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Speakers



Vishal Shah
Director - Data Intelligence Group
TresVista




Amir Jairazbhoy
Vice President
TresVista

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View our upcoming webinars at
acg.org/nyc/media

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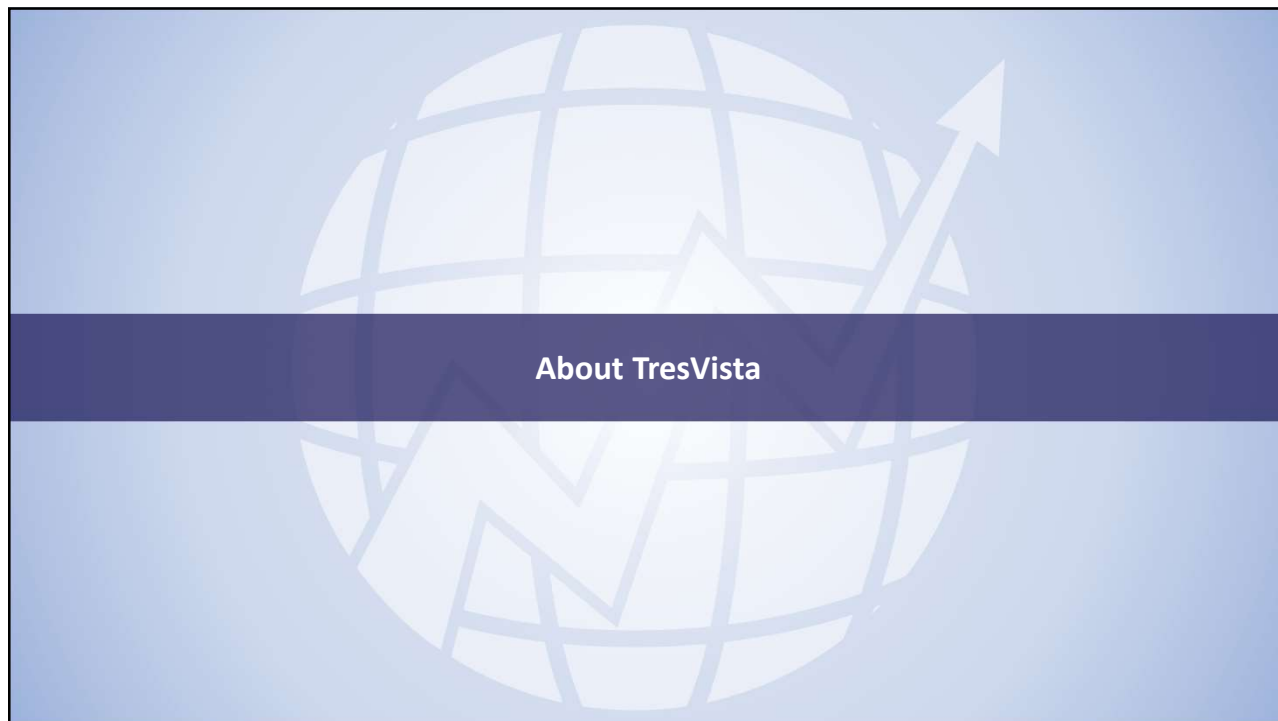
Due Diligence – Analytics Accelerating Value Creation
January 21, 2021



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	<ol style="list-style-type: none">1. About TresVista2. ACG Webinars3. Data Analytics in PE Value Chain4. Traditional Due Diligence5. Analytics in Due Diligence6. Case Studies7. Appendix
	<p><small>Disclaimer: This document is provided for information purposes only. The information is believed to be reliable, but TresVista does not warrant its completeness or accuracy. It should not be used, relied upon, or treated as a substitute for specific professional advice. Opinions, estimates, and assumptions constitute our judgment as of the date hereof and are subject to change without notice. This material is not intended as an offer or solicitation for the purchase or sale of any financial instrument. Additional information is available upon request. Images used in this document are for reference only and may not be reproduced, copied, transmitted or manipulated in any way.</small></p> <p><small>© TresVista 2021</small></p>

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About TresVista

Overview

What	Where	Whom	How	Why
 <ul style="list-style-type: none"> High-end customized data intelligence services, financial services, and CFO office services Includes predictive analytics, business intelligence, financial modelling, portfolio management services 	 <ul style="list-style-type: none"> Global footprint, with clients across the US, Europe, Asia, Africa, Australia, LatAm, and MENA region Offices in New York, US; Mumbai, Pune and Bangalore, India; Singapore, Singapore and London, United Kingdom 	 <ul style="list-style-type: none"> For Private Equity Funds, Asset Managers, Research Firms, Investment Banks, and Corporates By talented Associates & Analysts; managed by experienced Assistant Vice Presidents 	 <ul style="list-style-type: none"> Flexible staffing structure based on client requirements Project based assignments Annual contract option partners clients with dedicated resources 	 <ul style="list-style-type: none"> Deliver best-in-class quality and financial expertise Enable clients to focus on their core competencies Enable cost savings








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About TresVista

Highlights

- 
1,000+ CLIENTS ACROSS GEOGRAPHIES
- 
CLIENTS WITH OVER US \$10 TRILLION IN AUM
- 
OVER 75% BUY-SIDE CLIENTS
- 
INTEGRATE WITH CLIENT'S OPERATING STRATEGY
- 
EXTENSIVE EXPERIENCE WORKING WITH LEAN TEAMS
- 
ROBUST IT AND COMPLIANCE POLICIES: INCIDENT FREE BUSINESS OPERATIONS
- 
FOSTERING CHANGE AND MAKING AN IMPACT TOGETHER

With focus on quality, value chain integration and robust infrastructure, we work across asset classes and geographies

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ACG Webinars

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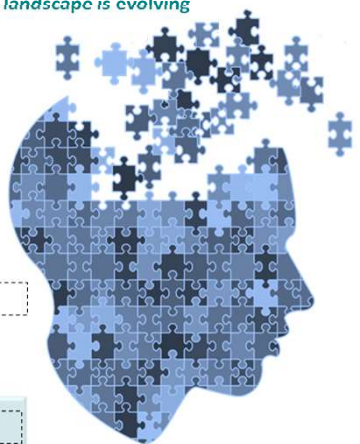
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ACG Webinars

Learning Series

ACG and TresVista have collated a 6-part learning series that talks about how the current PE landscape is evolving with technology and analytics

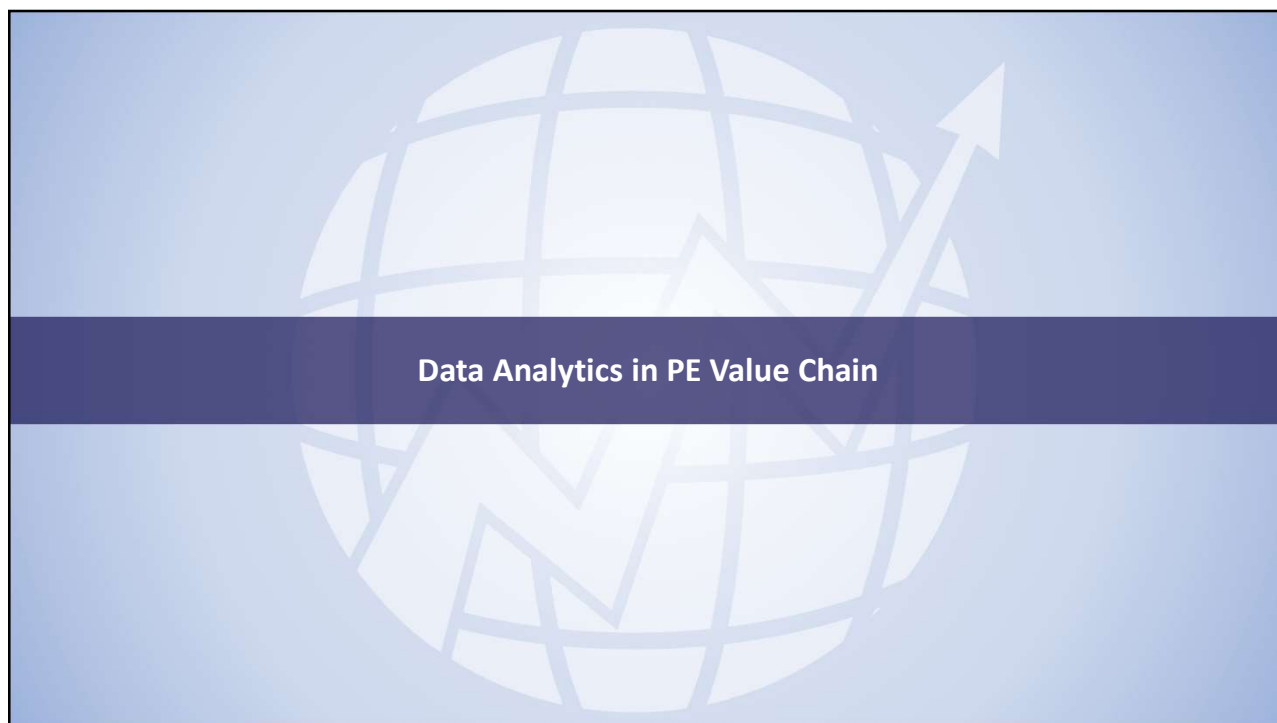
- 1 Data Analytics in Private Equity (16th April,2020)
- 2 Alternative Data – Competitive Advantage in Investment Research (8th July,2020)
- 3 Portfolio Management – Bird’s Eye View of Business Health (8th October,2020)
- 4 Process Automation – Improving Operational Efficiency (29th October,2020)
- 5 Data Monetization – Fueling growth for PE (3rd December,2020)
- 6 **Due Diligence – Analytics Accelerating Value Creation (21st January,2021)**



The learning series highlights the use of technology and analytics at every stage of the PE value chain

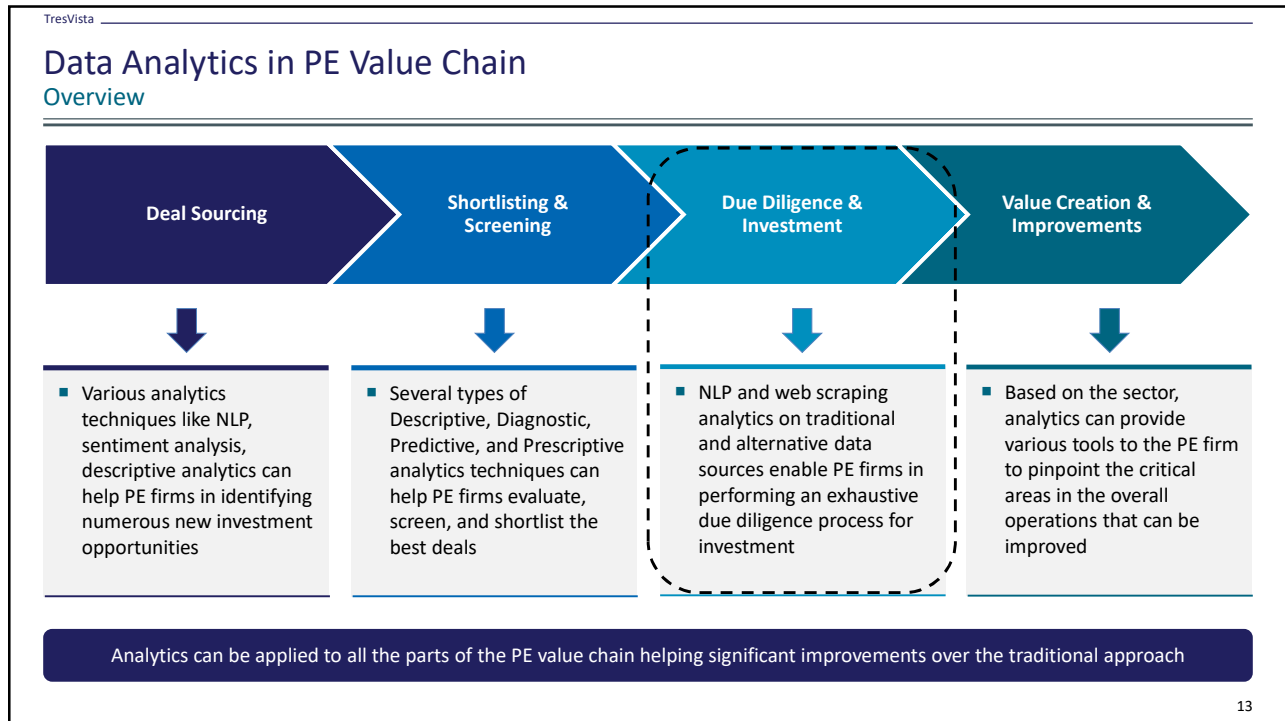
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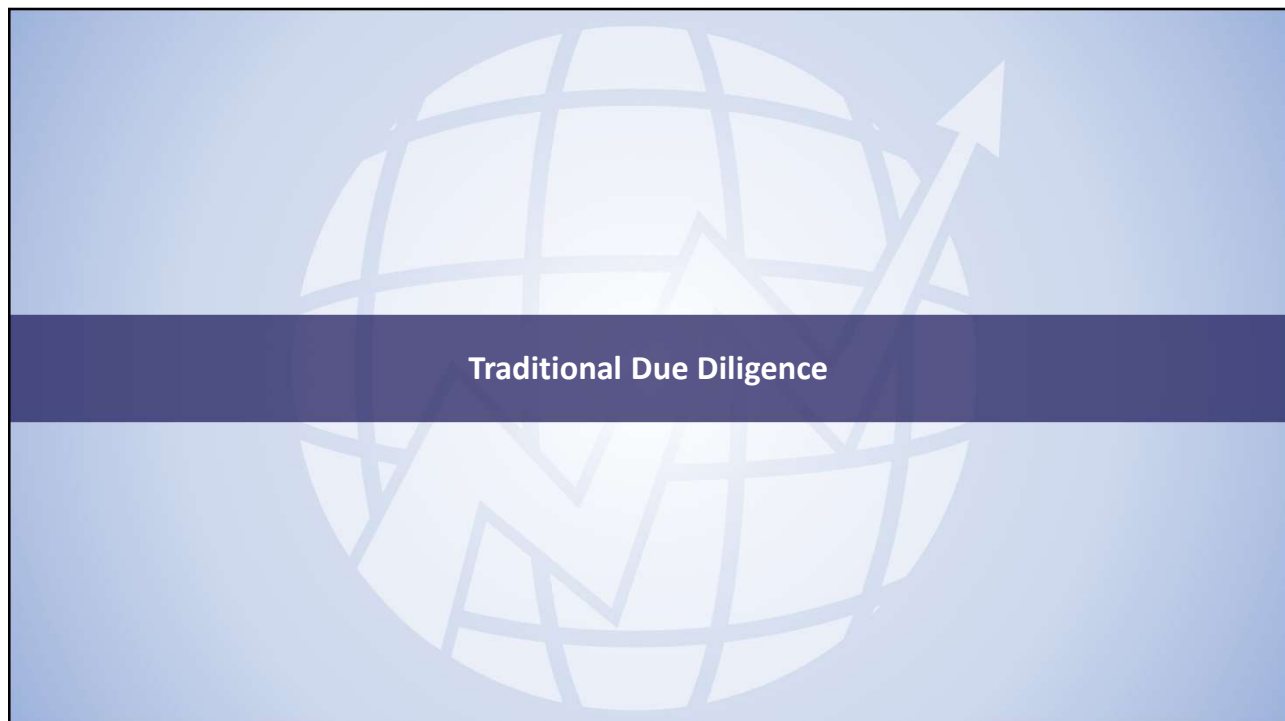


Data Analytics in PE Value Chain

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Traditional Due Diligence

Definition and Types

- Due Diligence is an investigation, or review performed to confirm the facts of a potential investment. The objective is to confirm the accuracy of the seller's information and appraise its true value

Use of each type of due diligence results in best-informed decisions making on mergers and acquisitions

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Traditional Due Diligence

Process Flow

Traditional Due Diligence follows a manual checklist process to ensure a deal makes near-term financial sense

Evaluate Goals of the Project	Document Inspection	Final Offering Formation	Examining
01	03	05	07
02	04	06	
Monitor Business Financials	Business Plan & Model Analysis	Risk Management	

Traditional due diligence ensures a deal is ideal for investment based on human judgement

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Traditional Due Diligence

Key Pointers and Limitations

Key Pointers

Helps in confirming and verifying the information that was brought up during the deal or investment process	Helps in obtaining information that might be useful in valuing the deal correctly
Discover potential defects in the deal or investment opportunity and thus avoid a bad business transaction	Identifies whether the deal or investment opportunity complies with the investment or deal criteria

Limitations

 Process Length Traditional due diligence takes 6 to 8 weeks	 Limited Data Rooms Not all data vendors have data rooms	 Intermediary Provider Lack of third-party data providers results in less dynamicity	 Insufficient Data Superficial information of target company
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Due diligence is performed for taking better business decisions but traditional process does have certain limitations

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Traditional Due Diligence

Need For Analytics

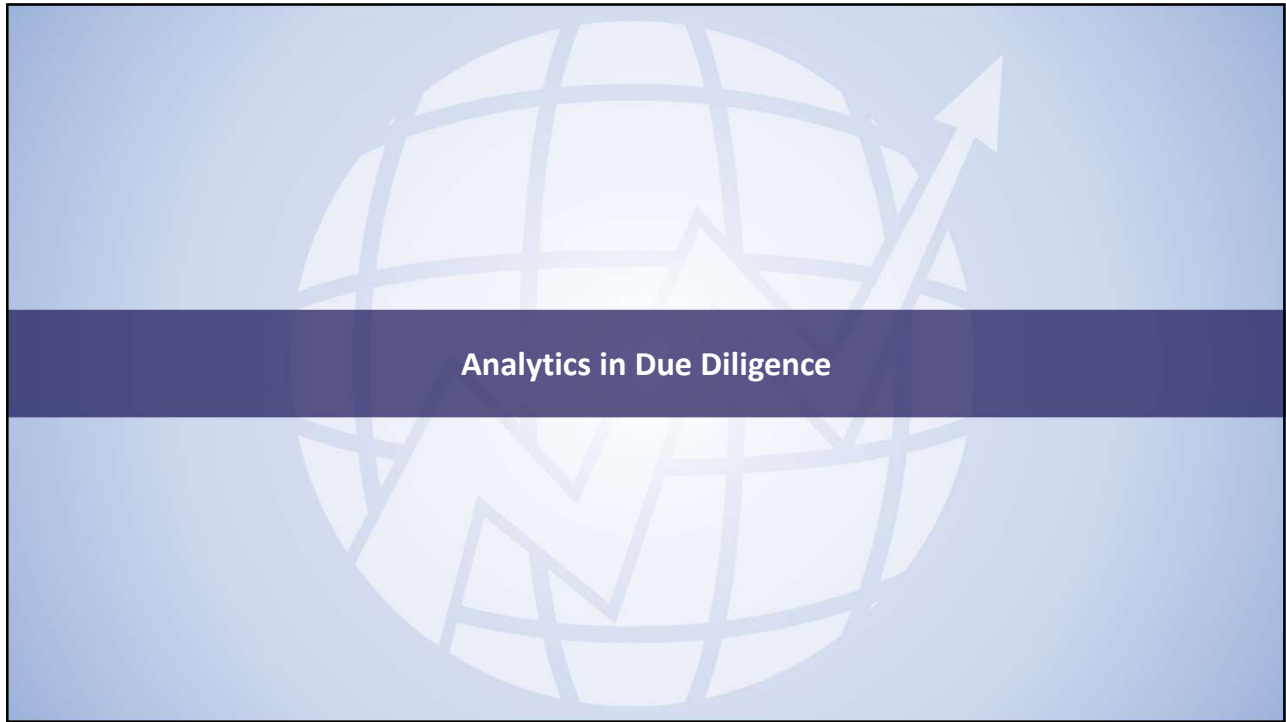
Need For Analytics

 Short Duration Automated processes can perform due diligence in a shorter duration	 Data Room Cloud repositories helps in maintaining extensive virtual data rooms	 Data Collection Multiple data sources (both traditional and alternative) can be used	 Insights Provides clearer insights which eliminates superficial information	 Decision Making Application of various analytical techniques on data enables easier decision making
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Analytics provides support in an end-to-end process from data collection to better decision making

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Analytics in Due Diligence

M&A Market Overview

The impact of technology-driven processes is increasing ten-fold and 80% of the survey respondents believe it to increase in the coming years

				
Application	Growth	Use	Target	Future
40% of companies are using analytics in their M&A process	34% of companies have increased the use of analytics	64% of companies using analytics to define strategy	64% of analytics is used to analyze customers & markets	61% think analytics will be very important in the future

The due diligence market is seeing a surge specifically in data analytics and is expected to grow exponentially

(1) <https://www2.deloitte.com/us/en/pages/mergers-and-acquisitions/articles/merger-analytics-survey.html>

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Analytics in Due Diligence

Data Analytics and Types

Data Analytics is a process of inspecting, cleansing, transforming, and analyzing data with the goal of discovering useful information, achieving informed conclusion and supporting decision-making

DESCRIPTIVE ANALYTICS
What happened?
Figure out what is going on.

PREDICTIVE ANALYSIS
What will happen?
Forecast and predict future trends.

DIAGNOSTIC ANALYSIS
Why did this happen?
Explore in-depth insights on your problem.

PRESCRIPTIVE ANALYSIS
What should you do now?
Choose the course of action that would help you get where you want.

The order is sacrosanct for any Data Analytics engagement life cycle (1-2-3-4)

<http://arunkottoli.blogspot.com/2018/08/4-types-of-data-analytics.html>

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Analytics in Due Diligence

Descriptive Analytics

DESCRIPTIVE ANALYTICS
What happened?
Figure out what is going on

PREDICTIVE ANALYSIS
What will happen?
Forecast and predict future trends

DIAGNOSTIC ANALYSIS
Why did this happen?
Explore in-depth insights on your problem

PRESCRIPTIVE ANALYSIS
What should you do now?
Choose the course of action that would help you get where you want

Applications

- **Financial Dashboard:** Checks the financial health of the target company by visualizing the Income Statement, Balance Sheet and Cash flow of the company in a single view dashboard
- **Operational Dashboard:** Checks the operational health of the target company by monitoring the health and workings of the operations, HR, compliance, IT and other departments of the organization

Each analysis serves different purpose and can be used to improve overall health of the business

<http://arunkottoli.blogspot.com/2018/08/4-types-of-data-analytics.html>

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Analytics in Due Diligence

Diagnostic Analytics

DESCRIPTIVE ANALYTICS
What happened?
Figure out what is going on

PREDICTIVE ANALYSIS
What will happen?
Forecast and predict future trends

DIAGNOSTIC ANALYSIS
Why did this happen?
Explore in-depth insights on your problem

PRESCRIPTIVE ANALYSIS
What should you do now?
Choose the course of action that would help you get where you want

Applications

- **Financial Dashboard:** Checks the trend, seasonality and cyclicity in the financial performance of the target company and investigates the reasons behind the anomalies (outliers, missing values) arising in the data
- **Operational Dashboard:** Helps to pinpoint the problem areas in the internal and external operations of the organization and identify the reasons for the issue so that they can be mitigated

Each analysis serves different purpose and can be used to improve overall health of the business

<http://arunkottoli.blogspot.com/2018/08/4-types-of-data-analytics.html>

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Analytics in Due Diligence

Predictive Analytics

DESCRIPTIVE ANALYTICS
What happened?
Figure out what is going on.

PREDICTIVE ANALYSIS
What will happen?
Forecast and predict future trends.

DIAGNOSTIC ANALYSIS
Why did this happen?
Explore in-depth insights on your problem.

PRESCRIPTIVE ANALYSIS
What should you do now?
Choose the course of action that would help you get where you want.

Applications

- **Financial Dashboard:** Forecasts/Predicts the financial health of the company in the upcoming months by predicting the values for parameters like Revenue, COGS and Sales by studying and analyzing historical data patterns, which can help the team to identify whether the company will be profitable in the future
- **Operational Dashboard:** Forecasts/Predicts the internal and external operational health of the company and checks how different parameters can interact and impact the other parameters in the future

Each analysis serves different purpose and can be used to improve overall health of the business

<http://arunkottoli.blogspot.com/2018/08/4-types-of-data-analytics.html>

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Analytics in Due Diligence

Prescriptive Analytics

DESCRIPTIVE ANALYTICS
What happened?
Figure out what is going on

PREDICTIVE ANALYSIS
What will happen?
Forecast and predict future trends

DIAGNOSTIC ANALYSIS
Why did this happen?
Explore in-depth insights on your problem

PRESCRIPTIVE ANALYSIS
What should you do now?
Choose the course of action that would help you get where you want

Applications

- **Financial Dashboard:** Helps in prescribing, based on the historical trends and predictions for the future, the best course of action for the company so that can be the company can return a lucrative ROI in the future
- **Operational Dashboard:** Helps in prescribing different action items to improve the potential problem areas in the company and provides the best course of action for a smooth working of the company

Each analysis serves different purpose and can be used to improve overall health of the business

<http://arunkottoli.blogspot.com/2018/08/4-types-of-data-analytics.html>

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Analytics in Due Diligence

Importance for Alternative Data

- Alternative data along with traditional data is processed and deciphered, using big data analytics, to generate actionable insights to provide key business information regarding the various deals
 - This edge in informational coverage also enables beneficiaries to make relevant business decisions before the general population

Modern Approach

Traditional Data

Alternative Data

Data Analytics

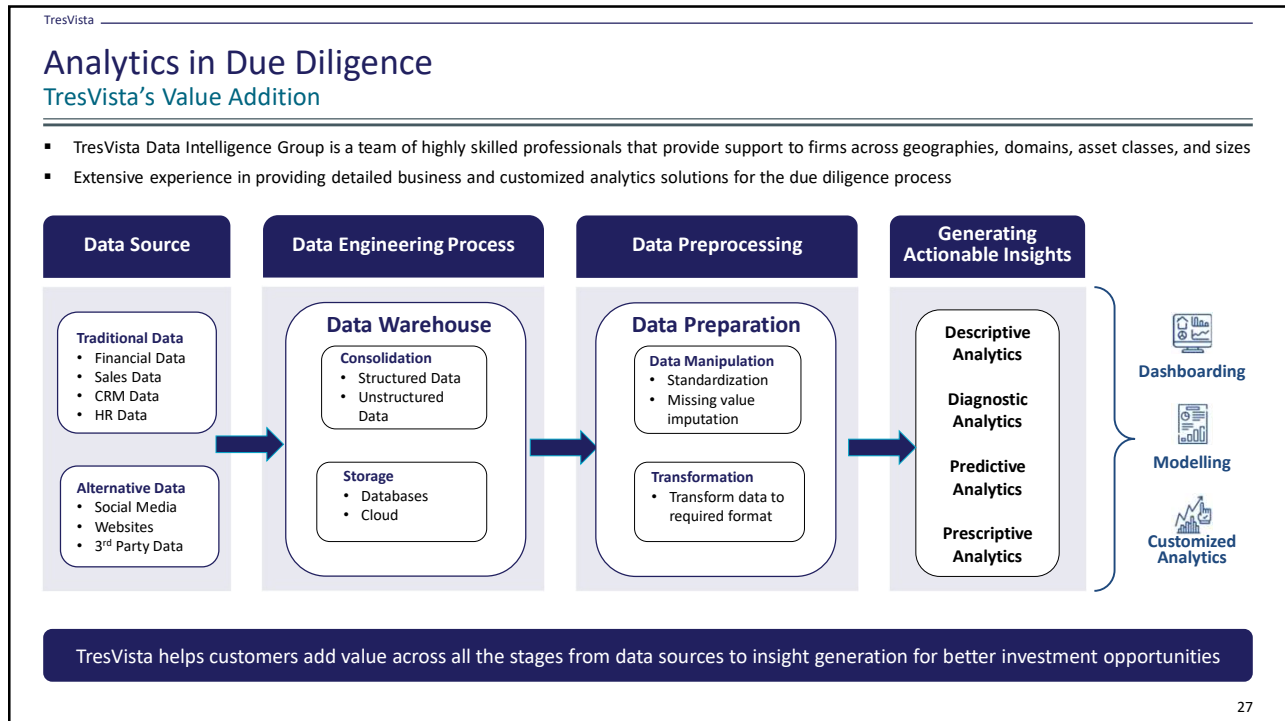
Traditional + AI Based Valuation Method

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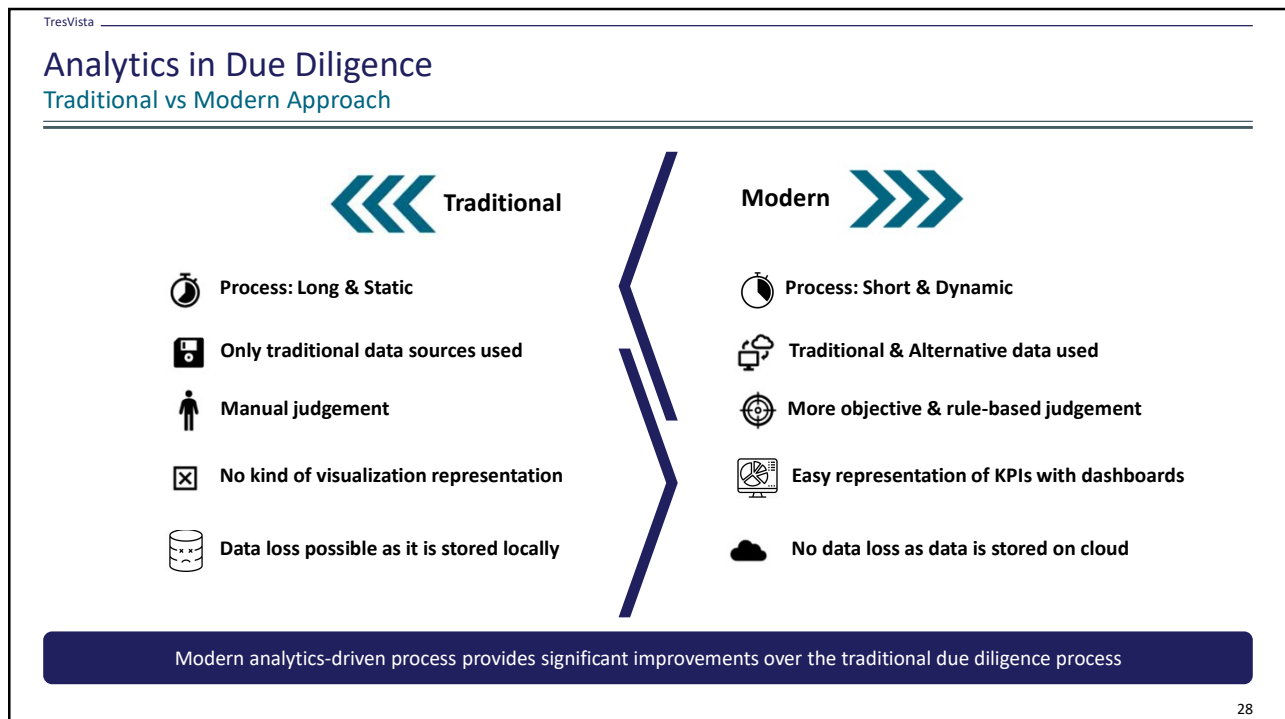
Alternative data along with data analytics help investors gain unique insights and competitive advantage

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Analytics in Due Diligence

Tools and Technologies

Steps	Professionals	Tools & Technologies
Business Understanding	Business Analyst	Jira, Trello, Confluence
Collection and Acquisition Storage	Data Engineer	mongoDB, Hadoop, Redis, MySQL, SQL Server
Cleaning Integration	Data Analyst	R Studio, Python, Java, SAS, AWS
Analysis	Data Scientist	TensorFlow, Keras, Spark
Representation and Visualization	Data Visualizer	Plotly, Power BI, Qlik, Tableau

Every step of the project lifecycle involves specialists having knowledge of varied tools & technologies

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Analytics in Due Diligence

Generic Analysis in Due Diligence

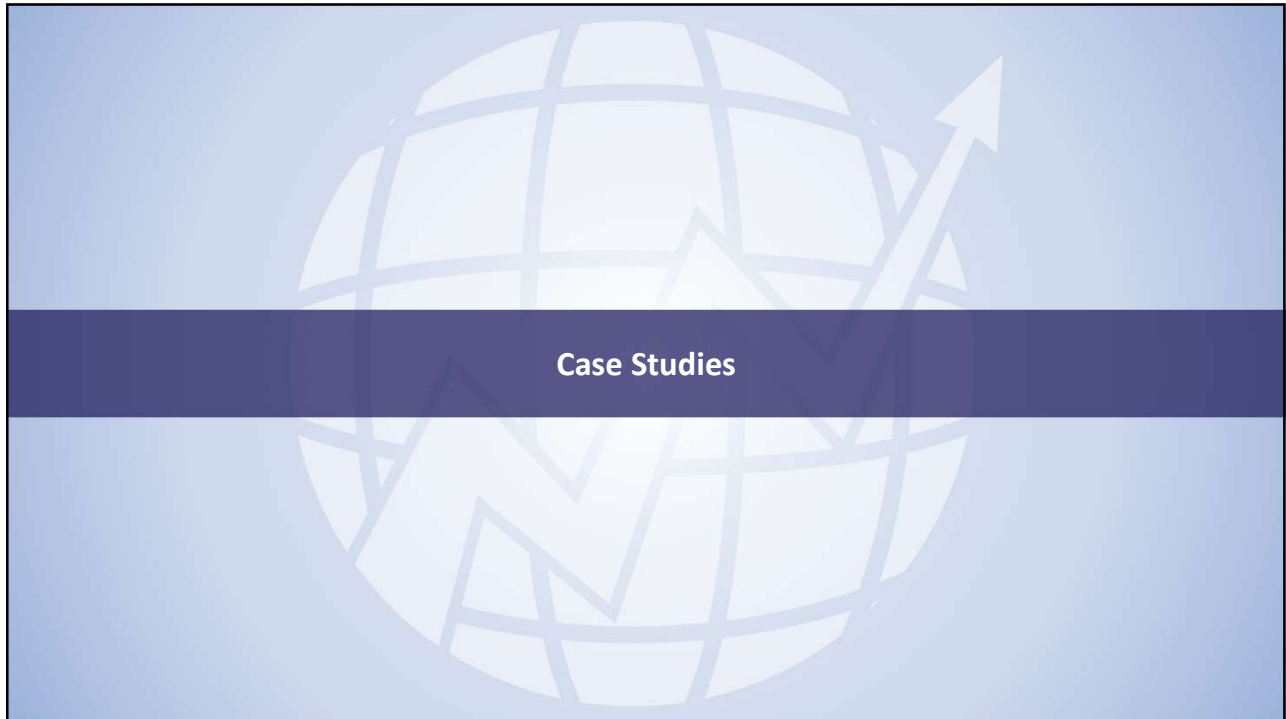
A variety of different analytics can be done for PE firms to perform Due Diligence and ensure the quality of the investment or deal

- Financial dashboards** to easily identify the overall health of potential investments
- Cohort analysis** to understand the life cycle of the deals or investments
- Sentiment analysis** to identify the general sentiment regarding the potential investment
- Time Series analysis** predicting the financials of the potential investment
- Operational dashboards** to understand the operational capability of the deal
- Risk assessment analytics** to identify the potential risks associated with the deal

A variety of analytics can be performed for an extensive due diligence to ensure the health of the investment

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Case Studies

Sentiment Analysis

BUSINESS GOALS

- Compare potential investment opportunities using the unstructured data (social media comments/tweets)
- Augment the investment decision with the help of data analytics

ILLUSTRATION

Social media mentions over time

Company-wise sentiment analysis

Word Cloud

Analysis of unstructured data to gain an edge in drawing insights and bidding with greater confidence

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Case Studies

Automated Financial Modeling

BUSINESS GOALS

- Develop a fully functional Excel model using data from multiple data sources
- Generate revenue, volume and ASP information at the product and regional level based on input data

ILLUSTRATION

INSIGHTS

- Performed data wrangling and created an ETL (Extract, Transform and Load) pipeline with the help of VBA and macros, with data stored in AWS Redshift
- Provided a user interface to generate inputs required for forecasting through the financial model

Automated financial model development for facilitating investment decisions

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Case Studies

Financial Dashboard

BUSINESS GOALS

- Develop a single view to monitor the overall health of the company
- Track the seasonal changes across the various parameters and identify the reasons behind the anomalies occurring in the trend

ILLUSTRATION

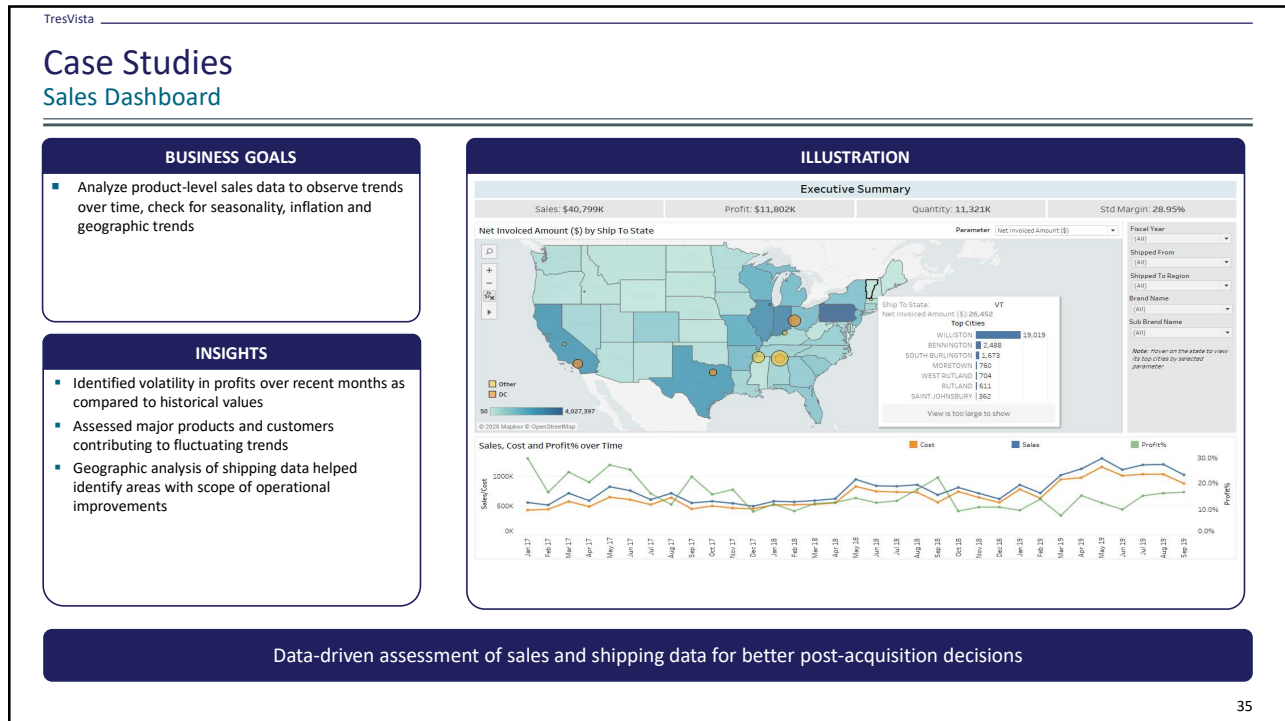
INSIGHTS

- Financial dashboards helped to track and monitor financials and operational KPIs of multiple portfolio companies
- Identified trends over time for profit, sales, expenses, etc.
- Compared latest period's values relative to benchmarks (previous year/budget)

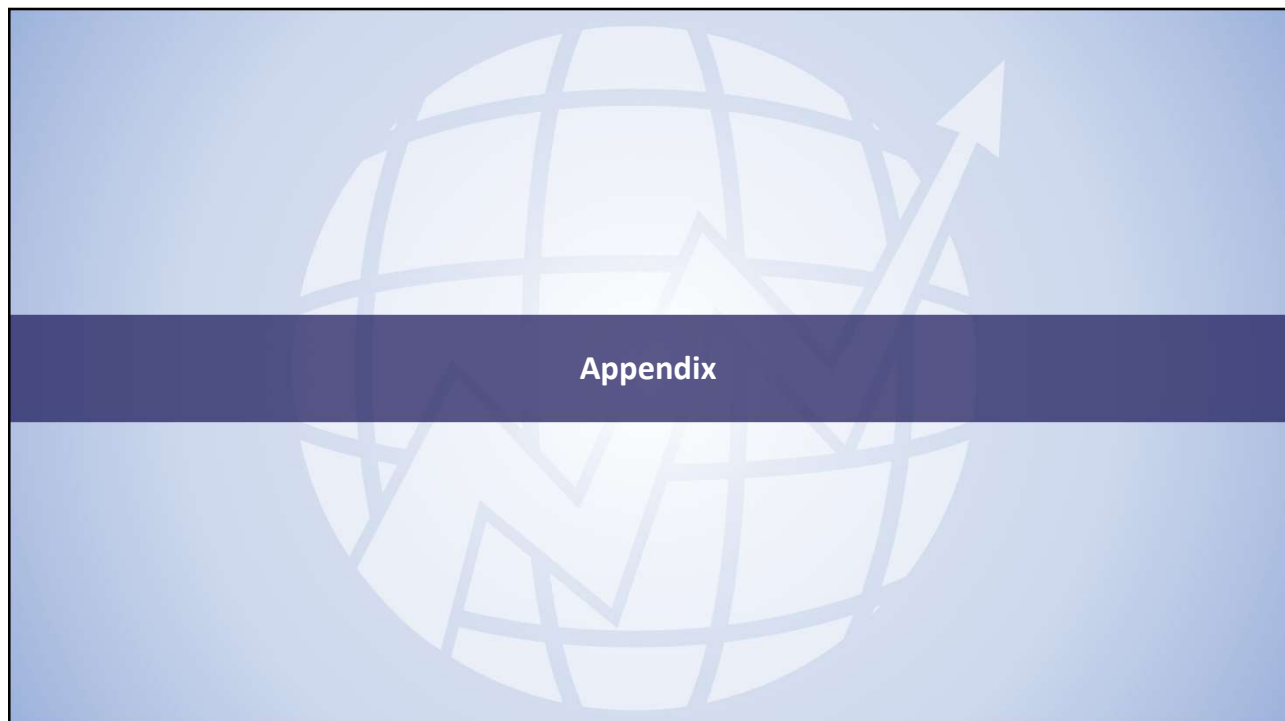
Provides the overall health of the organization in a single view helping in easier decision making

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Analytics in Due Diligence

Finance KPIs & Sample Dashboard

KPI LIST

- Net Profit Margin
- Total Expenses
- Burn Rate
- Current Ratio
- Debt to Equity Ratio
- Operating Cash Flow

INSIGHTS

- Net Profit Margin is 130 basis point above the target of 12%
- End of Month Cash has seen an overall increasing trend from the month of April

ILLUSTRATION

Total Income 4 719,00 vs previous month 16,1%	Total Expenses 3 270,00 vs previous month 25,1%	Accounts Receivable 609,00 vs previous month -5,1%	Accounts Payable 538,00 vs previous month -15,7%
Net Profit 629,00 vs previous month -8,8%	Cash at end of month 7 684,00 vs previous month 4,9%	Quick Ratio 1,02 1 or higher Quick Ratio Target	Current Ratio 3,02 3 or higher Current Ratio Target

Net Profit Margin % **13,3%**
Target: 12,0%

% of Income Budget 94%	% of Expenses Budget 93%
---------------------------	-----------------------------

Income Statement	
Total Income	4 719,00 100%
Cost of Goods Sold	(1 663,00) -35%
Gross Profit	3 056,00 65%
Total Operating Expenses	(1 607,00) -34%
Operating Profit (EBIT)	1 449,00 31%
Taxes	(820,00) -17%
Net Profit	629,00 13%

Tracking relevant finance KPIs allows effective cash management and monitor expenses, sales and profits

The images are for representational purposes only

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Analytics in Due Diligence

Asset KPIs & Sample Dashboard

KPI LIST

- Total Expenses
- Expenses per Employee
- Non-Billable Expenses
- Accounts Receivable
- Accounts Payable
- Blocked Invoices

INSIGHTS

- Net Profit has dipped due to aggressive marketing expenses in the current month
- Accounts Payable has dipped due to reduced reimbursements owing to low workload in the current month

ILLUSTRATION

Today's Bank Balance
Account: Business Bank Account
\$1,760.54
Closing Balance

Expenses This Month

Advertising	\$2,209.47
Consulting & Accounting	\$219.00
Freight & Courier	\$200.00
General Expenses	\$120.09
Light, Power, Heat	\$100.42
Motor Vehicle Expenses	\$100.00

Total Operating Expenses: **\$4,516.27**

Net Profit:
\$3,225
Net Profit

Recent Payments

Customer	Invoice Number	Date Paid	Amount
Gateway Motors	AP	Jun 25, 2016	\$411
Traxion Property M.	8627	Jun 25, 2016	\$1,181
Gateway Motors	Rpt	Jun 18, 2016	\$411
Traxion Property M.	Rpt	Jun 11, 2016	\$1,181
Net Connect	8910-0011	Jun 3, 2016	\$47
PowerDirect	09V-0852	Jun 3, 2016	\$199
Traxion Property M.	AP	Jun 3, 2016	\$1,181
Hamilton Smith Int	00V-0003	Jun 3, 2016	\$141

QuickBooks Income and Expenses (Last 12 Months)

Current AR and AP

Accounts Receivable: **\$9,195**

Accounts Payable: **\$8,387**

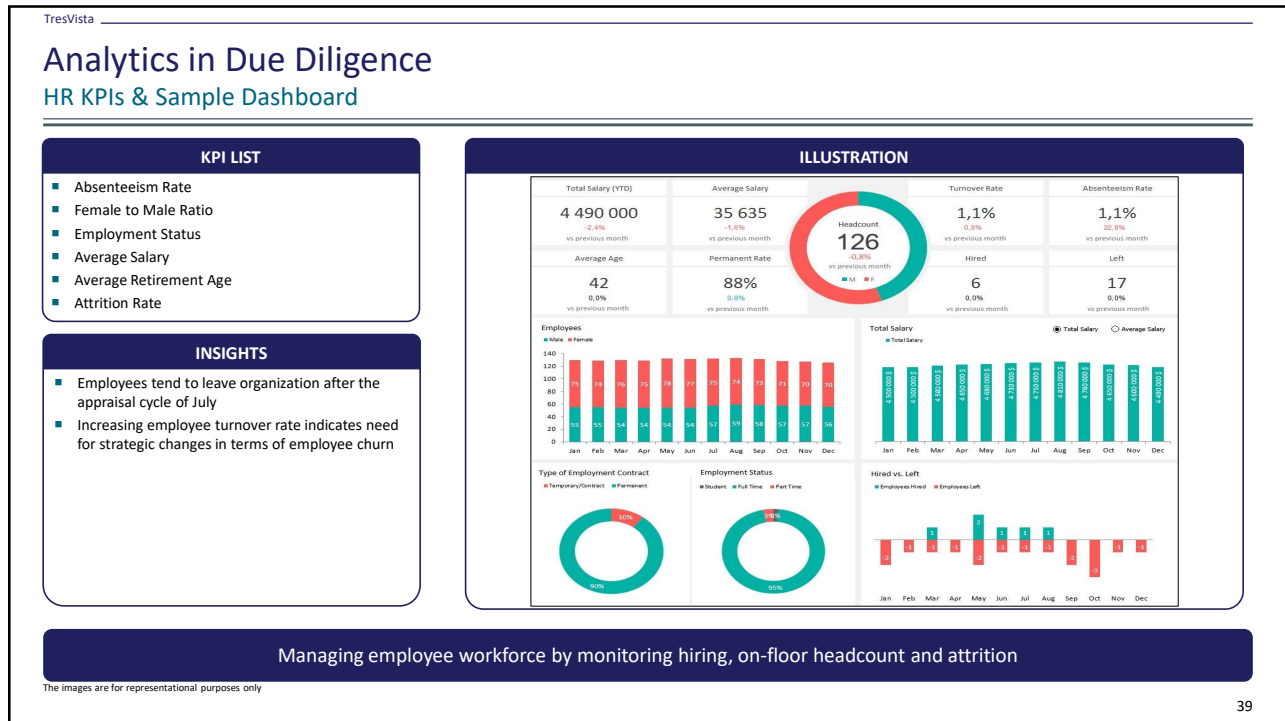
Average Debtors Days: **176**
vs 201 Last Month

Average Creditors Days: **47**
vs 62 Last Month

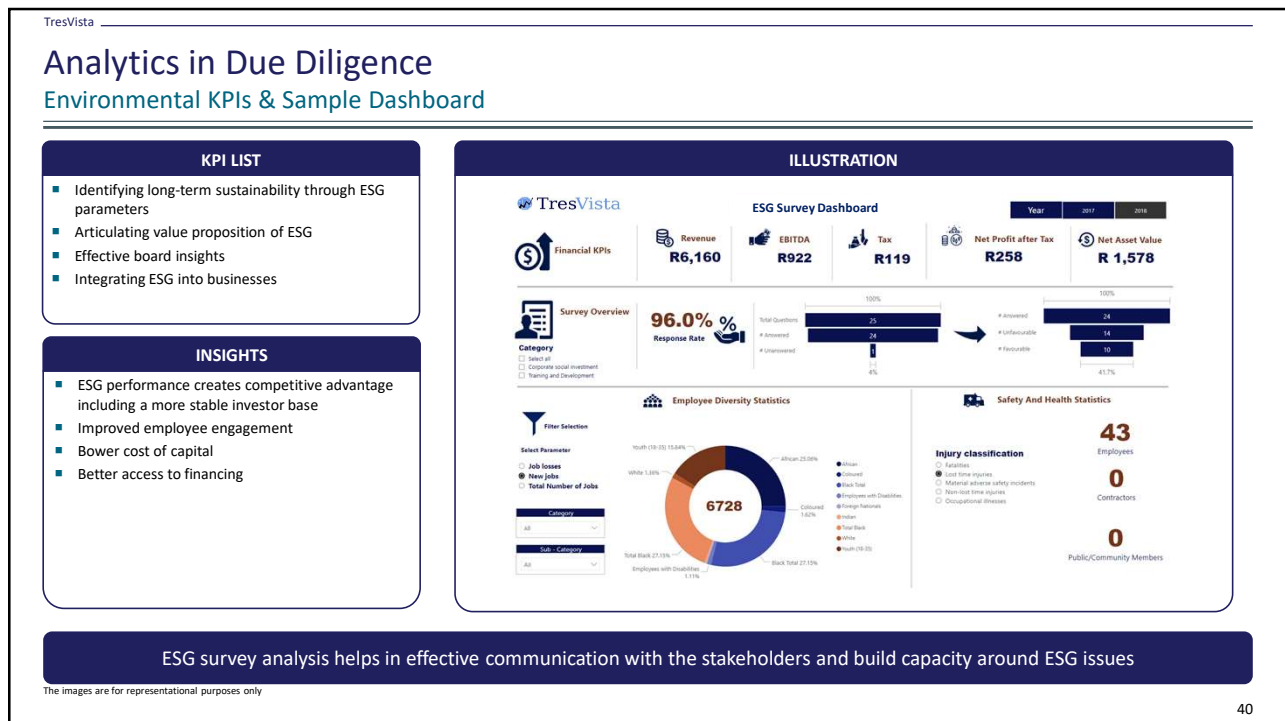
Analyzing fiscal health by tracking cashflows, PnL and balance sheet to assess business performance

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Analytics in Due Diligence


Administrative KPIs & Sample Dashboard

KPI LIST

- Avg tickets per day
- Source wise Tickets
- Occupancy rate
- SLA
- Response Time
- Fault Status


ILLUSTRATION

Tickets Past Due




4

New Tickets Today



659

Tickets Closed Today



456

Ticket Due Times

Overdue	●
Today	●
Tomorrow	●
This Week	●
Next Week	●
Later	●

Open Tickets

40

High


15

Medium


10

Low

Sourcewise Tickets



Total Tickets vis Closed Tickets



Last 30 days

6785	100%
6085	90%

Improving on-floor efficiency by tracking and optimizing ticket lifecycle, ticket backlog and common issues

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