinical decision support and operational reporting [13].

Obtaining and showcasing your skills. Employment of data scientists in us is projected to grow 35 % from 2022 to 2032, much faster than the average for all occupations [16]. Data analysis education is a key differentiator, and at high-performing organisations, employees at all levels are better educated on data concepts [17]. Today, the responsibility has shifted from academic institutions to employers, where skills development programs are flourishing [18]. Therefore, we strongly believe that young professionals should try to make the most of his on-job learning opportunities.

There are many sources online to study the data skills mentioned above. We summarized several effective courses in a table below.

CONCLUSION

Many sources predict Data Science as one of top jobs of the decade and near future [25; 7, p. 311; 4]. At the same time, ongoing technological advancements may lead to massive contraction of audit industry [26, p. 139]. Obtaining data science skills is beneficial and will be even more beneficial in accounting / finance career in the nearest future.

By combining the researcher's personal experience, industry insights, and academic literature, this study provides valuable insights into the data analytics skills required for audit and corporate accounting roles. The study's findings and recommendations offer practical guidance for auditors transitioning to corporate accounting positions and for corporate accountants seeking career advancement.

Future research could expand on this study's findings by conducting a larger-scale survey of auditors and corporate accountants to assess the prevalence and importance of data analytics skills in different accounting roles.

REFERENCES

1. Bragg S. The Transition from Auditing to Industry (#112) [Electronic resource] // Accounting tools [website]. – December 4, 2019. – URL: https://www.accountingtools.com/podcast-blog/112 (Accessed: 23 March 2023).

2. Transferable skills: practice to industry [Electronic resource] // ACCA Careers [website]. – 18 May 2020. – URL: https://jobs.accaglobal.com/article/transferable-skills-beyond-practice/ (Accessed: 23 March 2023).

3. Sood S. Auditing, a serious job: Top challenges faced by auditors while auditing [Electronic resource] // Times of India [website]. – April 27, 2022. – URL: https://timesofindia.indiatimes.com/blogs/voices/auditing-a-serious-job-top-challenges-faced-by-auditors-while-auditing/ (Accessed: 23 March 2023).

4. Analytics in Finance and Accountancy [Electronic resource] // ACCA Professional Insights [website]. – September, 2020. – URL: https://www.accaglobal.com/content/dam/ACCA_Global/professional-insights/ aifaa/CliveWebb.PI-ANALYTICS-FINANCE-ACCOUNTANCY.pdf (Accessed: 23 March 2023).

5. Lacity M. C., Willcocks L. What Knowledge Workers Stand to Gain from Automation [Electronic resource] // Harvard Business Review [website]. – June 19, 2015. – URL: https://hbr.org/2015/06/what-knowledge-workers-stand-to-gain-from-automation (Accessed: 23 March 2023).

6. ACCA Professional Insights. Audit and Technology: Report. – June, 2019. – 20 p.

7. Cochran J. J. INFORMS Analytics Body of Knowledge. – Hoboken, NJ: John Wiley and Sons, Inc., 2019. - 400 p.

8. Dzuranin A. Statement on Management Accounting. – Institute of Management Accountants, 2021. – 41 p.

9. Webb C. Finance Insights – Reimagined [Electronic resource] // ACCA Professional Insights [website]. – June 30, 2020. – URL: https://www.accaglobal.com/gb/en/professional-insights/pro-accountants-the-future/ FinanceInsights-reimagined.html (Accessed: 23 March 2023). 10. Webb C., Schu P. Finance's journey to the future [Electronic resource] // ACCA Professional Insights [website]. – June 26, 2019. – URL: https://www.accaglobal.com/gb/en/professional-insights/pro-accountants-the-future/finance-journey.html (Accessed: 23 March 2023).

11. Holsapple C., Lee-Post A., Pakath R. A unified foundation for business analytics // Decision Support Systems. – 2014. – № 64. – P. 130-141.

12. Data analytics – An information resource for IFAC members [Electronic resource] // International Federation of Accountants (IFAC) [website]. – November 9, 2018. – URL: https://www.ifac.org/knowledge-gateway/preparing-future-ready-professionals/publications/data-analytics-information-resource-ifac-members. (Accessed: 23 March 2023).

13. D'Amore J., Mitchell S. Electronic Health Record Data Governance and Data Quality in the Real World [Electronic resource] // Healthcare Information and Management Systems Society [website]. – July 28, 2020. – URL: https://www.himss.org/resources/electronic-health-record-data-governance-and-data-quality-real-world. (Accessed: 23 March 2023).

14. D'Amore J. D., Li C., McCrary L., Niloff J. M., Sittig D. F., McCoy A. B., Wright A. Using Clinical Data Standards to Measure Quality: A New Approach // Applied clinical informatics. – 2018. – № 9(2). – P. 422-431.

15. D'Amore J., Bouhaddou O., Mitchell S., Li C., Leftwich R., Turner T., Rahn M., Donahue M., Nebeker J. Interoperability Progress and Remaining Data Quality Barriers of Certified Health Information Technologies // in American Medical Informatics Association (AMIA) Annual Symposium proceedings. – San Francisco, 2018. – P. 358-367.

16. Bureau of Labor Statistics. Occupational Outlook Handbook. – Bernan Press, 2023. – 1294 p.

17. Catch them if you can: How leaders in data and analytics have pulled ahead [Electronic resource] // McKinsey. – September 19, 2019. – URL: https://www.mckinsey.com/capabilities/quantumblack/our-insights/ catch-them-if-you-can-how-leaders-in-data-and-analytics-have-pulled-ahead (Accessed: 23 March 2023).

18. Bersin J., Zao-Sanders M. Boost Your Team's Data Literacy [Electronic resource] // Harvard Business Review. – February 12, 2020. – URL: https://hbr.org/2020/02/boost-your-teams-data-literacy (Accessed: 23 March 2023).

19. Excel Power Tools for Data Analysis [Electronic resource] // Coursera [website]. – MacQuarie University, 2021. – URL: https://www.coursera.org/learn/excel-power-tools. (Accessed: 24 September 2023).

20. Microsoft Certified: Power BI Data Analyst Associate [Electronic resource] // Microsoft [website]. – August, 2023. – URL: https://learn.microsoft.com/en-us/credentials/certifications/power-bi-data-analyst-associate/ (Accessed: 24 September 2023).

21. Database and Programming tutorials [Electronic resource] // Holowczak.com [website]. – 2023. – URL: https://holowczak.com/ (Accessed: 24 September 2023).

22. Access 2013 No VBA Index [Electronic resource] // Access All in One [website]. – 2013. – URL: https://www.accessallinone.com/access-2013-no-vba-index/. (Accessed: 24 September 2023).

23. Rice University Online Learning [Electronic resource] // Rice University [website]. – 2023. – URL: https://online.rice.edu/courses/business-statistics-and-analysis-specialization (Accessed: 24 September 2023).

24. Certified Analytics Professional [Electronic resource] // Certified Analytics Professional [website]. – INFORMS, 2023. – URL: https://www.certifiedanalytics.org/ (Accessed: 24 September 2023).

25. Duggal N. Future Of Work: What Job Roles Will Look Like In 10 Years [Electronic resource] // Simplilearn Solutions [website]. – January 27, 2023. – URL: https://www.simplilearn.com/future-of-work-article (Accessed: 31 March 2023).

26. Schwab K. The Fourth Industrial Revolution. – Geneva: World Economic Forum, 2016. – 192 p.

REFERENCES

1. Bragg, S. (December 4, 2019). The Transition from Auditing to Industry (#112). Accounting tools. Retrieved March 23, 2023, from https://www.accountingtools.com/podcast-blog/112.

2. Transferable skills: practice to industry. (May 18, 2020). ACCA Careers. Retrieved March 23, 2023, from https://jobs.accaglobal.com/article/transferable-skills-beyond-practice/.

3. Sood, S. (April 27, 2022). Auditing, a serious job: Top challenges faced by auditors while auditing. Times of India. Retrieved March 23, 2023, from https://timesofindia.indiatimes.com/blogs/voices/auditing-a-serious-job-top-challenges-faced-by-auditors-while-auditing/.

4. Analytics in Finance and Accountancy. (September, 2020). ACCA Professional Insights. Retrieved March 23, 2023, from https://www.accaglobal.com/content/dam/ACCA_Global/professional-insights/aifaa/CliveWebb.PI-ANALYTICS-FINANCE-ACCOUNTANCY.pdf.

5. Lacity, M. C. and Willcocks, L. (June 19, 2015). What Knowledge Workers Stand to Gain from Automation. Harvard Business Review. Retrieved March 23, 2023, from https://hbr.org/2015/06/what-knowledge-workers-stand-to-gain-from-automation.

6. ACCA Professional Insights. (June, 2019). Audit and Technology: Report. 20 p.

7. Cochran, J. J. (2019). INFORMS Analytics Body of Knowledge. Hoboken, NJ: John Wiley and Sons, Inc., 400 p.

8. Dzuranin, A. (2021). Statement on Management Accounting. Institute of Management Accountants, 41 p.

9. Webb, C. (June 30, 2020). Finance Insights – Reimagined. ACCA Professional Insights. Retrieved March 23, 2023, from https://www.accaglobal.com/gb/en/professional-insights/pro-accountants-the-future/FinanceInsights-reimagined.html.

10. Webb, C. and Schu, P. (June 26, 2019). Finance's journey to the future. ACCA Professional Insights. Retrieved March 23, 2023, from https://www.accaglobal.com/gb/en/professional-insights/pro-accountants-the-future/finance-journey.html.

11. Holsapple, C., Lee-Post, A. and Pakath, R. (2014). A unified foundation for business analytics. Decision Support Systems, 64, 130-141.

12. Data analytics – An information resource for IFAC members. (November 9, 2018). International Federation of Accountants (IFAC). Retrieved March 23, 2023, from https://www.ifac.org/knowledge-gateway/ preparing-future-ready-professionals/publications/data-analytics-information-resource-ifac-members.

13. D'Amore, J. and Mitchell, S. (July 28, 2020). Electronic Health Record Data Governance and Data Quality in the Real World. Healthcare Information and Management Systems Society. Retrieved March 23, 2023, from https://www.himss.org/resources/electronic-health-record-data-governance-and-data-quality-real-world.

14. D'Amore, J. D., Li, C., McCrary, L., Niloff, J. M., Sittig, D. F., McCoy, A. B. and Wright, A. (2018). Using Clinical Data Standards to Measure Quality: A New Approach. Applied clinical informatics, 9(2), 422-431.

15. D'Amore, J., Bouhaddou, O., Mitchell, S., Li, C., Leftwich, R., Turner, T., Rahn, M., Donahue, M. and Nebeker, J. (2018). Interoperability Progress and Remaining Data Quality Barriers of Certified Health Information Technologies. in American Medical Informatics Association (AMIA) Annual Symposium proceedings. San Francisco, 358-367.

16. Bureau of Labor Statistics. Occupational Outlook Handbook. (2023). Bernan Press. 1294 p.

17. Catch them if you can: How leaders in data and analytics have pulled ahead. (September 19, 2019). McKinsey. Retrieved March 23, 2023, from https://www.mckinsey.com/capabilities/quantumblack/our-insights/catch-them-if-you-can-how-leaders-in-data-and-analytics-have-pulled-ahead.

18. Bersin, J. and Zao-Sanders, M. (February 12, 2020). Boost Your Team's Data Literacy. Harvard Business Review. Retrieved March 23, 2023, from https://hbr.org/2020/02/boost-your-teams-data-literacy.

19. Excel Power Tools for Data Analysis. (2021). Coursera. MacQuarie University. Retrieved September 24, 2023, from https://www.coursera.org/learn/excel-power-tools.

20. Microsoft Certified: Power BI Data Analyst Associate. (August, 2023). Microsoft. Retrieved September 24, 2023, from https://learn.microsoft.com/en-us/credentials/certifications/power-bi-data-analyst-associate/.

21. Database and Programming tutorials. (2023). Holowczak.com. Retrieved September 24, 2023, from https://holowczak.com/.

22. Access 2013 No VBA Index. (2013). Access All in One. Retrieved September 24, 2023, from https://www.accessallinone.com/access-2013-no-vba-index/.

23. Rice University Online Learning. (2023). Official website of the Rice University. Retrieved September 24, 2023, from https://online.rice.edu/courses/business-statistics-and-analysis-specialization.

24. Certified Analytics Professional. (2023). Certified Analytics Professional. INFORMS. Retrieved September 24, 2023, from https://www.certifiedanalytics.org/.

25. Duggal, N. (January 27, 2023). Future Of Work: What Job Roles Will Look Like In 10 Years. Simplilearn Solutions. Retrieved March 31, 2023, from https://www.simplilearn.com/future-of-work-article.

26. Schwab, K. (2016). The Fourth Industrial Revolution. World Economic Forum, Geneva, 192 p.

КОРПОРАТИВТІК ҚАРЖЫСЫНДАҒЫ ЖҰМЫС ҮШІН ҚАЖЕТТІ ДЕРЕКТЕРДІ ТАЛДАУ БІЛІКТІЛЕРІ: ТАЛДАУ ЖӘНЕ СТРАТЕГИЯЛАР

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АҢДАТПА

Зерттеу мақсаты. Аудиттен корпоративтік секторға өтуге мүдделі адамдар үшін бүгінгі күні нақты кеңестер / тактикалар жеткіліксіз. Зерттеу мақсаты – бар олқылықтың орнын толтырып, ауысуды жүзеге асыру үшін қажетті дағдыларды түсіну тұрғысынан да, сол дағдыларды қалай дамыту керектігі тұрғысынан да ұмтылатын мамандарға нақты тактика ұсынғымыз келеді.

Әдіснамасы. Бұл зерттеу аудит және корпоративтік есеп үшін қажетті деректерді талдау дағдыларын зерттеу үшін сапалы зерттеу әдісін пайдаланды. Зерттеу аудит пен корпоративтік есеп үшін қажетті деректерді талдаудың нақты дағдыларын зерттеу үшін тақырыптық талдауды пайдаланды.

Зерттеудің бірегейлігі / құндылығы. Зерттеушінің жеке тәжірибесін, салалық түсініктерін және академиялық әдебиетін біріктіру арқылы бұл зерттеу аудит және корпоративтік есеп функцияларын орындау үшін қажетті деректерді талдау дағдылары туралы құнды түсінік береді. Зерттеу нәтижелері мен ұсынымдар корпоративтік есеп рөлдеріне ауысатын аудиторларға және мансаптық өсуді қалайтын корпоративтік бухгалтерлерге практикалық нұсқаулар береді.

Зерттеу нәтижелері. Бұл мақалада корпоративтік секторда талап етілетін, бірақ жұмыс ерекшеліктеріндегі айырмашылықтарға байланысты аудитте жоқ деректерді талдау дағдыларын мұқият зерттелді. Ағымдағы бағдарламалық қамтамасыз ету нарығына шолу жасалды және (1) салаларды сәтті көшіру үшін қажетті дағдыларды қамтамасыз ете алатын және (2) кәсіпорын секторындағы рөліңізді күшейтіп, кеңейте алатын жаңа құралдарды үйрену және қолдану бойынша практикалық кеңестер берілді.

Түйін сөздер: кәсіби ұтқырлық, аудит, корпоративтік сектор, деректерді талдау, деректер ғылымы, аналитикалық дағдылар

НАВЫКИ АНАЛИТИКИ ДАННЫХ, НЕОБХОДИМЫЕ ДЛЯ РАБОТЫ В КОРПОРАТИВНЫХ ФИНАНСАХ: АНАЛИЗ И СТРАТЕГИИ

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АННОТАЦИЯ

Цель исследования. На сегодняшний день недостаточно конкретных советов / тактик для тех, кто заинтересован в переходе из аудита в корпоративный сектор. Цель исследования – заполнить существующий пробел и предложить конкретные тактики для начинающих профессионалов как с точки зрения понимания навыков, необходимых для перехода, так и способов развития этих навыков.

Методология. В этом исследовании использовался качественный исследовательский метод для изучения навыков анализа данных, необходимых для аудита и корпоративного бухгалтерского учета. В исследовании был использован тематический анализ для изучения конкретных навыков анализа данных, необходимых для аудита и корпоративного бухгалтерского учета.

Оригинальность / ценность исследования. Объединив личный опыт исследователя, отраслевые инсайты и научную литературу, это исследование дает ценную информацию о навыках анализа данных, необходимых для выполнения функций аудита и корпоративного бухгалтерского учета. Результаты и рекомендации исследования представляют собой практическое руководство для аудиторов, переходящих на должности корпоративного бухгалтера, и для корпоративных бухгалтеров, стремящихся к карьерному росту.

Результаты исследования. В этой статье были тщательно изучены навыки анализа данных, необходимые для корпоративного сектора, но отсутствующие в аудите из-за различий в специфике работы. Сделан обзор текущего рынка программного обеспечения и даются практические советы по изучению и применению новых инструментов, которые могут (1) обеспечить необходимые навыки для успешной смены отрасли и (2) укрепить и расширить вашу роль в корпоративном секторе.

Ключевые слова: профессиональная мобильность, аудитор, корпоративный бухгалтер, аналитика данных, бизнес-аналитика, аналитические навыки

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