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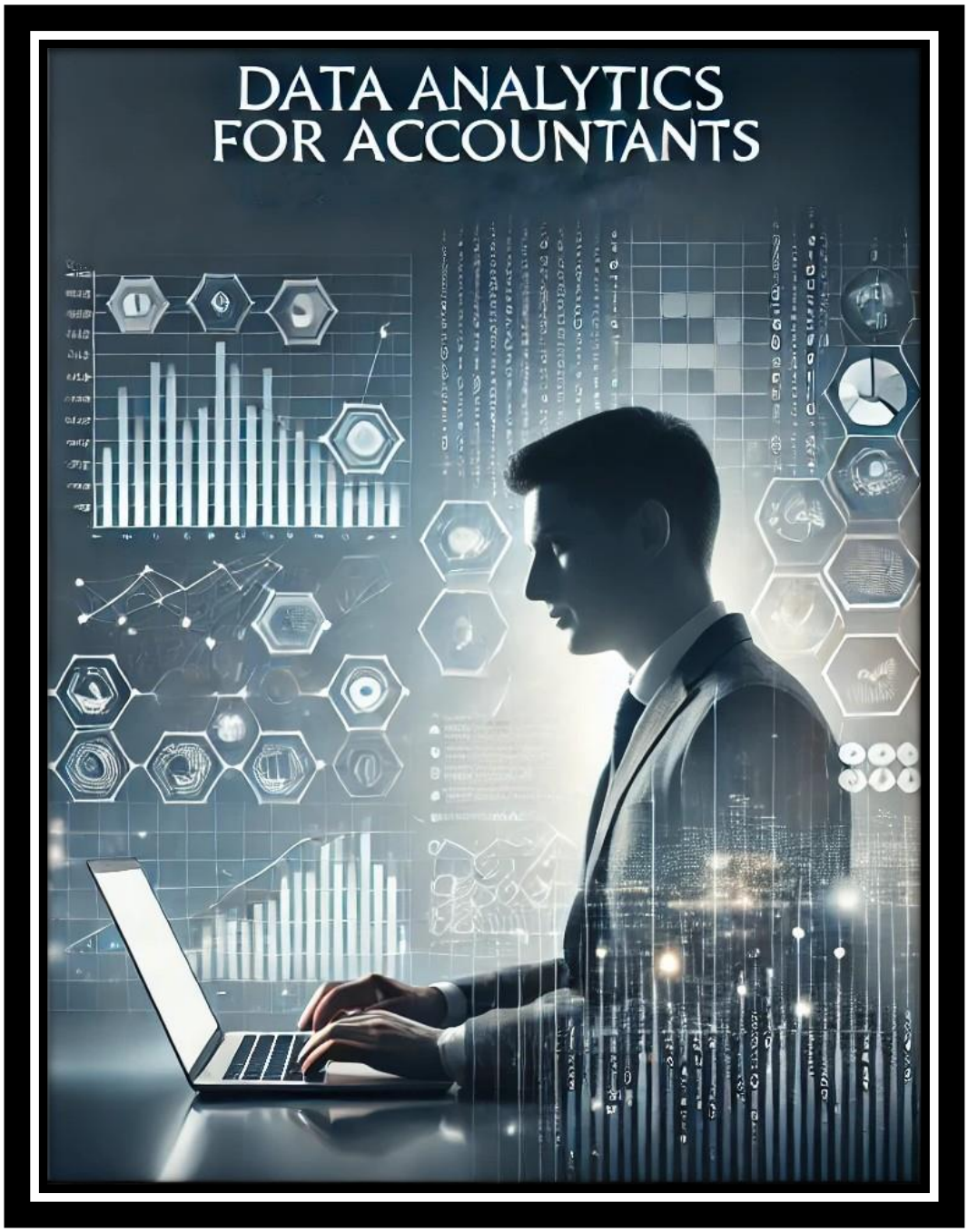

Knowledge Series

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❖ Introduction

In today's rapidly evolving business environment, data analytics has become a vital tool for accountants and finance professionals. In India, the increasing volume and complexity of financial data demand more sophisticated approaches for analysis and decision-making. With the rise of advanced data analytics tools, Chartered Accountants (CAs) now have the opportunity to streamline processes, enhance accuracy, and make informed decisions that can drive business growth.

Traditionally, accounting and finance professionals relied heavily on spreadsheets, manual calculations, and basic reporting methods. While tools like Microsoft Excel remain widely used, the shift towards advanced data analytics tools such as Tally, Tableau, Power BI, and QuickBooks has transformed the way financial data is processed, analysed, and presented. These tools help turn large sets of complex financial data into meaningful insights, making it easier for CAs to understand trends, forecast outcomes, and report financial performance accurately.

In a country like India, where businesses are growing rapidly and need to stay agile, the ability to monitor financial performance continuously and make quick adjustments is critical.

Beyond compliance, these tools enable CAs to identify hidden risks and uncover opportunities that traditional methods might miss.

❖ There are four types of data analysis used in accounting:

➢ Descriptive Analytics

- ✓ An accountant looks to answer the basic question of "What's Happening." In order to do this effectively, they have to take all available data points and create accurate reports that reflect the reality of the business. It focuses on summarizing and interpreting historical data to understand what happened in the past.
- ✓ It helps in **financial reporting** such as analysing income statements, balance sheets, and cash flow statements to track business performance.

➢ Diagnostic Analytics

- ✓ The question to be answered here is "Why." Accountants rely on current information and historical data to provide insights and reasons for the known outcomes.
- ✓ It helps in **root cause analysis** such as identifying reasons for discrepancies in financial statements, like accounting errors or unusual fluctuations in revenues or expenses. Also, helps in **fraud detection** investigating unusual transactions or patterns that may indicate fraudulent activities.

➢ Predictive Analytics

- ✓ This is where accountants try to discern "What's Next." Accountants have long been tasked with creating business forecasts, but with access to big data they are also able to predict the patterns that drive those forecasts.
- ✓ It uses in **Cash Flow Forecasting** such as predicting future cash inflows and outflows based on historical patterns, using data to predict future financial performance such as profitability, growth, and solvency.

➢ Prescriptive Analytics

- ✓ Accountants don't always just have to predict where the business will go, they can help them get there. Using data analytics, an accountant can produce fact-driven reports that can be translated into actionable steps. Using data analysis suggests actions or strategies to achieve desired outcomes by recommending optimal decisions. While accountants may choose an area to specialize in, they will most likely find themselves working across categories.
- ✓ It helps in **cost optimization** such as Identifying areas where costs can be reduced without sacrificing quality or operational efficiency.

Let's walk through a **real-world example** of data analytics in accounting, focusing on **fraud detection in accounts payable**. We'll use actual numbers for a clearer understanding of how the analysis would work.

❖ Scenario: Fraud Detection in Accounts Payable

Company: XYZ Corp.

XYZ Ltd is a medium-sized company that has an accounts payable department responsible for processing vendor payments. The company has noticed that some payments seem unusually high or frequent for certain vendors. The internal audit team has decided to investigate using data analytics.

Step 1: Data Collection

The team gathers the following sample data from the accounts payable system for the last 6 months:

Vendor Name	Payment Date	Payment Amount	Approval Employee
A	2024-01-05	$5,000	John Smith
A	2024-01-20	$5,000	John Smith
B	2024-02-10	$10,000	Sarah Davis
B	2024-03-01	$10,000	Sarah Davis
C	2024-03-15	$4,500	John Smith
D	2024-04-05	$3,000	Michael Lee
C	2024-04-10	$4,500	John Smith
B	2024-05-01	$10,000	Sarah Davis
A	2024-06-12	$5,000	John Smith
A	2024-06-20	$15,000	John Smith

Step 2: Descriptive Analytics (Trend Analysis)

Identifying Trends

The audit team uses a data visualization tool (e.g., **Power BI** or **Excel**) to plot the total payments made to each vendor over the last 6 months. Here's a summary of the total payments by vendor:

Vendor Name	Total Payments	Average Payment
Vendor A	$45,000	$7,500
Vendor B	$40,000	$10,000
Vendor C	$9,000	$4,500
Vendor D	$3,000	$3,000

- **Trend Observation**: Vendor **A** stands out with a high frequency of payments, including an **unusually high payment** of **$15,000** in June. The average payment for Vendor A is **$7,500**, but the payment in June is **100% higher** than this average.

Further Breakdown:

- Vendor A: Payments of $5,000 each in January, February, March, and May. Payment of $15,000 in June.
- Vendor B: Payments of $10,000 in February, March, May, and June (steady payments).

- Vendor C: Payments of $4,500 in March and April (consistent, low).
- Vendor D: One payment of $3,000 in April.

Step 3: Diagnostic Analytics (Root Cause Analysis)

Now that we have identified **unusual payments**, we investigate why they occurred.

Variance Analysis:

- **Vendor A's June Payment**: The payment of **$15,000** in June is significantly higher than the typical $5,000 payment for Vendor A. We calculate the **variance** from the average:

  Variance=Actual Payment−Average Payment

  =15,000−7,500=7,500

  This is a **100% variance** and suggests a potential error or fraud. The question is: *Why was this payment made?*

Employee Approval Analysis:

- Upon reviewing the approval system, the audit team finds that **John Smith** was the employee who approved the payment of **$15,000** to Vendor A in June.
- It seems that he had full control over both the **approval** of **payment** for this vendor.
- No other employees or managers reviewed these payments. This lack of **segregation of duties** is a red flag.

Vendor Cross-Check:

- The audit team also investigates **Vendor A** more thoroughly. It turns out that Vendor A has been supplying **office supplies** for the company, and the contract terms state that invoices should be **no more than $5,000** per month.
- No change to the terms of the contract was documented. So, why was the $15,000 invoice approved?

Step 4: Prescriptive Analytics (Preventive Measures)

Given the findings, we move to **prescriptive analytics** to suggest actions to prevent this from happening again.

1. **Segregation of Duties**:

Implement a policy that ensures **multiple approvals** required for payments over a certain threshold limit, say **$10,000**.

2. **Automated Alerts**:

Implement a system that **automatically flags** payments exceeding **$10,000** or any payments to a vendor with inconsistent invoice amounts.

3. **Vendor Audit**:

Conduct periodic **vendor audits** to identify the irregularities in the invoices and the agreed upon terms at the time of on-boarding the vendor.

Step 5: Report Findings & Actions

The audit team compiles the findings and presents the following:

- **Vendor A** had a **$15,000** payment processed without adequate supporting documentation, which violates the company's internal policies.
- **John Smith**, the employee approving payments to Vendor A, had unrestricted access to approve these transactions, and was not cross-checked by any other team member. A potential **conflict of interest** exists, as he is known to have a **personal relationship** with a representative from Vendor A.

Action Items:

- Immediate **suspension** of John Smith's access to the payment approval system.
- **Further investigation** into Vendor A and its relationship with XYZ Corp.
- **Implementation of stronger internal controls**, including **segregation of duties** and **automated alerts** for large payments.

❖ Data Analytics Tools

1. Budgeting and Forecasting

Problem: Predicting future financial performance is essential, but using outdated methods or relying on guesswork can lead to poor budgeting decisions. This often results in wasted resources or missed opportunities for growth.

Tool: Tableau: Tableau makes budgeting and forecasting easier by letting you visualize past trends and anticipate future results with interactive charts. Its real-time insights help you create accurate plans that can adapt to changes.

2. Accounts Payable and Receivable Analysis

Problem: Managing cash flow can be tricky, especially when payments are delayed or processes are inefficient. Tracking everything manually is frustrating and can lead to missed invoices or uncollected payments, affecting the company's bottom line.

Tool – Power BI: Power BI helps you stay on top of your cash flow. It gathers data from multiple sources and displays it in easy-to-read dashboards. You can instantly spot overdue invoices, identify bottlenecks, and take action to keep everything running smoothly.

3. Audit and Risk Management:

Problem: Keeping up with regulations can be daunting. Manually searching through data for risks is time-consuming and can lead to mistakes.

Tool – IDEA: IDEA simplifies auditing and risk management by automating tasks like data sampling and control testing. This helps you spot potential issues quickly, allowing you to focus on solving problems instead of dealing with endless spreadsheets.

4. Fraud Detection

Problem: Fraud is a big challenge for businesses. Finding it in large datasets can be like looking for a needle in a haystack, and missed suspicious transactions can lead to financial loss and damage to reputation.

Tool : ACL Analytics: ACL Analytics acts like a detective for your data. It spots red flags, like duplicate entries or odd patterns that could indicate fraud. Plus, it keeps a log of everything, so you can catch issues early before they get out of hand.

❖ Challenges in implementation

There are certain practical Challenges that an entity or an accountant faces when it comes to implementation of data analytics and the related tools into the organisation which are highlighted below:

1. **Data Collection:**
The very first and important resource that is required for efficient and effective performance of Data Analytics so as to give a true and fair picture of the actual conditions is "Data", many organisations due to its size and nature of business fail in collection and maintenance of collected data.

2. **Infrastructure:**
Many organisations even if could collect the data, they lack in infrastructure to store, maintain and access the collected data. It becomes difficult for the organisation to use such data in performing data analytics, process the data and convert it into information and make it readable. Earlier this infrastructure was not easy to be incorporated or accessed. However, rapid globalisation made it accessible. Also, the fact that this infrastructure is still not accessible by many of the small organisations in the market should not be ignored.

3. **Skilled Employees:**
The next challenge is having such skilled human resource with a blend of knowledge of Accounts, Data analytical tools and Interpretation of reports generated by using such tools. Even though we are living in an era where AI is taking over human resources, the analytics and interpretation of reports need human intervention as the decision to be made should be realistic as per the ongoing market condition. However, this can be a blessing in disguise for those in accounting fields which is an emerging opportunity from which they can make money.

4. **Lack of Guarantee:**

One needs to understand that the future cannot be predicted with a 100 % surety, it can be estimated and forecasted which may or may not result in actual future.

5. **Cost Benefit Analysis:**
Organisations to perform "Cost Benefit Analysis" for performance of data analytics in accounting as it involves additional cost to the organisation which has to be implemented at the right size of the business. If a small sized business would try to implement, it may just lead to bleeding or less margins, and if implemented in a business whose market is already in the declining or cash cow phase, it would not result into generation of any new cash inflows because of the market conditions. Hence, it's important for an organisation to understand the right timing for this project.

❖ Compliance calendar for the month of January:

S.N.	Due Date	Compliance
1	07-01-25	Payment of TDS/TCS (Monthly)
2	07-01-25	ECB-2 Return
3	11-01-25	GSTR-1 (Monthly)
4	13-01-25	B2B Invoice Reporting through IFF (QRMP Scheme)
5	13-01-25	GSTR-6 (ISD Return)
6	15-01-25	ITR for resident individuals required to file a belated return u/s 139 (4) or 139 (5) (Extended due date)
7	15-01-25	Payment of ESIC and Return
8	15-01-25	Payment of PF and Return
9	15-01-25	Payment of LWF
10	15-01-25	Quarterly TDS returns for form 27EQ
11	20-01-25	Monthly GSTR-3B
11	25-01-25	GSTR-3B (Payment under QRMP)
12	30-01-25	TDS Payment in Form 26QB (Property), 26QC (Rent), 26QD (Contractor Payments), 26QE (Crypto Assets) for Dec 2024
13	31-01-25	Monthly Return of PTRC
14	31-01-25	Softex form filing
15	31-01-25	Quarterly TDS returns form 26Q, 24Q, & 27Q

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❖ Special Mention:

Thank you, **Sanika Butte, Venkatravikiran Adusumilli, Suraj Gutte, and Madhur Lahoti** for successfully completing this enriching knowledge series.

❖ GC CORNER:

The team joyously celebrated the outstanding achievements of our articles in the Chartered Accountancy (CA) Final Examinations conducted in November 2024. Their hard work, dedication, and perseverance have culminated in this remarkable success, and it was a moment of great pride and happiness for all of us.