

/IFP 2019

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Cash Forecasting: Roadmap to the Future



Introductions



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Agenda

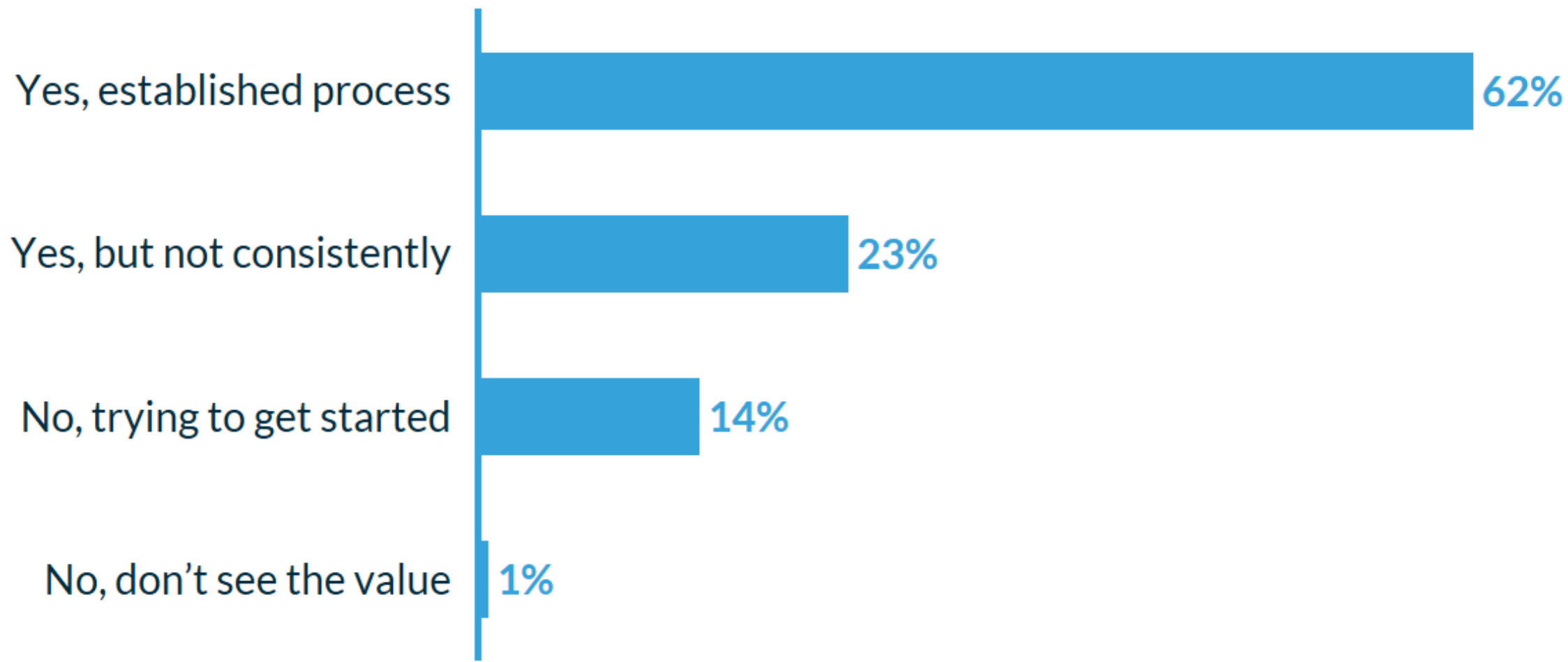
- Cash Forecasting Overview
- Treasury & FP&A Roles
- Getting started
 - Key Considerations
 - Forecasting Challenges
 - Forecasting Framework
 - Data
- Output & Effectiveness
- Leveraging Technology
 - Automation
 - Using a Vendor
 - Machine Learning
- Q&A

Poll 1

Do you cash forecast?

- ☐ Yes, established process
- ☐ Yes, but not consistently
- ☐ No, trying to get started
- ☐ No, don't see the value

Do you cash forecast?



Cash Forecasting Overview

Why do organizations need a cash forecasting process?

- CapEx, dividends, acquisitions, payroll
- Tactical vs. strategic forecasts
- Manage interest expense/income
- Manage short-term liquidity
- Capital allocation planning

Treasury & FP&A Roles

- Treasury: Short / Medium Term, (0 - 90 days)
- FP&A: Long term (2 - 5 years)
- Monthly sales, pro forma financials
- Granular vs. high-level
- Communication and information sharing

Getting Started

- Domain Knowledge
- Objectives
- Stakeholders
- Data
- Collaboration
- Tools

One Size Does NOT Fit All

- Business size
- Industry
- Customer base
- Products
- Currencies
- Countries
- Bank account structure
- Legal entity structure
- ERP/TMS
- Data availability and quality
- Technology



Forecasting Challenges

— External Factors

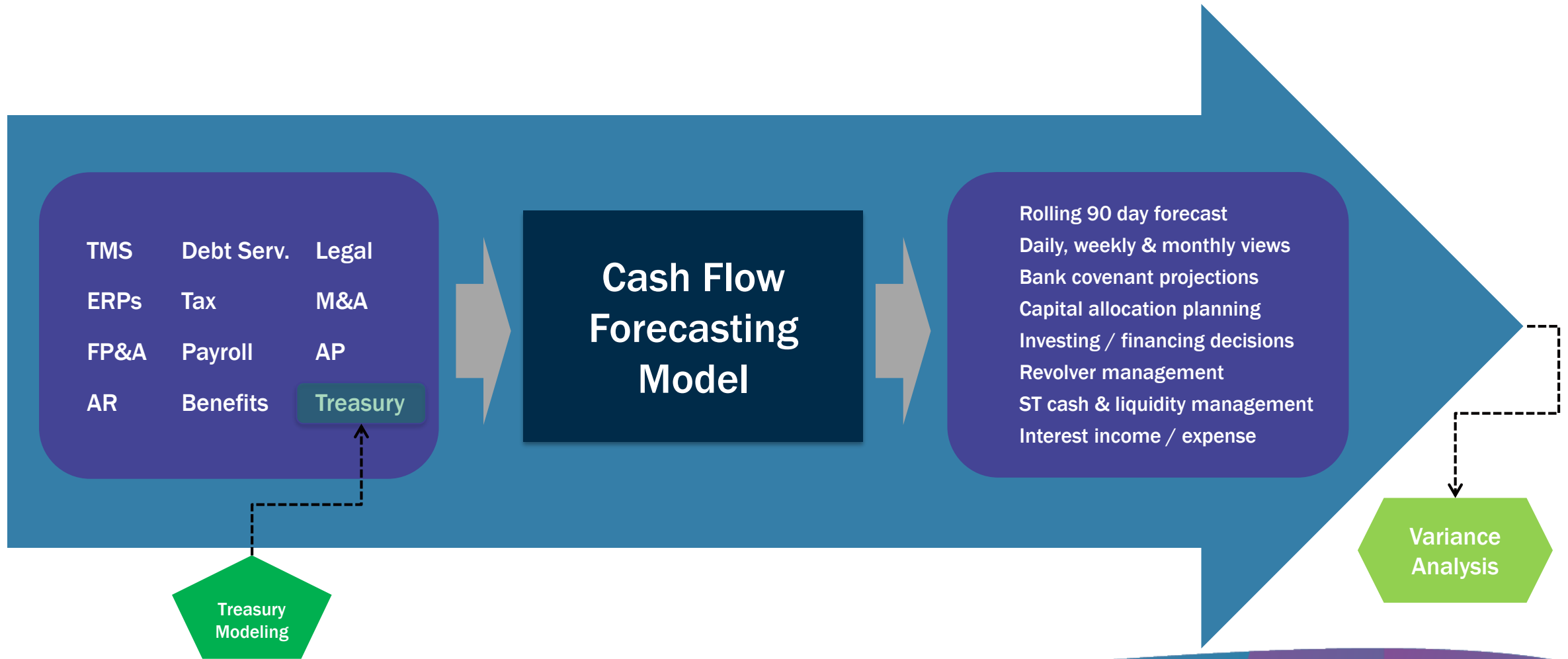
- Market conditions
- Business sector
- Business cycle
- Interest rates, FX , taxes rates

— Internal Factors

- Liquidity
- Staffing
- Technology
- Data (access and quality)



Treasury Cash Forecasting Framework

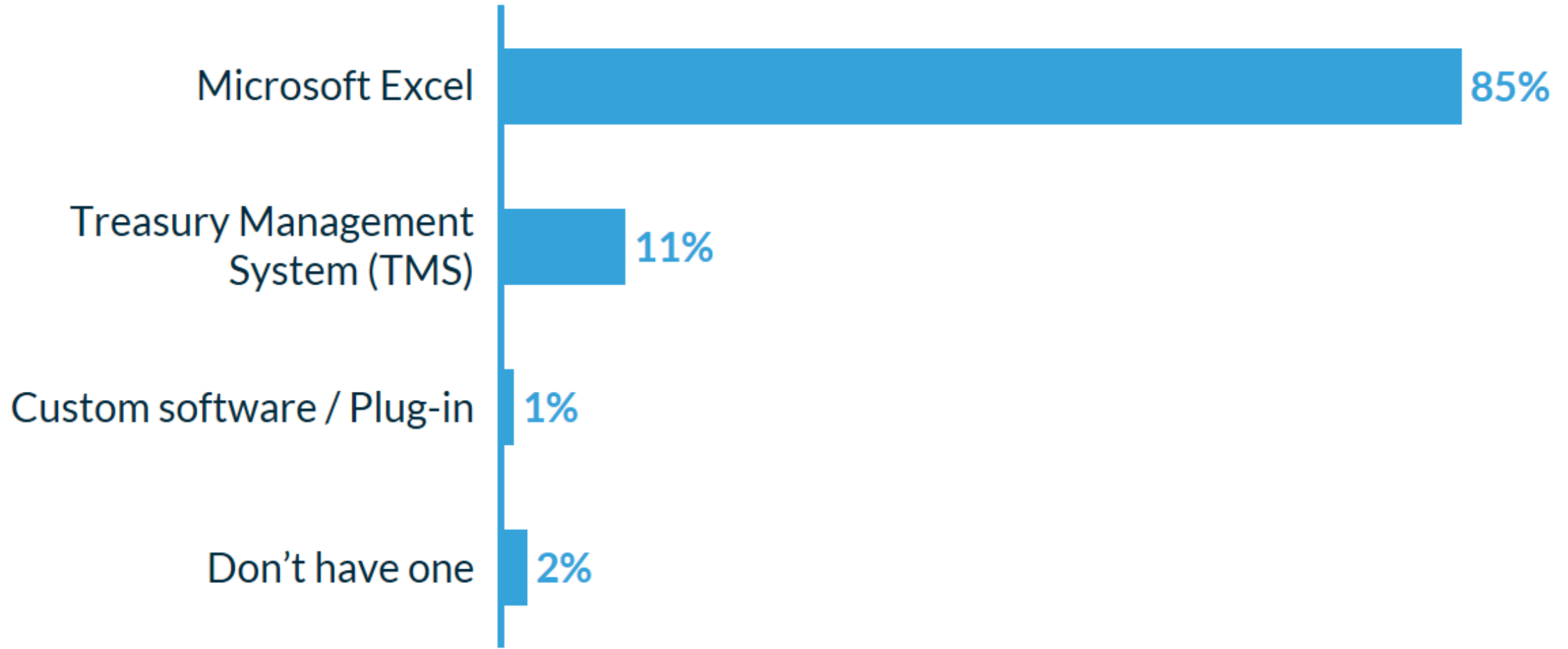


Poll 2

What do you use for forecasting?

- ☐ **Microsoft Excel**
- ☐ **Treasury Management System (TMS)**
- ☐ **Custom software / Plug-in**
- ☐ **Don't have one**

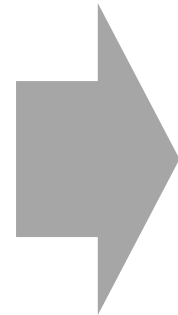
What do you use for forecasting?



Developing a Cash Forecast

Data Gathering

- Bank account balances
- Transactional cash flows
- Balances & CF's by LE, country, region, business unit, CF category/product
- Forecast data



Model Input

Known:

- Contractual CF's
Financing & investing

Unknown

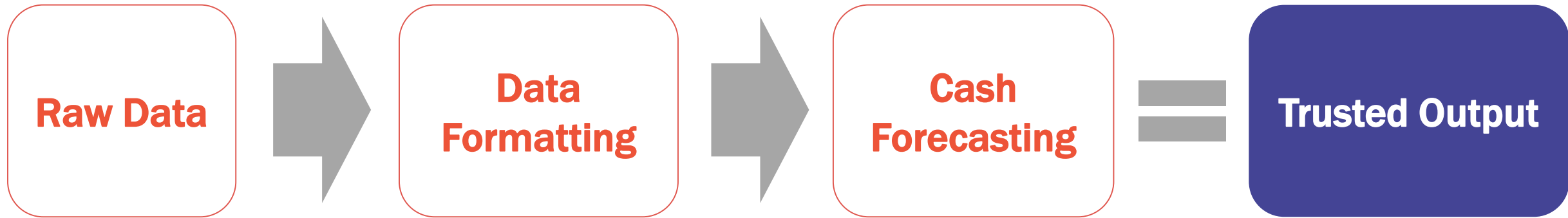
- Behavioral CF's
- Forecast unknown CF's (CFOA) using treasury methodology



Model Output

- ST: Daily/weekly
- LT: Monthly quarterly
- Capital allocation
- Debt management
- ST Investing
- Variance analysis

Good Data

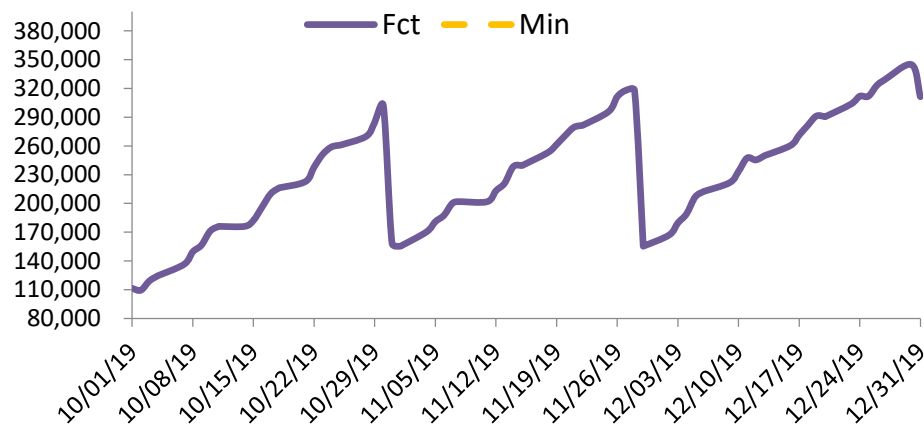


Forecast Output (detailed)

		08/14/19 Wed Fct	08/15/19 Thu Fct	08/16/19 Fri Fct	08/19/19 Mon Fct	08/20/19 Tue Fct	08/21/19 Wed Fct	08/22/19 Thu Fct	
TMS									
ERP	Beginning balance	141,106	146,176	141,067	139,113	139,592	149,092	151,905	
	Inflows								
	AR Receipts	9,553	9,358	10,822	15,171	13,952	8,175	8,450	
Debt Schedule	Revolver Borrowing	-	-	-	-	-	-	-	
	Other Financing	-	-	-	-	-	-	-	
	Miscellaneous Receipts	-	-	-	-	-	-	-	
	Inflows Total	9,553	9,358	10,822	15,171	13,952	8,175	8,450	
	Outflows								
ERP	AP Disbursements	(3,128)	(3,200)	(2,956)	(9,880)	(3,385)	(4,010)	(291)	
	Payroll	(369)	(10,261)	(8,081)	-	-	(286)	-	
Legal	Legal Settlements	-	-	-	(23)	(23)	(23)	(23)	
	Sales / Use Tax	-	-	-	(3,747)	-	-	-	
	Revolver Repayments	-	-	-	-	-	-	-	
Tax	Interest Expense	-	-	-	-	-	-	-	
	Debt Commitment Fees	-	-	-	-	-	-	-	
	Bond Coupon	-	-	-	-	-	-	-	
M&A Team	Taxes	(10)	-	(695)	-	-	-	-	
	Acquisitions	-	-	-	-	-	-	-	
	CapEx	(258)	(258)	(258)	(258)	(258)	(258)	(258)	
FP&A	Share Repurchases	(718)	(749)	(786)	(786)	(786)	(786)	(786)	
Mgmt.	Miscellaneous Disbursements	-	-	-	-	-	-	-	
	Outflows Total	(4,483)	(14,467)	(12,776)	(14,693)	(4,452)	(5,362)	(1,357)	
	Forecasted ending balance	146,176	141,067	139,113	139,592	149,092	151,905	158,997	
	Revolver Outstanding	-	-	-	-	-	-	-	
Credit Facility	Revolver Available	187,118	187,118	187,118	187,118	187,118	187,118	187,118	
	Total Available Liquidity	333,294	328,185	326,231	326,709	336,210	339,023	346,115	

Forecast Output (Executive Dashboard)

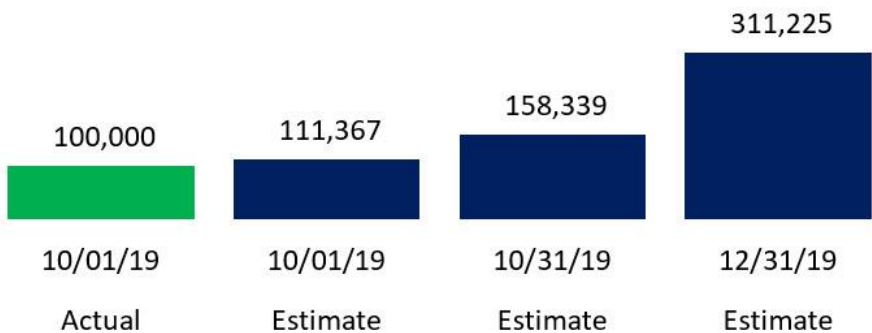
Weekly View (90-day Horizon)



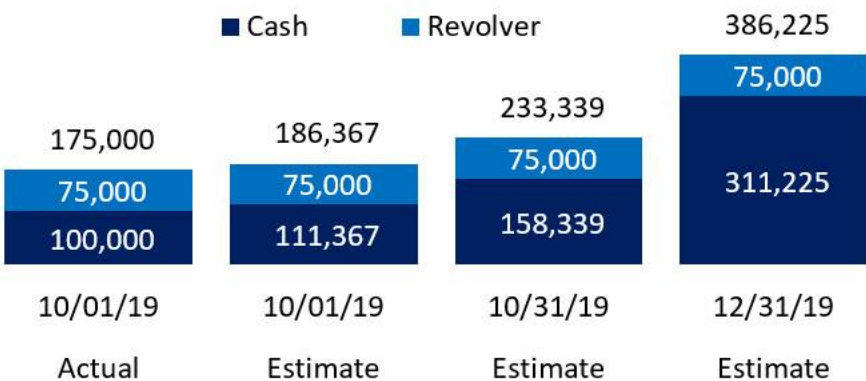
Key Forecast Drivers

\$	Desc	Timing
\$970.9	AR Receipts	13 Wks
(\$420.4)	AP Disbursements	13 Wks
(\$117.7)	Payroll & Payroll Tax	13 Wks
(\$19.8)	Health and 401K Benefits	13 Wks
(\$18.0)	Federal & State Taxes	Dec 15
(\$21.8)	CapEx	13 Wks
\$15.0	Equipment Financing	Nov 20
(\$45.0)	Acquisitions	13 Wks
(\$49.5)	Open Market Share Rep.	13 Wks
(\$82.3)	Net of Other Cash Flows	13 Wks

Month-End View



Total Liquidity View



Measuring Effectiveness

- Variance analysis
- Fct vs. Act / Fct vs. Fct
- Daily, weekly, monthly, quarterly measurements
- Model back-testing
- Transparency



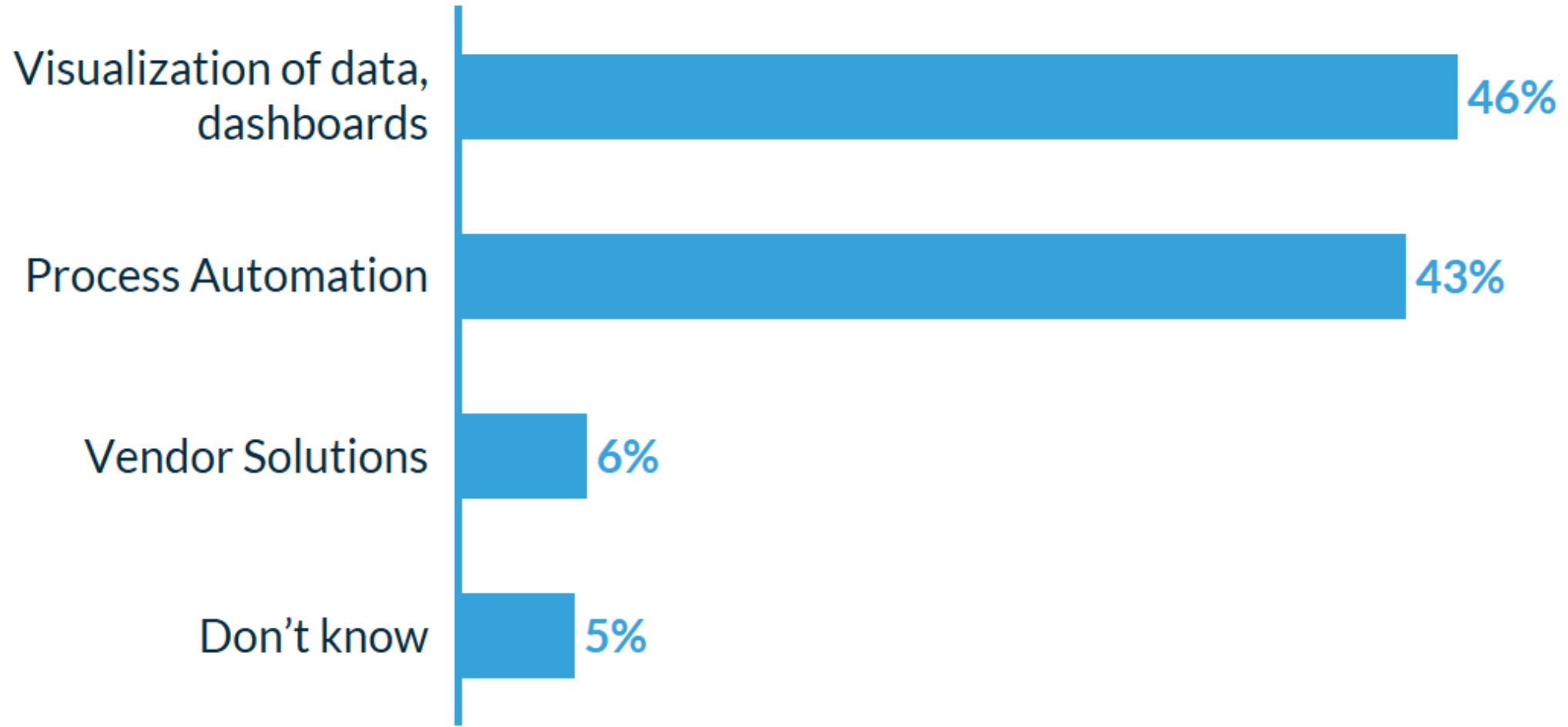
Leveraging Technology for Cash Forecasting

Poll 3

What emerging technology interests you?

- ☐ Visualization of data, dashboards
- ☐ Process Automation
- ☐ Vendor Solutions
- ☐ Don't know

What emerging technology interests you?



Setting a Goal

- Find what is the most important
- Understand the “finish state”
- Time and resource investment



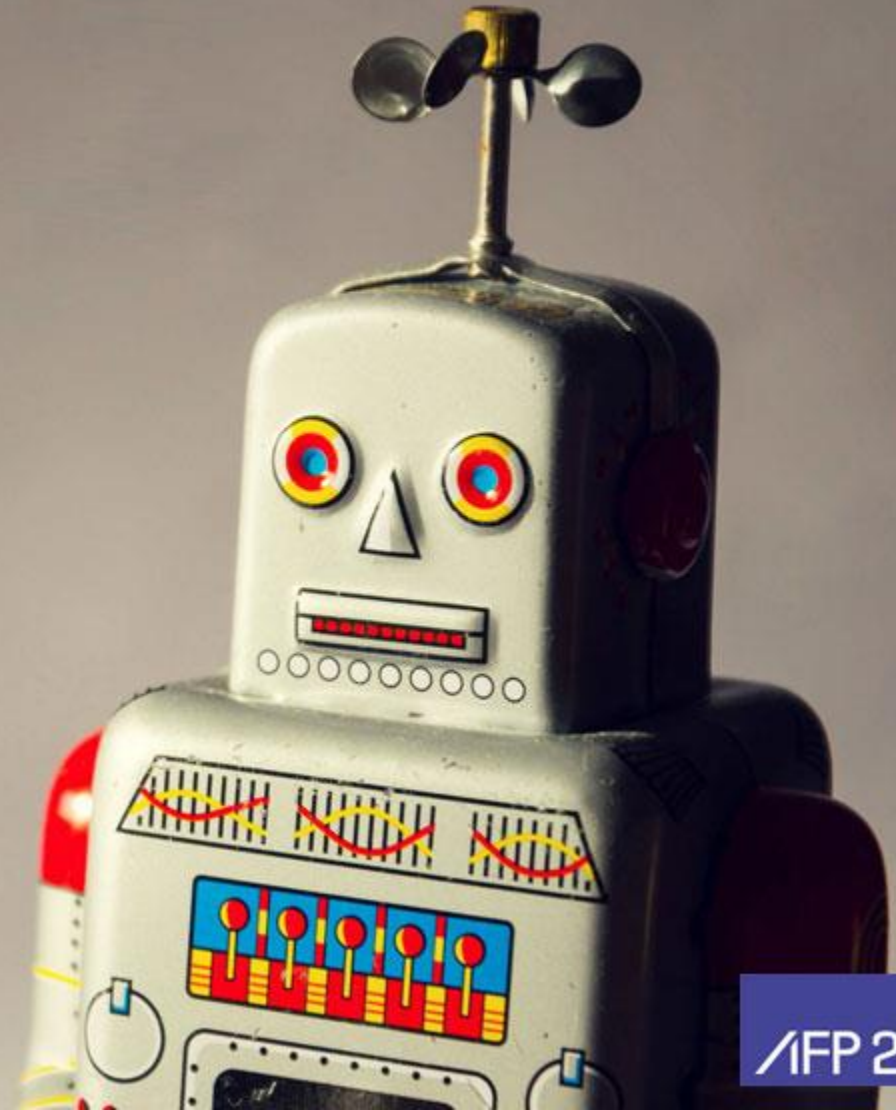
Forecasting is About:

- Process
- Discipline
- Attention to detail



Automate the Data Collection

- Any machine assistance in data collection is a win
- Robotic Process Automation
- Weigh the options



Use a Vendor

Types of Cash Forecasting Vendors

**Visualization or
Business Intelligence**

**Computational
Forecast Building**

B.I. Software:

- Help make it digestible
- Visualization & dashboards
- Distance from Project

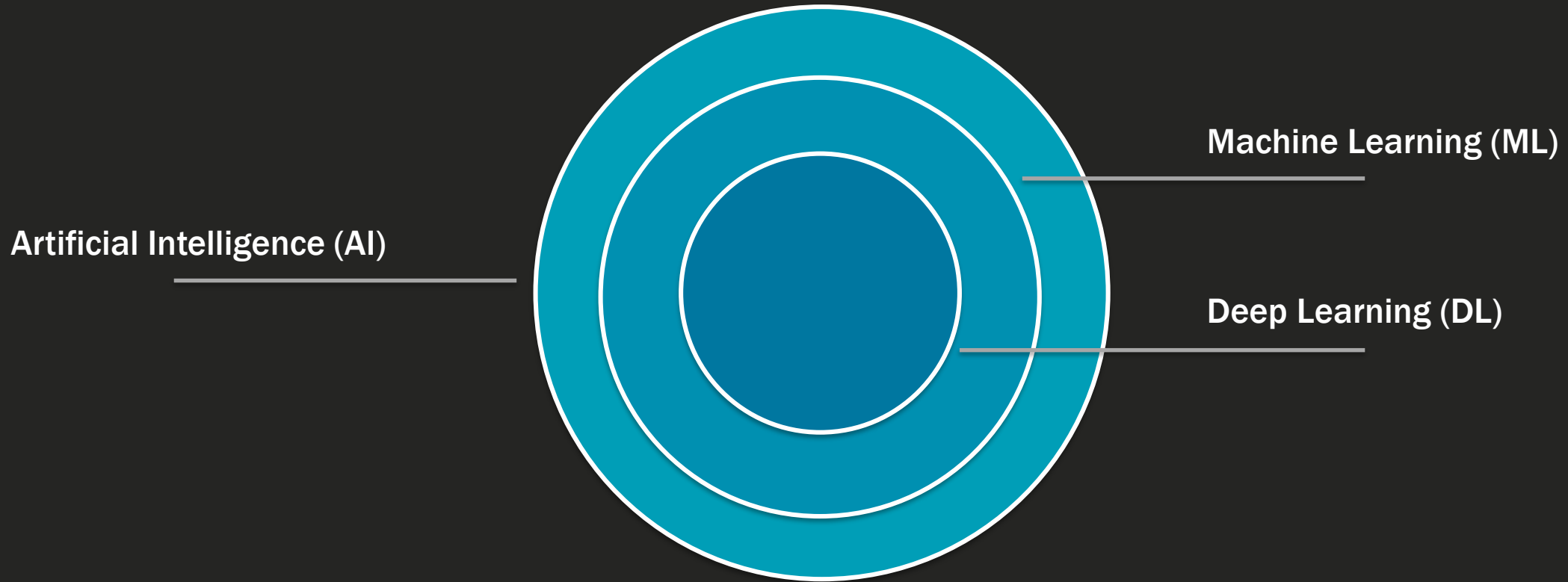




Computational Forecast Building Software

- Buying into a system
- Dealing with multiple systems
- Getting everything to work together

Artificial Intelligence, Machine Learning and Deep Learning, Too!



Artificial Intelligence & Machine Learning

A Practical Explanation for Cash Forecasting



Summary

- Cash Forecasting is critical to business function
- Define company goals and objectives
- Build the foundation & process
- Harvest good data (you can't automate garbage)
- Leveraging technology can simplify the process

Vendors

RPA

- Automation Anywhere
- AutomationEdge
- Blue Prism
- Cognizant
- Contextor
- EnableSoft
- Jacada
- Kofax
- OpenConnect
- Softomotive
- UiPath
- WorkFusion

Business Int.

- Tablou
- Sisence
- Qlik
- Good Data
- iDashboards
- Infor
- Infragistics
- Looker
- Pentao
- Thoughtspot

TMS

- Kyriba
- gTreasury
- Oracle
- SAP
- ABM
- CAPIX
- BankSense
- Salmon
- Reval
- FIS
- Orbitz
- Treasury Express

Cash Forecasting

- Cash Force
- Trovata.io
- Cash Analytics
- Tesorio
- High Radius
- TIPCO
- Fluidly
- AxleTree

Questions?