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Cash Forecasting – A Free Cash Flow Perspective

With You Today…

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Objectives

At the conclusion of this presentation, you will be able to:

1. Understand the importance/need for free cash flow (FCF) forecasting
2. Understand methodologies, tools and processes for successful design and implementation of a FCF forecasting program
3. Understand the role of Treasury in FCF forecasting
4. Understand key challenges/issues and techniques for addressing them
5. Understand the key elements of successful execution through a case study from a fortune 50 technology company

Importance of Free Cash Flow (FCF) Forecasting

Why Free Cash Flow Forecasting?

Forecasting Cash Balance on a Balance Sheet

Forecasting ending balances of cash related line items on the Balance Sheet

Recent Trend

Forecasting Free Cash Flow (FCF)

Forecasting Cash available for investors after funding Costs, Receivables, Inventory and Capital Expenditures

Greater emphasis on Free Cash Flow (FCF) is driven by

- Tightening Credit Markets
- Heightened Investor Scrutiny
- Increased Deals Activity
- Regulatory Change

Benefits of Forecasting FCF

- ✓ Provides a clean measure of financial performance
- ✓ Accurately measures economic returns to shareholders
- ✓ Provides early warning of increased borrowing needs

(Free) Cash Flow - Thoughts from Industry

*Great fundamental investors focus on understanding the magnitude and sustainability of **Free Cash Flow***

Managing Director of a Financial Services Holding Company

*Never take your eyes off **Cash Flow** because it's the lifeblood of business*

Co Founder of a Venture Capital Conglomerate

*With **Free Cash Flow** in mind, we've created a capital structure that gives us the flexibility to both invest in the business and return cash to shareholders.*

CFO of an Enterprise Information Technology Company

*Percentage margins are not one of the things we are seeking to optimize. It's the absolute dollar **Free Cash Flow** per share that you want to maximize, and if you can do that by lowering margins, we would do that. So if you could take the **Free Cash Flow**, that's something that investors can spend. Investors can't spend percentage margins.*

CEO of an e-Commerce Company

*If I had to run a company on three measures those would be employee satisfaction, customer satisfaction, and **Cash Flow***

Former CEO of a Multi-Segment Conglomerate

Elements of a FCF Forecast

Statement of Cash Flows

The line items in the Statement of Cash Flows include changes in Cash and Cash equivalents due to

- Operating Activities
- Investing Activities - PP&E
- Investing Activities – the rest
- Financing Activities

Free Cash Flow Forecast

The forecast is calculated as the Operating Cash Flow minus Capital Expenditures

Operating Cash Flow

Net Income
+ Non Cash Expenses (Depreciation & Amortization)
+ Gains / Losses on Asset Sales
+ Changes in Working Capital

- Capital Expenditures

Typically used to evaluate the overall health of the company

Indicates the company capacity to finance growth, pay creditors, pay dividends and buy back equity

FCF Program Overview and the Role of Treasury

FCF Forecasting with Indirect and Direct Models

Indirect Model

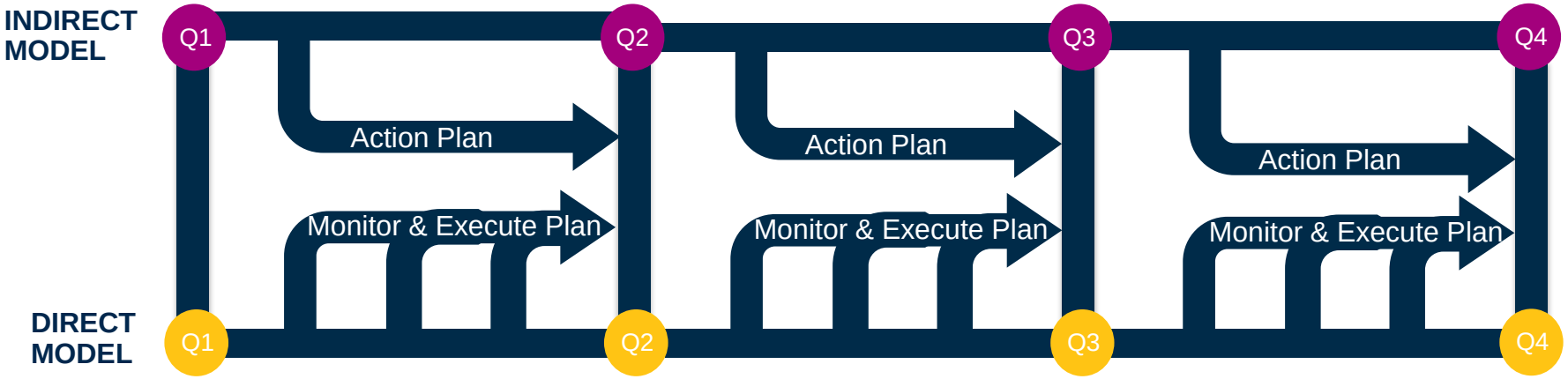
Top down, derived from P&L and B/S forecasts for medium / long term FCF forecasting

Provides early visibility into cash shortage / surplus and setting action plans for the quarters

Direct Model

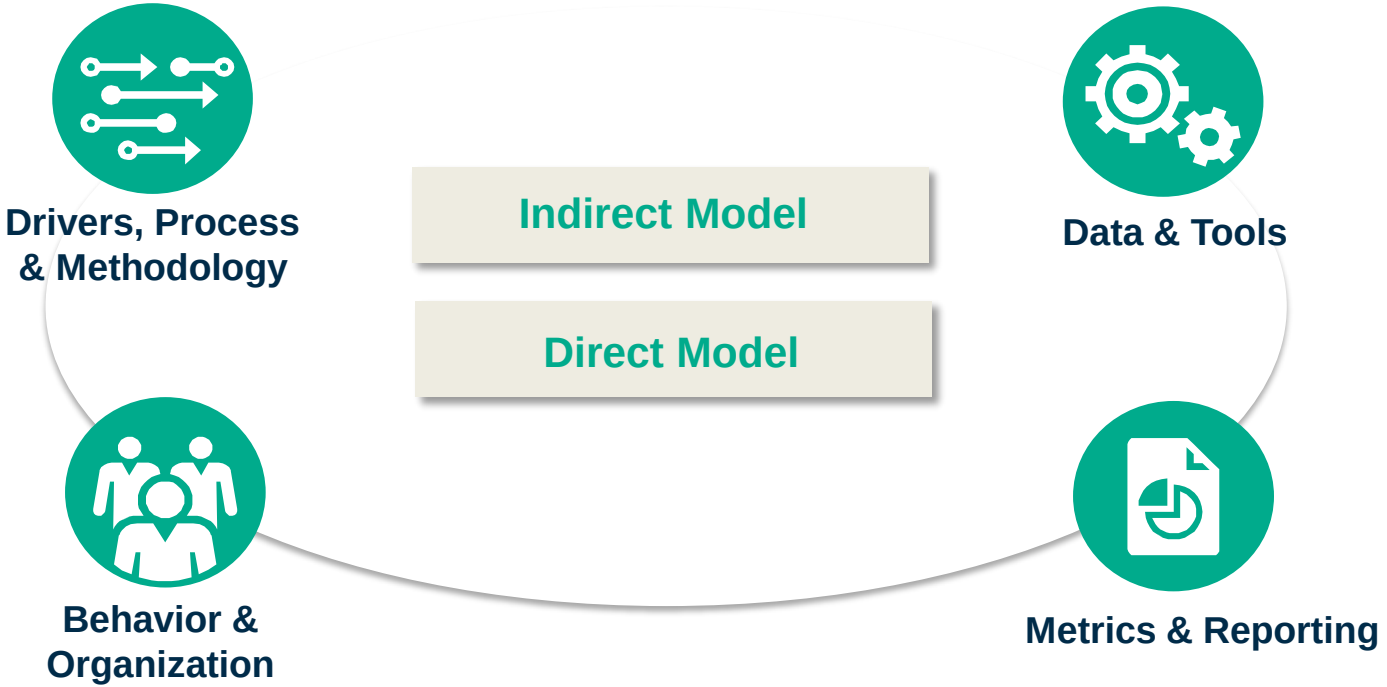
Bottom up, derived from transaction data for near term FCF forecasting

Provides frequent progress tracking, identification and execution of additional cash flow levers within a quarter



FCF Forecasting Framework

The two types of FCF Forecasting methods can be implemented based on a four point framework



Indirect Model Overview (1 of 3)

Drivers, Process & Methodology

The Indirect Model forecasts free cash flow as **a part of P&L and balance sheet forecasting** process.

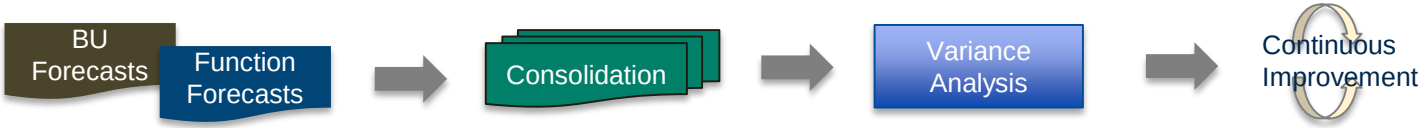
- **Horizon & Frequency:** Up to 18 months by quarter/month; Updated monthly/quarterly
- **Methodology**:

Earnings + Add Non Cash Items + Change in Operating Assets & Liabilities - Capital Expenditure = Free Cash Flow

- **Drivers:**

Operating Profit	Depreciation & Amortization	Trade AR/ Other AR	Purchase
Other Income & Expense	Stock Based Compensation	Trade AP/ Other AP	
		Inventory	
		Other assets/liabilities	

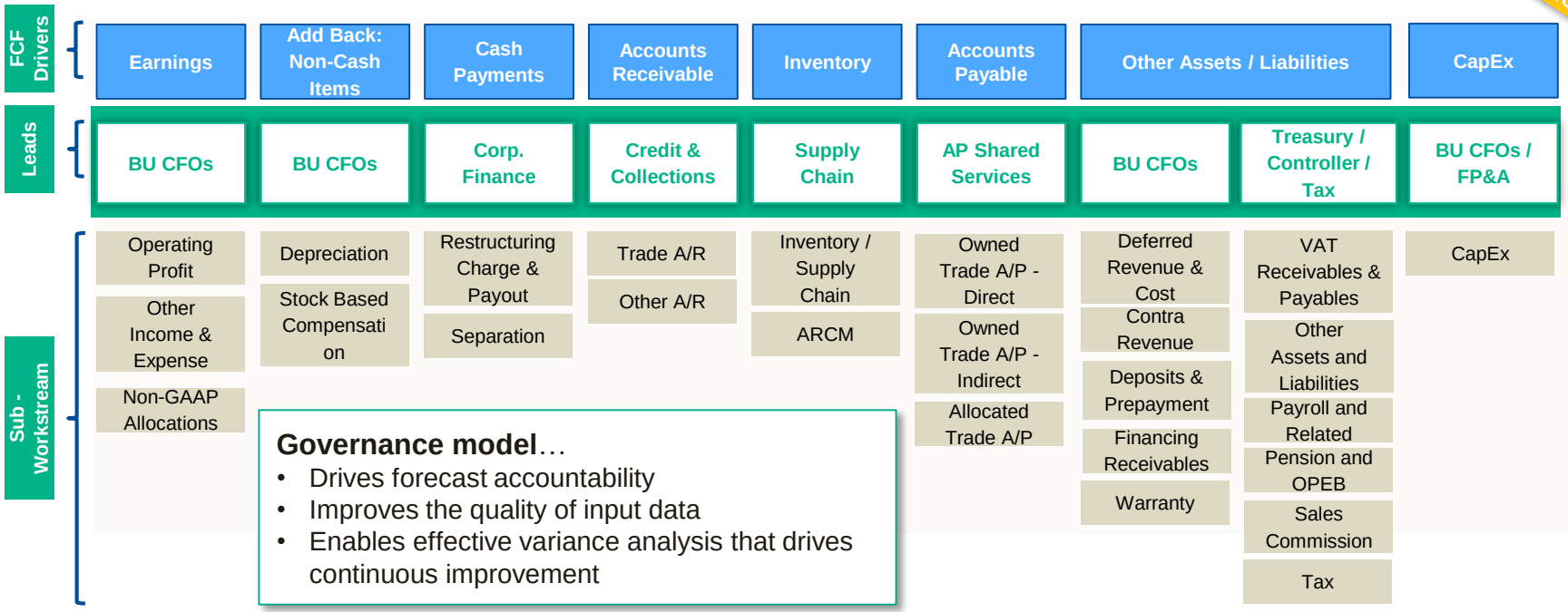
- **Process:**



Indirect Model Overview (2 of 3)

Illustrative Example

Behavior & Organization

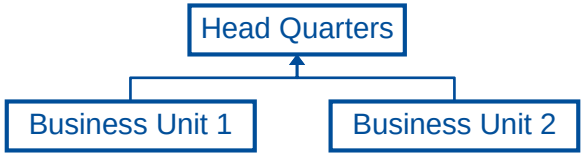


Indirect Model Overview (3 of 3)

Data & Tools

Budgeting & planning **software** and/or **spreadsheet based models** are commonly used to pull input data and/or create the forecast

- P&L and B/S forecasts submitted by Business Units/ Regions
- The input data for P&L and B/S forecasts are typically obtained from ERPs
- P&L and B/S actuals per GL are used as the actuals for variance analysis



Metrics & Reporting

Senior management is closely involved in **analyzing the variance** and utilizing the information to **make strategic decisions**

- **Metrics:** Accuracy, Timely submission of forecast, etc.
  - **Metrics considerations** – Staggering KPI targets (require greater accuracy as the model matures), Cash flow driver specific KPIs
- **Reporting**: Annual and quarterly forecasts with monthly views, Quarterly / monthly variance analysis (e.g., forecast vs. actuals, forecast vs. forecast, etc.)

Direct Model Overview (1 of 3)

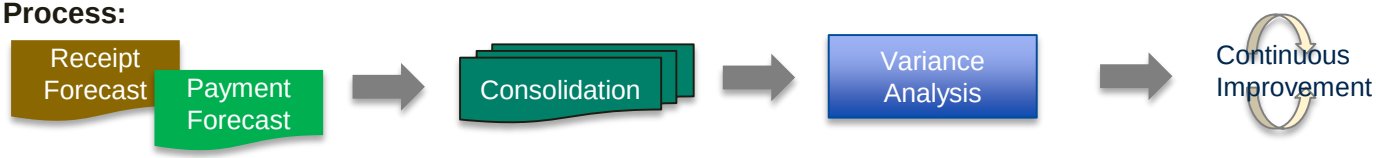
Drivers, Process & Methodology

- **Horizon & Frequency:** Up to 3 months by week/day; Updated bi-weekly/weekly
- **Methodology:**
  - Predict the timing and amounts of cash inflows & outflows using transactional data (outstanding receivables, payables, payroll, etc. data and corresponding receipt/payment terms)
  - Forecast using historical trending or statistical analysis for the cash drivers/ transactions that cannot be forecasted using the aforementioned method
- **Drivers:**

Illustrative Example

Customer Collections	• Third Party Trade Receipts • AR Factoring Receipts
Direct Spend	• Third Party Trade Payments
Indirect Spend	• Third Party Trade Payments
Intercompany Settlements	• I/C Settlements (Payments, Receipts, Netting)
Tax	• Tax Payments • Tax Refunds
Treasury	• Financing /Investments /Dividend • FX
Capex	• Capital Expenditures
Workforce	• Payroll & Benefits Payments • Restructuring Payments

- **Process:**



Direct Model Overview (2 of 3)

Behavior & Organization

The Direct Model commonly requires a forecast governance/accountability model built based on **key cash flow drivers**

- More frequent model updates translate to increased involvement of stakeholders in the forecasting effort in comparison to the Indirect model

Illustrative Example

Model Owner & Consolidation Lead						
Customer Collection	**Direct & Indirect Spend**	**Tax**	**Workforce**	**Treasury**	**CapEx**	**Interco.**
Owners						
VP of AR	VP of AP	VP of Global Tax	VP of Payroll	Treasurer	VP of FP&A	Controller
Input Providers						
AR, Collections, BUs	Purchasing, BUs	Direct tax, Indirect tax	Payroll, Benefits, HR	Treasury	Fixed Ops, FP&A, BUs	BUs, Accounting
Variance Analysis						
BUs	BUs	Direct tax, Indirect tax	Payroll, Benefits	Treasury	BUs, Fixed Ops	BUs, Accounting

Shared Governance Model:

- To the extent possible, Direct and Indirect models should have shared governance model
- Benefits of shared governance include:

1. Efficiency
2. Common assumptions and data sources resulting in coherent output
3. Reduced reconciling items

Direct Model Overview (3 of 3)

Data & Tools

While spreadsheet-based tools are most widely used, the use of **forecasting software** and **analytical tools** is gaining popularity.

- Input data, such as open AR/AP, payment terms, and payment calendar, are typically obtained from ERPs and/or data warehouses
- Actuals are obtained from sub-ledger, general ledger, and/or bank statements

ERP CFF Modules

TMS CFF Tools

CFF Specialty Tools

Metrics & Reporting

- **Metrics:** Accuracy, Completeness, Timely submission of forecast, etc.
- **Reporting**: Rolling monthly and quarterly forecasts with weekly/daily views, Current month/quarter forecasts, MTD/QTD actuals + forecast till month/quarter end, Variance analysis (e.g., forecast vs. actuals, forecast vs. forecast, etc.)
- The Direct Model provides more accurate forecast of the near term cash flow due to shorter horizon, use of transactional data and more frequent updates with MTD/QTD actuals

Role of Treasury in FCF Forecast Program

Direct Model Forecast Owner

- Consolidate inputs and provide insightful analysis
- Identify tangible actions/cash levers to pull to meet FCF targets
- Enforce governance and accountability model

Input Provider

- Treasury related inputs for both Direct and Indirect model E.g. Interest expense, dividends, lending activities, FX, etc.
- Provide actuals / bank statements

Variance Analysis

- Facilitate variance analysis at each driver level for both the Direct and Indirect models

FCF Program Efficiency and Synergy

- Identify and coordinate synergy areas between the two models E.g. shared assumptions, data sources, accountability model, etc.

Key Challenge Areas and Techniques for Addressing Them

FCF Forecasting Common Challenges (1 of 2)

Drivers, Process & Methodology

Determining cash flow drivers

- ✓ Identify drivers based on
  - ✓ Materiality & Volatility of underlying line items
  - ✓ Business Process Specifications

Forecasting Invoices Booked & Cleared within Forecasting Period

- ✓ Avoid non standard payment terms for invoices
- ✓ Use historical trending to forecast this specific category of invoice payments

Behavior & Organization

Lack of Buy In

- ✓ Support from senior management
- ✓ Company wide cross functional involvement and support
- ✓ Performance management (KPI) and incentives (hard and soft)

Time & Resource Commitment

- ✓ Identify areas that enable efficiency and share best practices
- ✓ Clearly defined roles and responsibilities
- ✓ Automation

FCF Forecasting Common Challenges (2 of 2)

Data & Tools

Disparate Input Data Sources

- ✓ Standard excel template across stakeholder groups
- ✓ Semi-automate data gathering process (ex. SQL to query/modify data reports, etc.)

Fragmented System Architecture

- ✓ Apply 80/20 rule – focus on material cash flow drivers
- ✓ Standard spreadsheet template to provide the forecast input
- ✓ Automate input gathering and data cleansing process

Metrics & Reporting

Setting the right level and timing for KPI Targets

- ✓ Set KPI Targets specific to cash flow drivers and owners
- ✓ Stagger KPI Targets based on increasing model maturity over time

Designing customized reporting packages for stakeholder groups

- ✓ Design standardized forecast reporting and variance analysis packages for senior management & cash driver owners
- ✓ Establish a regular review cadence for cash driver owners

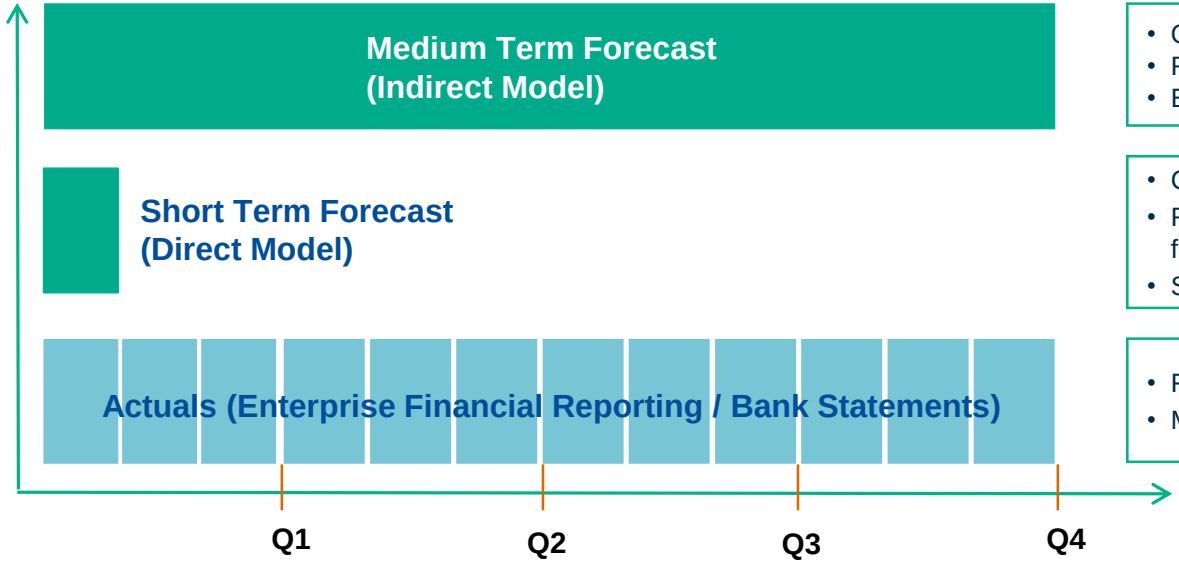
Conclusion

- ***FCF** is increasingly being emphasized as a **leading indicator** of a company's **ability to generate cash and profits***
- *A **FCF Forecasting Program** would enable companies to **manage FCF results** by providing **insights** regarding **cash levers** and **accelerators** to achieve FCF targets*
- ***Treasury provides critical inputs to both the FCF Forecasting Models**, thus highlighting it's role as a key driver of a successful FCF Forecasting Program*
- *Furthermore, the **FCF Forecasting Program** can also generate **strategic insights to support core Treasury Responsibilities** ranging from Cash & Liquidity Management Insights (Short Term FCF Forecast) to Funding Strategy and Working Capital Management (Long Term FCF Forecast)*

Case Study - HPE

FCF Program Overview

The HPE FCF Program utilizes Direct & Indirect models concurrently to improve the ability to forecast & proactively manage FCF results

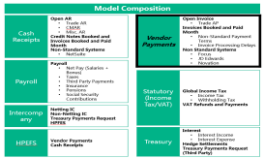
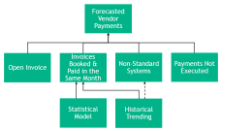
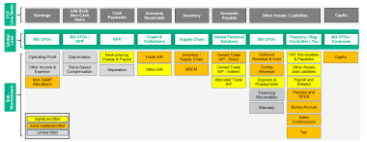


- Quarterly forecast by month for current fiscal year
- Refreshed on a monthly basis
- Early warning of FCF issues

- Current month forecast by day
- Refreshed on a weekly basis (MTD actuals + forecast for remainder of month)
- Short term cash visibility & management

- From sub-ledger/GL/bank statements
- Monthly/weekly/daily actuals

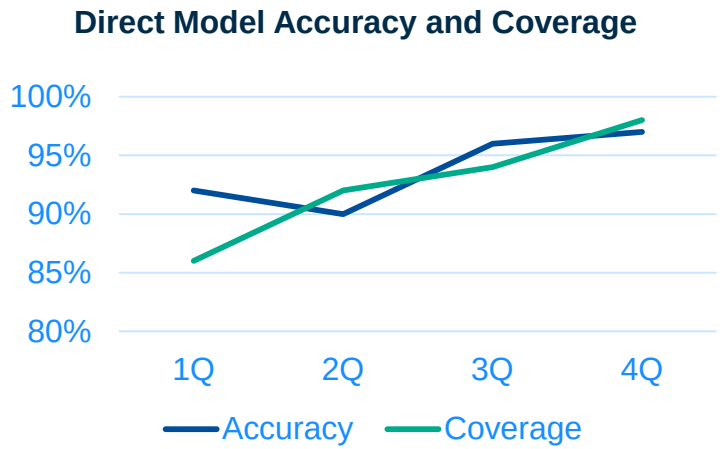
Addressing Key FCF Program Framework (1 of 2)

Framework	Action	Examples
Drivers, Process & Methodology	• 8 key cash flow drivers for the Indirect Model and 7 key cash flow drivers for the Direct Model • Forecast and actuals processes and methodologies for each of the identified cash flow drivers • Forecast processes and methodologies formalized through documentation	• **Indirect Model drivers**: Earnings, Non-Cash Items, Cash Payments, AR, Inventory, AP, Other Assets/Liabilities, CapEx • **Direct Model drivers:** Cash Receipts, Vendor Payments, Payroll, Statutory, Treasury, Intercompany, HPEFS  
Behavior & Organization	• Accountability model established for Indirect and Direct model cash flow drivers • Shared point of contacts between the two models for line item forecast ownership, input submission, and variance analysis • Ongoing “interlock meetings” involving business/process groups to review forecast and variance analysis	• **Shared governance/accountability functions**: Credit & Collections, AP Shared Services, Tax, Treasury  

Addressing Key FCF Program Framework (2 of 2)

Framework	Action	Examples
 **Data & Tools**	• Models built primarily using spreadsheet based tools • Enterprise Data Warehouse (EDW) populated with ERP data, a major source for Direct Model • Designated business/process groups provide input data and forecasts for assigned cash flow drivers	• Types of input provided (not an exhaustive list): ➢ BU CFOs – Operating profit, Other income/expenses, CapEx, Deferred revenue/cost ➢ Credit & Collections – Trade AR, Other AR ➢ AP Shared Services – Owned Trade AP, Allocated Trade AP ➢ Tax – VAT receivable/payable, Federal/State income tax ➢ Treasury – Interest, Hedge Settlements
 **Metrics & Reporting**	• Established various management reporting (forecast, variance analysis, trend analysis, etc.) and review cadence • Measure month over month forecast accuracy and coverage (for Direct model only) and analyze historical trend	**Direct Model:** - 8 forecast reporting packages at cash driver level - 8 variance analysis packages at cash driver level - 1 forecast and 1 variance analysis package at enterprise level

Direct Model Forecast – Highlights



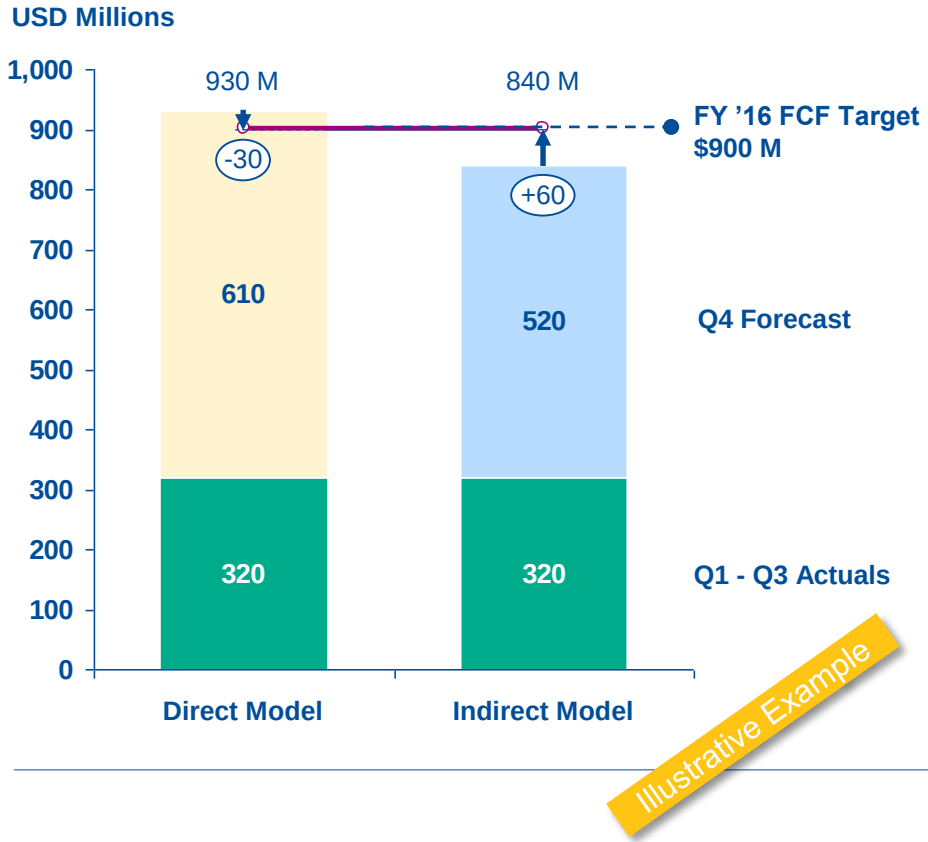
- **Accuracy** – A measure of the difference between forecasts and actuals for FCF items that are included within the Direct model's coverage

- **Coverage –** A measure of the percentage of HPE cash flows contained within the Direct forecasting model

Highlights

- **Accuracy Trend**
  - 92% in Q1 → 97% in Q4 FY '16
- **Coverage Trend**
  - 86% in Q1 FY '16 → 98% in Q4 FY '16
- Direct Model Accuracy decreased in Q2 by 2% due to a corresponding 6% increase in Coverage
  - The increased Coverage was a result of additional HPE Cash Flows included in the Direct Forecasting Model which subsequently decreased the Accuracy percentage

Managing FCF Targets using Direct & Indirect Models



Cash Accelerators in Flight

- AR Factoring for major customers
- Early Payment Discount for Solutions Provider
- Subsidiary Tax Refund

Cash Levers to Pull

Accelerate Vendor Payments :

- Decision based on leadership checkpoint one week prior to quarter-end
- Additional early payments based on daily monitoring of results approaching quarter-end

Outcome

- Towards the end of FY'16, the **Direct and Indirect Models gave contrasting signals** regarding Q4 FCF forecast
- **Based on the Direct Model output** (which was considered more accurate for short-term cash flows), the **AP Lever was pulled** to accelerate some Vendor Payments
- This action **resulted in FCF actuals closer to FCF target**

Thank You!