## Oracle<sup>®</sup> Fusion Cloud EPM Working with Predictive Cash Forecasting



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## 1 Predictive Cash Forecasting Overview

Predictive Cash Forecasting enables companies to make better use of their cash with datadriven continuous cash forecasting.

Predictive Cash Forecasting is a Planning application type designed to help treasurers and cash managers perform short-term tactical (rolling ~10 days) or mid-term operational (~3-6 months /~12-26 weeks) cash forecasting. It allows for daily, weekly, or monthly rolling forecasts that can be generated for operational, financial, and investing cash flow line items. It is built using a direct cash flow method and enables decision-making and actions for cash optimization across multiple legal entities within the business. Additionally, it provides an overview of the organization's overall cash position at each level of the legal hierarchy. With Predictive Cash Forecasting, you can:

- Optimize cash by finding problems and opportunities earlier with increased automation and more frequent cash forecast updates.
- Take action faster by aligning stakeholders and unifying scenario planning with corrective actions.
- Enable operational improvements through deeper insights into order-to-cash and procure-to-pay.

Predictive Cash Forecasting provides pre-built, best practice out-of-box content including a dimensional model, line items, forecast methods, forms, dashboards, rules, and role-based navigation flows.

Cash Managers use the **Summary** dashboard to review continuous rolling cash forecast, operating and non operating cashflow, and daily or periodic cash position by entity, along with KPIs:





Predictive Cash Forecasting allows for daily, weekly, or monthly rolling forecasts. Cash Managers use the **Rolling Forecast** form to review and modify the forecast for cash inflows and cash outflows for their entity. They can review actuals, the rolling forecast, and actuals versus daily/periodic forecast:

olling Forecast													0	0 🖪	Actions
nthy Currency Ision US USD															
	Actual	Actual vs Forecast							Forecast						
	EVOA	EV24							EV24						
	1124	1124							1.124						
	W8	W8	W9	WIO	WII	WI2	W13	W14	WIS	W16	W17	WIS	W19	W20	W21
Opening Balance	1,043,297.0	(20,003)	772,991	1,191,046	622,266	1,100,498	(417,595)	35,938	(336,118)	297,140	189,197	384,835	104,160	726,246	257,168
Operating Cash Inflows	1,153,684	(70,236)	1,508,938	1,281,109	1,377,862	1,108,788	827,219	1,051,248	1,004,692	815,522	1,233,044	820,488	1,014,443	825,885	1,283,904
Customer Receipts	1,153,684	(70,256)													
Receivables Invoices			1,455,152	1,223,144	12/4,603	1,108,788	827,219	1,051,248	1,004,692	813,522	1,253,044	820,488	1,014,443	825,885	1,283,904
Receivables Overdue Invoices	3477 400	24.20	55,786	5/(965	105,259	1777 404		4 437 704			1077 404	100101	103 103	1 304 047	101177
Operating Cash Outflows	2,135,409	20,211	090,005	1,049,009	679,029	1,715,001	575,000	1,425,504	571,454	921,404	1,057,400	(JUL)	392,337	(294,905	40(177
Suppler Payments	1,210,349	(00,402)	222.204	700.077	601701	744 005	224.224	627210	205.005	222.360	407 970	205.076	222,760	407 970	225.076
Payables invoices			2 207	34,073	22,209	300,000	204,234	337,110	223,070	222,107	003,070	223,070	222,107	003,870	223,070
False Electric Comment	41540	0	2,011	61540	22,000	41540		41540		61540		41540		41540	
Salary Prived Component	411.452	11165		102 101		244,004		200340		491.450		10,040		422.917	
Annual Bonus	41,004	1,000		417,600		244,004		507,600		41,431		510,105		462,017	
Lease Rent Payments			328.000					328.000				328.000			
Utilities Payments	226.080	5.000				202.320					226.080				
Travel Payments	25.028	76,568	30,518	24,198	65,304	31,762	25364	64,761	32,148	25,699	64.041	32,427	26,172	63.320	32,686
Opex Payments	198,560	(3.060)	107,674	108,785	120,237	130,351	114,288	122,124	114,211	119,996	143,415	143,415	143,415	143,415	143,415
Direct Tax Payments				419,588											
Indirect Tax Payments						677,700									
Cash from Operating Activities	(979,725)	(44,025)	818,055	(568,780)	478,235	(604,893)	453,533	(372,056)	633,258	(107,942)	195,638	(280,675)	622,086	(469,078)	882,727
Cash from Investing Activities	(503,124)	(3.124)				(913,200)									
Cash from Financing Activities	1,212,543	2,543	(400,000)			0									
Closing Balance	772,991	(64,609)	1,191,046	622,266	1,100,498	(417,595)	35,938	(336,118)	297,140	189,197	384,835	104,160	726,246	257,168	1,139,895

Controllers can see an overview of the organization's overall cash position at each level of the legal hierarchy.

Predictive Cash Forecasting provides line items along with the ability to add any additional line items you require. Cash line items drive the various cash inflows, cash outflows, and the balances for a cash forecast. Line items are organized under the structure of Operating Cash Flows, Investing Cash Flows, and Financing Cash Flows.



Predictive Cash Forecasting supports various forecast methods, which are different approaches to arriving at the cash forecasts. Forecast methods can be defined for each line item and version, entity combination, based on the data source available and the maturity of planning and forecasting. Methods include driver-based, trend-based,



Smart Drivers, prediction-based methods including statistical predictions and machine learning predictions, and manual input. You can also define period-based forecast methods where you can use different forecast methods for different time frames.



Predictive Cash Forecasting provides role-based navigation flows for Cash Managers, Controllers, and Administrators, to guide users through their process.

Predictive Cash Forecasting offers:

 Integrated and automated process—Predictive Cash Forecasting allows for pulling the data from external systems to drive the cash forecast based on outstanding invoices and transactions. For forecasts beyond a certain period or for certain cash line items, data can be pulled in from any source through Data Integration.

#### Note:

Fusion ERP Cloud integration is not yet available. In a subsequent update, Predictive Cash Forecasting will include seeded integrations from Fusion ERP Accounts Receivable, Payable and Cash Management. In the interim, you can load your data from any source and can automate the data load using a Data Integration pipeline.

- Real-time and accurate forecasts—Real-time and accurate cash forecasting by applying targeted forecasting models and intelligent predictions. Predictive Cash Forecasting supports multiple cash forecasting process cycles, short-term and medium-term. Both forecasts are rolling forecasts—the periods roll over every day for the daily forecast and roll over by week or month for the periodic forecasts.
- What-if scenarios—What-if planning with the ability to create multiple scenarios that support real-time decision-making.
- Adjustment to forecast—Ability to use direct entry planning for manual adjustments to the forecast based on human judgment.



 Flexible reporting—Multiple views for the data, such as aggregation and grouping, flexible filtering, time periods, view by Region, Legal Entity, Bank, Bank Account, Cash Pools on a daily, weekly, and monthly basis.

Overall, Predictive Cash Forecasting offers a comprehensive solution for cash forecasting that can help businesses make better decisions regarding their cash management strategies. With its advanced features and flexibility, it is a valuable tool for any organization looking to improve its cash forecasting capabilities.

#### Videos

Your Goal	Watch This
This overview video introduces Predictive Cash Forecasting in Oracle Cloud EPM. Predictive Cash Forecasting helps you develop data-driven cash forecasting and forecast more accurately, take faster actions with respect to cash, and enables cash flow improvements. Predictive Cash Forecasting supports daily, weekly, or monthly short and medium term forecasting, as well as supports multiple forecast methods such as driver, trend, and predictive modeling.	Introduction to Predictive Cash Forecasting

## **About Forecast Methods**

Forecast methods are different approaches to arriving at cash forecasts.

Predictive Cash Forecasting supports various forecast methods for each cash line item, providing you with the flexibility to choose the appropriate method.

You can define the default forecast methods to use for each line item and entity combination based on the data source available, the maturity of planning and forecasting, and the time horizons for the forecast. You can also define period-based forecast methods where you can use different forecast methods for different time frames.



Fored	ast Methods				
		Matur	rity of planning & forecastir	ng	N
	Limited by inherent human bias and capability				Data-driven forecasting on large scale
Planning Methodology	1 Manual	<ul><li><sup>2</sup> Trend</li><li><sup>3</sup> Driver</li></ul>	<ul> <li>Statistical</li> <li>Forecasting</li> </ul>	Smart Driver	Machine Learning Models
Type of Data		Aggregated Data		Transacti	onal Data
Business Insight		0	pportunity for Business Ins	ight	
<ol> <li>Manu</li> <li>Trend</li> <li>Drive when</li> </ol>	ual : Manual is entering cash flo d : Trend allows for driving the f er-based: Business drivers are er e Sales Revenue, Expense, Salan	ws directly when it cannot be n 'orecast based on historical act ntered manually or loaded as o y or Capital Expense cash drive	nodeled <u>e.g.</u> Equity Inflow, Tax Pa tual or forecast data <u>e.g.</u> Labor pa operational assumptions that calc ers are loaded while the forecast i	ayments iyments, Lease Payments etc. ulates a cash forecast ( <u>e.g.</u> Avg D' s calculated based on the defined	50 or <u>Payterm</u> for Expense), <u>payterm</u> assumptions )
(4) Statis	<pre>stical Forecasting: Statistical tre /)</pre>	nds based on aggregated acco	ount balances ( <u>e.g.</u> predict cash b	ased on historical patterns of ban	k account balances by legal
			conoral accumptions (rules to tr	ansactional data (e.g. Customer R	eceipts / Supplier Payment
5 Smar based	rt Driver: An approach to foreca d on Payment Due Dates, Promis	st problem-solving that applies se Dates)	s general assumptions/rules to th		eesper / supplier a griefic

Administrators typically define the forecast methods to use, although cash managers can make changes for their entity any time if needed. For information about how to set the default forecast method for line items, see Setting Forecast Methods.

Predictive Cash Forecasting supports the following forecast methods, which administrators can enable for the application:

- Cash drivers—A calculated method where different drivers are used to drive cash forecast for specific line items. Predictive Cash Forecasting provides 11 different driverbased methods that can be used for different cash inflows and outflows. Business drivers are entered manually or loaded as operational assumptions that calculate a cash forecast (for example, Avg DSO or Payterm for Expense), where Sales Revenue, Expense, Salary or Capital Expense cash drivers are loaded and then the forecast is calculated based on the defined pay term assumptions. For more information about cash drivers, see About Driver-Based Forecasting Methods.
- Smart Drivers—For data you expect to come from ERP. Useful in a daily model. In a
  periodic model, you might use Smart Drivers for early periods, and other methods for
  later input.
   Smart Drivers is an approach to forecast problem solving that applies general.

Smart Drivers is an approach to forecast problem-solving that applies general assumptions or rules to transactional data. For example:

- Smart Drivers to use payment scheduled due dates for accounts receivable and or payable.
- Apply an average delay by legal entity to all transactions.
- Use delivery date for sales orders or purchase orders.

Fusion ERP Cloud integration will be available in a future release. Predictive Cash Forecasting will include seeded integrations from Fusion ERP Accounts Receivable, Payable and Cash Management. In the interim, you can load subledger summarized data from other data sources, such as Oracle EBS, Peoplesoft, or SAP.

 Predictive Planning—You can use Predictive Planning to forecast cash based on the historical data for the line item using time-series forecasting techniques. Predictive Planning selects the best prediction method to use, selecting the method that gives the most accurate results based on the data available. For example, use statistical trends based on aggregated account balances to predict cash based on historical patterns of



bank account balances by legal entity. For more information about the statistical forecasting methods, see Predictive Planning Forecasting and Statistical Descriptions in *Working with Planning*.

#### Note:

For Interactive Predictive Planning, Receivable Invoices, Overdue Invoices, Payable Invoices, Payable Overdue Invoices will not provide any results as there is no historical data in these lines. However you can use AutoPredict, because it allows you to reference a different line item for predicting.

 Machine Learning— Machine Learning Models are integrated in Predictive Cash Forecasting to accurately predict the cash inflows from Accounts Receivable data. Machine learning as a prediction model is best suited to customers who have a due date-based payment approach. For example, create a machine-generated forecast based on historical patterns or relationships in the various input variables such as a delay in cash receipts correlated with payment terms.

#### Note:

Machine Learning will be supported in a future update.

- Manual Input—The most basic method, for line items where it is difficult to apply specific logic; instead you can manually enter the cash forecast numbers. For example, Equity Inflow or Tax Payments.
- Trend—You can use trend-based methods for any line items where the cash forecast can be calculated based on historical trends. Trend-based methods can be used only for Periodic forecasts. For example, Labor Payments or Lease Payments. For more information, see About Trend-Based Forecasting Methods.

Additionally, with Predictive Cash Forecasting, you can blend forecast methods by using different forecast methods for different line items, different forecast methods for different period ranges, or different forecast methods for different entities. You can also perform what-if planning using different forecast methods, and then select the best forecast method to use for a particular line item, entity, or period range.

Forecast M Blend Forecas	<b>ethod</b> t Methods			
Vision NA	Week 1-3	Week 4-7	Week 8-13	
Customer Receipts	Smart Drivers	Predictiv	e Planning	Blend Forecast Methods:
Project Receipts		Driver based		✓ Different Forecast Methods for
Equity Inflows		Manual		different Line Items
				✓ Blend Forecast Methods by Line
Salary Payments	Driver based	Predictiv	e Planning	Items and Period Ranges
Supplier Payments	Smart Drivers	Predictive Planning	Trend	<ul> <li>What-ifs to pick the forecast method that gives best accuracy</li> </ul>
Rent Payments		Trend		over the periods
Tax Payments	Driver based	Ma	nual	<ul> <li>✓ Forecast Methods can vary for different entities</li> </ul>





2

# Predictive Cash Forecasting Task Overview for Cash Managers

Review the tasks you'll perform as a Cash Manager for Predictive Cash Forecasting.

In general, follow these steps to work as a Cash Manager for Predictive Cash Forecasting.

- 1. Set user variables. See Setting User Variables.
- 2. Review the driver-based forecast methods, used to drive the calculations for cash forecasts, that are set as the default forecast methods for each line item for your entity. Administrators typically perform this one-time setup task. But as a Cash Manager, you can make changes for your entity any time if needed. See Setting Forecast Methods.
- 3. For line item categories that use Cash Drivers as the forecast method, set up cash inflow and cash outflow driver assumptions by setting up pay terms and other cash flow drivers. This is typically a one-time setup task, or possibly an infrequent task if you need to make adjustments to the assumptions. See:
  - Setting Up Cash Inflow Driver Assumptions for Driver-Based Planning
  - Setting Up Cash Outflow Driver Assumptions for Driver-Based Planning

#### Note:

These steps assume that cash Driver Input data has already been loaded, but you can enter or adjust Assumptions values or period values.

Calculate cash inflow and outflow by saving the driver forms, which triggers driver calculations for each of the driver categories.

- For line items that use Predictive Planning as the forecast method, you can use Predictive Planning to derive your cash forecast. See Using Predictive Planning for Cash Forecasting.
- 5. For line items that use trend-based forecasting as the forecast method (for periodic forecasting only), set up trend assumptions. See Setting up Trend Assumptions for Trend-Based Forecasting (Periodic Forecasting Only).

Calculate cash inflow and outflow by saving the driver forms, which triggers driver calculations.

- 6. For any line items that use **Manual Input** as the forecasting method, enter forecast values. See Manually Entering Data.
- 7. Review the **Summary** dashboard.

The Cash Manager **Summary** dashboard provides a snapshot of the cashflow KPIs and an interactive chart for exploring cash flows. It includes several KPIs that indicates the cash health over the cash flow period. In addition, it also covers Operating and Nonoperating Cash Flows, as well as cash positions.

See Performing Daily and Periodic Cash Forecasting.



- 8. Review and update your cash forecast using the **Rolling Forecast** form. Review and adjust the overall forecast. Review the cash flows, and adjust if needed based on any additional information. Performing Daily and Periodic Cash Forecasting.
- 9. After you make adjustments, you or your administrator must run rules to process and convert the data. You administrator must also run data maps to push the data to the reporting cube so you can see results on the Analysis dashboards. If you are working in multiple currencies, there are additional currency conversion and rollup rules and data maps to run.

Rules to process the forecast:

- Daily Process Actuals / Periodic Process Actuals.
- Daily Process Forecast / Periodic Process Forecast
- Daily Rollup / Periodic Rollup

Rules to convert currency:

- In the Daily cube (OEP\_DCSH)—Daily Currency Translation to Entity Currency
- In the Periodic cube (OEP\_PCSH)—Periodic Currency Translation to Entity Currency
- In the Daily cube (OEP\_DCSH)—Daily Currency Translation to Reporting Currency
- In the Periodic cube (OEP\_PCSH)—Periodic Currency Translation to Reporting Currency
- **10.** Review analysis dashboards. From the Home page, click **Analysis**. See Analyzing Cash Forecasts.
- **11.** Review any reports your administrator created. From the Home page, click **Reports**, and then select a report.
- 12. If your administrator set up IPM Insights, review any insights that have been generated. From the Home page, click **IPM** and then click **Insights**. For more information about working with insights, see Using IPM Insights to Inform Your Decision-Making in *Working with Planning*.

To get started, from the Home page, click **Daily Cash Forecast** or **Periodic Cash Forecast**, and then select a component from the vertical tabs:



Task	Perform These Tasks	More Information
Daily Rolling Forecast / Periodic Rolling Forecast	<ul> <li>Summary—Review the Summary dashboard. The Cash Manager Summary dashboard provides a snapshot of the cashflow KPIs and an interactive chart for exploring cash flows. It includes several KPIs that indicates the cash health over the cash flow period. In addition, it also covers Operating and Non-operating Cash Flows, as well as cash positions.</li> <li>Rolling Forecast—Review and adjust the forecast for</li> </ul>	Performing Daily and Periodic Cash Forecasting
	and adjust the forecast for cash inflows and cash outflows. Review actuals, the rolling forecast, and actuals versus daily/ periodic forecast. You'll do most of your work from this form. Right-click a line item in the form to see additional options for working with cash forecasts.	
	<ul> <li>Cash from Investing Activities—Review and plan your cash from investing activities. Driver-based forecasting is not available for cash from investing activities. This form is for direct input only.</li> </ul>	
	<ul> <li>Cash from Financing Activities—Review and plan your cash from financing activities. Driver-based forecasting is not available for cash from financing activities. This form is for direct input only.</li> </ul>	
Trend	Enter assumptions for trend- based planning.	Setting up Trend Assumptions for Trend-Based Forecasting (Periodic Forecasting Only)
Drivers - Cash Inflow	Review and adjust cash inflow drivers and set driver assumptions.	Setting Up Cash Inflow Driver Assumptions for Driver-Based Planning

Table 2-1 Cash Manager Tasks



Task	Perform These Tasks	More Information
Drivers - Cash Outflow	Review and adjust cash outflow drivers and set driver assumptions	Setting Up Cash Outflow Driver Assumptions for Driver-Based Planning
Driver Assumptions - Inflow	Set assumptions for cash inflow drivers for driver- based planning.	Setting Up Cash Inflow Driver Assumptions for Driver-Based Planning
Driver Assumptions - Outflow	Set assumptions for cash outflow drivers for driver- based planning.	Setting Up Cash Outflow Driver Assumptions for Driver-Based Planning
Predicted	Use Predictive Planning to forecast cash based on the historical data for the line item using time-series forecasting techniques.	Using Predictive Planning for Cash Forecasting
Manual Input	Enter forecast data manually, for line items aren't determined by any automated logic.	Manually Entering Data
Set Forecast Method	Typically, forecast methods for line items are set up by your administrator. You can review the forecast methods for each line item. If needed, you can modify the forecast methods for line items for your entity.	Setting Forecast Methods

Table 2-1	(Cont.)	Cash	Manager	Tasks
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## Setting User Variables

Each planner must set the user variables described in this topic.

User variables define the context for forms and dashboards.

- 1. On the Home page, click **Tools**, then click **User Preferences**, and then click **User Variables**.
- 2. Select members for these user variables:
  - Customer
  - Project
  - Supplier
  - Context Period—Weekly only
  - **Controller Entity**—For controllers, who have access to multiple entities. Select the entity to use.
  - Currency
  - Entity—For users other than controllers.
  - Reporting Period—Weekly only
  - Scenario



Version

## **Setting Forecast Methods**

Select the default forecast method to use for each line item to drive cash forecasts.

Line items forecasts are calculated based on the default forecast method for that line item.

Administrators typically perform this one-time setup task. Cash managers can make changes for their entity any time if needed.

For details about each of the supported forecast methods, see About Forecast Methods.



- 2. Select the entity from the POV. (You must set forecast methods for every entity.)
- 3. For each line item, select the default forecast methods to use for different time periods of the rolling forecast range:

#### 🖓 Tip:

You can open the form in Oracle Smart View for Office to quickly update all the line items.

- a. Preferred Method 1—Select the preferred default forecast method.
- b. Method 1: End Period—Select the last period of the rolling forecast range to use the preferred method 1 you selected. (In a daily model, the period is days. In a periodic model, the period is monthly or weekly.)
- Repeat these steps for Method 2 and Method 3. Note that every end period following the first end period has be greater than the first end period.
- Repeat these steps for each entity.
   You can use the rule Daily / Periodic Push Assumptions to Entities to copy assumptions from one entity to one or more entities.

#### Note:

You can calculate forecasts for line items using any method, but the method you select here becomes the default.



# Setting Up Cash Inflow Driver Assumptions for Driver-Based Planning

Set up the assumptions for cash inflow drivers for driver-based planning.

Depending on how your administrator enabled the application, cash inflow drivers, along with their associated calculations and sample line items are included in the application. Cash forecasts for each line item are calculated based on the assumptions you define applied to the driver input.

#### Note:

These steps assume that cash Driver Input data has already been loaded, but you can enter or adjust Assumptions values or period values.

 From the Home page, click Daily Cash Forecast, and then click Drivers - Cash Inflow. Depending on what your administrator enabled for the application, you'll see a form for each driver method that was enabled, along with some sample line items.

If you are forecasting at the periodic level, from the Home page, click **Periodic Cash Forecast**.

- 2. For each cash inflow category, described in the following steps, select the appropriate members in the POV, and then enter the driver assumptions. Save the form after entering assumptions, which triggers driver calculations for each of the driver categories and calculates cash inflow.
- 3. For Revenue Receipts—Click the Revenue Receipts form.
  - a. Review, adjust, or manually enter the revenue receipts (the Driver Input).
  - b. Set up the pay term assumptions by entity, line item, and other custom dimensions: Right-click a row and select Revenue Pay Terms to open the driver assumptions form. You can also open the Revenue Pay Terms form directly by clicking the Driver Assumptions Inflow vertical tab.
  - c. Enter up to five **Pay Terms** and the **Due Period** for each. For example, 75% of your product revenue receipts comes in in three days, and the remaining 25% comes in in five days.

The cash inflow is calculated by applying the pay term percentage on the driver input and posting the cash inflow to the period buckets based on the due date.

- 4. For Project Receipts—Click the **Project Receipts** form.
  - a. Review, adjust, or manually enter the daily project receipts (the Driver Input).
  - b. In the Assumptions column, review, enter, or adjust the total project revenue.
  - c. Set up project information including milestone and pay terms: Right-click a row and select **Project Receipts Pay Terms** to open the driver assumptions form. You can also open the **Project Receipts Pay Terms** form directly by clicking the **Driver Assumptions Inflow** vertical tab.
  - d. Enter the **Percentage** and **Due Date** for up to three project milestones (for all projects or for a specific project).



e. Enter the **Percentage** and **Due Period** for up to five pay terms.

Cash flow is calculated applying the pay term on the milestone amount for the project. Milestone amounts are derived on milestone percentage for each project. The drivers are captured by project and the cash flow is calculated on the project.

- 5. For DSO Receipts—Click the **DSO Receipts** form.
  - a. Review, adjust, or manually enter the DSO receipts (the Driver Input).
  - b. In the Assumptions column, review, adjust, or enter the Average DSO. Or or enter a DSO value for each day.

(The value in Assumptions is always days, even in a weekly or monthly plan.)

Cash flow is calculated by applying the average DSO for the period on the period revenue or it by taking the average DSO across the year if the DSO by period does not exist.

 Save the form after entering assumptions, which triggers driver calculations for each of the driver categories and calculates cash inflow.
 Cash forecasts for each line item are calculated based on the assumptions you define, applied to the driver input. You can see all of the updated cash inflow forecasts in the Rolling Forecast form. See Performing Daily and Periodic Cash Forecasting.

## Setting Up Cash Outflow Driver Assumptions for Driver-Based Planning

Set up the assumptions for cash outflow drivers for driver-based planning.

Depending on how your administrator enabled the application, cash outflow drivers, along with their associated calculations and sample line items, are included in the application. Cash forecasts for each line item are calculated based on the assumptions you define, applied to the driver input.

#### Note:

These steps assume that cash Driver Input data has already been loaded, but you can enter or adjust Assumptions values or period values.

1. From the Home page, click **Daily Cash Forecast**, and then click the **Drivers - Cash Outflow** tab.

If you are forecasting at the periodic level, from the Home page, click **Periodic Cash Forecast**.

- For each cash outflow category, described in the following steps, select the appropriate members in the POV, and then enter the driver assumptions. Save the form after entering assumptions, which triggers driver calculations for each of the driver categories and calculates cash outflow.
- 3. For Expense Payments—Click the Expense Payments form.
  - a. Review, adjust, or manually enter the expense payments (the Driver Input).
  - b. Set up the expense pay term assumptions by entity, line item, and other custom dimensions: Right-click a row and select Expense Pay Terms to open the driver



assumptions form. You can also open the **Expense Pay Terms** form directly by clicking the **Driver Assumptions - Outflow** vertical tab.

c. For each line item, enter up to five **Pay Terms** and the **Percentage** and **Due Period** for each.

The cash outflow is calculated by applying the pay term percentage on the driver input and posting the cash outflow to the period buckets based on the due date.

- 4. For Fixed Asset payments—Click the **Fixed Asset Payments** form.
  - a. Review, adjust, or manually enter the fixed asset payments (the Driver Input).
  - b. Set up the fixed asset pay term assumptions by entity, line item, and other custom dimensions: Right-click a row and select Fixed Asset Pay Terms to open the driver assumptions form. You can also open the Fixed Asset Pay Terms form directly by clicking the Driver Assumptions Outflow vertical tab.
  - c. For each line item, enter up to five **Pay Terms** and the **Percentage** and **Due Period** for each.

The cash outflow is calculated by applying the pay term percentage on the driver input and posting the cash outflow to the period buckets based on the due date.

- 5. For Recurring payments—Click the **Recurring Payments** form.
  - a. Review, adjust, or manually enter the recurring payments (the Driver Input).
  - **b.** In the **Assumptions** column, review, enter, or adjust the total recurring payment amount in the **Cash Drivers** for each line item.
  - c. Set up the recurring pay term assumptions by entity, line item, and other custom dimensions: Right-click a row and select **Recurring Pay Terms** to open the driver assumptions form. You can also open the **Recurring Pay Terms** form directly by clicking the **Driver Assumptions Outflow** vertical tab.
  - d. For each line item, enter the Pay Basis (Annual, Monthly, or Weekly), Pay Period (the starting period from when recurring payments should begin), Recurring Frequency (the recurring frequency, for example, every 2 years, months, or weeks, based on the Pay Basis), and the Number of Occurrences (the number of recurring payments to be posted).

Cash outflow is calculated based on the recurring schedule that is defined which is by a combination of pay basis, pay period (starting period), recurring frequency and number of occurrence, applying the amount defined in the **Assumption** column. It posts accordingly through the end of your forecast range.

- 6. For Salary payments—Click the Salary Payments form.
  - a. Review, adjust, or manually enter the salary payments (the Driver Input).
  - Deptionally, in the Assumptions column, review, enter, or adjust the total (for example, annual) salary payment amount. It will be divided by the number of periods and posted to appropriate periods.
     Any values you enter in the periods are cumulative to the value in Assumptions.
  - c. Set up the salary pay term assumptions by entity, line item, and other custom dimensions: Right-click a row and select Salary Pay Terms to open the driver assumptions form. You can also open the Salary Pay Terms form directly by clicking the Driver Assumptions Outflow vertical tab.



d. For each line item, select the Salary Basis (Annual or Monthly) and the Salary Incidence (when the salary is posted and the cash flow occurs—Begin Period, End Period, Semi-monthly, or Biweekly). Enter the Annual Payment Due Date (only for line items where Salary Basis is Annual, the salary due date), and optionally, up to five pay terms and the Percentage and Due Period for each.

Cash outflow is calculated based on salary basis and posted to respective periods based on salary incidence, due date, and pay terms.

- 7. For Project payments—Click the Project Payments form.
  - a. Review, adjust, or manually enter the project payments (the Driver Input).
  - b. Optionally, in the Assumptions column, review, enter, or adjust the total project payment amount. It is divided by the number of periods and posted to appropriate periods.
  - c. Set up the project pay term assumptions by entity, line item, and other custom dimensions: Right-click a row and select **Project Pay Terms** to open the driver assumptions form. You can also open the **Project Pay Terms** form directly by clicking the **Driver Assumptions Outflow** vertical tab.
  - d. For each line item, enter the **Percentage** and **Due Date** for up to three project milestones (for all projects or for a specific project), and the **Percentage** and **Due Period** for up to five **Pay Terms**.

Cash flow is calculated applying the pay term on the milestone amount for the project. Milestone amounts are derived on milestone percentage for each project. The drivers are captured by project and the cash flow is calculated on the project.

- 8. For Direct Tax payments—Click the **Direct Tax Payments** form.
  - a. Review, adjust, or manually enter the direct tax payments (the Driver Input).
  - b. Set up the direct tax pay term assumptions by entity, line item, and other custom dimensions: Right-click a row and select **Direct Tax Pay Terms** to open the driver assumptions form. You can also open the **Direct Tax Pay Terms** form directly by clicking the **Driver Assumptions Outflow** vertical tab.
  - c. For each line item, enter the **Percentage** and **Due Date** for up to four tax installments.

Cash outflow is calculated based on the annual tax liability and the installment percentage and due dates. The annual tax is cumulative and any change in the annual tax amount is adjusted for considering the incremental / decreased amount posted in the future installments.

- 9. For Indirect Tax payments—Click the Indirect Tax Payments form.
  - a. Review, adjust, or manually enter the indirect tax payments (the Driver Input).
  - b. Optionally, in the Assumptions column, enter an overall indirect tax value. Note that when the tax basis is monthly, Assumptions is not relevant. Instead, provide values for the specific periods.
  - c. Set up the indirect tax pay term assumptions by entity, line item, and other custom dimensions: Right-click a row and select **Indirect Tax Pay Terms** to open the driver assumptions form. You can also open the **Indirect Tax Pay Terms** form directly by clicking the **Driver Assumptions Outflow** vertical tab.
  - d. For each line item:
    - Select the Tax Basis—Annual or Monthly.
    - For **Indirect Taxes Due Date**, enter a date; typically used for annual taxes.



• Enter the **Percentage** and **Due Period** for up to five pay terms.

Cash outflow is calculated based on the annual tax liability and the installment percentage and due dates. The annual tax is cumulative and any change in the annual tax amount is adjusted for considering the incremental / decreased amount posted in the future installments.

- **10.** For DPO payments—Click the **DPO Payments** form.
  - a. Review, adjust, or manually enter the DSO payments (the Driver Input).
  - **b.** In the **Assumptions** column, you can review, enter, or adjust the **Average DPO**. Or or enter a DPO value for each day.

(The value in Assumptions is always days, even in a weekly or monthly plan.)

Cash flow is calculated applying the average DPO for the period on the period expense or it takes the average DPO across the year if the DPO by period does not exist.

 Save the form after entering assumptions, which triggers driver calculations for each of the driver categories and calculates cash outflow. Cash forecasts for each line item are calculated based on the assumptions you define, applied to the driver input. You can see all of the updated cash outflow forecasts in the **Rolling Forecast** form. See Performing Daily and Periodic Cash Forecasting.

## Setting up Trend Assumptions for Trend-Based Forecasting (Periodic Forecasting Only)

For periodic forecasting, you have the option to set up trend-based forecasting, if your administrator enabled the feature. As you select the trend, the data is calculated based on the logic of the method. You can apply an increase / decrease on top of that to determine the future forecast.

Trend-based forecasting methods can be used for any line items where the cash forecast can be determined based on historical trends. Trend-based methods can be used only with Periodic forecasts (weekly or monthly). Trend-based methods might not be ideal for forecasting cash but could be used if the cash inflows and outflows use a standard pattern.

To set assumptions for trend-based forecasting:

- **1.** From the Home page, click **Periodic Cash Forecast**, and then click the **Trend** tab.
- 2. Select the appropriate members in the POV.
- 3. For each line item, in the **Trend Method Assumptions** column, select the trend method to use for the line item.
- 4. In the % Increase / Decrease Assumptions column, enter the percentage increase or decrease.
- Save the form after entering assumptions, which triggers calculations to calculate cash inflow and outflow. Cash forecasts for each line item are calculated based on the assumptions you define, applied to the driver input.
   You can see all of the updated cash outflow forecasts in the Rolling Forecast form. See Performing Daily and Periodic Cash Forecasting.



For details about the trend methods used in Predictive Cash Forecasting, see About Trend-Based Forecasting Methods.

#### Note:

For Trend calculations, Receivables Invoices are calculated based on actuals existing in **Customer Receipts**, as there are no actuals for Receivables Invoice. Similarly, Payables Invoices are calculated based on actuals existing in **Supplier Payments**, as there are no actuals for Payables Invoices. For Receivables Overdue and Payables Overdue Invoices, trends will not work as there is no specific actual data.

## Using Predictive Planning for Cash Forecasting

You can use Predictive Planning to forecast cash based on the historical data for the line item using time-series forecasting techniques.

To use Predictive Planning to forecast cash:

- 1. From the Home page, click Daily Cash Forecast or Periodic Cash Forecast.
- 2. Click the **Predicted** vertical tab.
- 3. Select the appropriate members from the POV.
- 4. Select a line item, and then from the **Actions** menu, select **Predictive Planning**. The prediction runs, and a results area opens below the form with a chart and detailed information about the prediction.
- 5. To get more information about the data in the chart and the predicted values:
  - Use the tooltips for each data series in the chart to get more information about the values.
  - Use the Info Boxes to see details about each data series on the chart.
  - Review the risk gauge in the Info Box, which indicates the probability of a scenario occurring above or below the prediction.
  - Click (Details) to get more information about the prediction data or the historical data.
  - Use the tooltips to get insight about the detail information.
- You can customize the chart (click Settings in the Chart area), or change the prediction options, including the date ranges, chart view settings, and prediction options (click Settings in the Info Box area).
- 7. In the chart area, you can select a different line item to see predicted values for.
- You can copy predicted values and paste them into a scenario on the form. In the Info Boxes area, click **Paste**, then select options from the **Paste Prediction** box, and then click **Apply**. Then, save the form.
   You can see all of the updated cash outflow forecasts in the **Rolling Forecast** form. See Performing Daily and Periodic Cash Forecasting.

For more information about using Predictive Planning, see Improving Forecasting Accuracy with Predictive Planning in *Working with Planning*.



Predictive Planning selects the best prediction method to use, selecting the method that gives the most accurate results based on the data available. For more information about the statistical forecasting methods, see Predictive Planning Forecasting and Statistical Descriptions in *Working with Planning*.

#### Note:

For Interactive Predictive Planning, Receivable Invoices, Overdue Invoices, Payable Invoices, Payable Overdue Invoices will not provide any results as there is no historical data in these lines. However you can use AutoPredict, because it allows you to reference a different line item for predicting.

Predictive Planning is not relevant for Receivables Overdue or Payables Overdue Invoices as they have no historical actual data.

### Manually Entering Data

You can enter forecast data manually, for line items aren't determined by any automated logic.

Use manual entry for line items that are difficult to model and require manual planning, for example, Equity Inflow and Tax Payments.

To enter forecast data manually:

- 1. From the Home page, click Daily Cash Forecast or Periodic Cash Forecast.
- 2. Click the Manual Input vertical tab.
- 3. Select the appropriate members from the POV.
- Enter your forecast values and then click Save.
   You can see all of the updated cash outflow forecasts in the Rolling Forecast form. See Performing Daily and Periodic Cash Forecasting.



## 3

# Predictive Cash Forecasting Task Overview for Controllers

Review the tasks you'll perform as a Controller for Predictive Cash Forecasting.

As a controller, you can review the cash forecast for multiple entities. In general, follow these steps to work as a Controller for Predictive Cash Forecasting:

- 1. Set user variables. See Setting User Variables.
- Review the Summary dashboard. The Controller Summary dashboard displays the snapshot at the regional level in the entity hierarchy and allows for a view of the cash flows by each of the entities in the region. The KPIs for the Controller are at the regional level. You can drill in to specific entities from there. See Performing Daily and Periodic Cash Forecasting.
- 3. Review the rolling forecast for cash inflows and cash outflows for different entities, and make adjustments as needed using the using the Rolling Forecast form. See Performing Daily and Periodic Cash Forecasting.
- 4. After you make adjustments, you or your administrator must run rules to process and convert the data. You administrator must also run data maps to push the data to the reporting cube so you can see results on the Analysis dashboards. If you are working with multiple currencies, there are additional currency conversion and rollup rules and data maps to run.

Rules to process the forecast:

- Daily Process Actuals / Periodic Process Actuals.
- Daily Process Forecast / Periodic Process Forecast
- Daily Rollup / Periodic Rollup

Rules to convert currency:

- In the Daily cube (OEP\_DCSH)—Daily Currency Translation to Entity Currency
- In the Periodic cube (OEP\_PCSH)—Periodic Currency Translation to Entity
  Currency
- In the Daily cube (OEP\_DCSH)—Daily Currency Translation to Reporting Currency
- In the Periodic cube (OEP\_PCSH)—Periodic Currency Translation to Reporting Currency
- 5. Review analysis dashboards. From the Home page, click **Analysis**. See Analyzing Cash Forecasts.
- 6. Review any reports your administrator created. From the Home page, click **Reports**, and then select a report.
- 7. If your administrator set up IPM Insights, review any insights that have been generated. From the Home page, click **IPM** and then click **Insights**. For more information about working with insights, see Using IPM Insights to Inform Your Decision-Making in *Working with Planning*.



To get started, from the Home page, click **Daily Cash Forecast** or **Periodic Cash Forecast**, and then select a component from the vertical tabs:

Task	Perform These Tasks	More Information
Summary	Review the Summary dashboard. The Controller <b>Summary</b> dashboard displays the snapshot at the regional level in the entity hierarchy and allows for a view of the cash flows by each of the entities in the region. The KPIs for the Controller are at the regional level. You can drill in to specific entities from there.	Performing Daily and Periodic Cash Forecasting
Rolling Forecast	Review and adjust the forecast for cash inflows and cash outflows for different entities. Review actuals, the rolling forecast, and actuals versus daily/ periodic forecast. You'll do most of your work from this form.	Performing Daily and Periodic Cash Forecasting

Table 3-1 Controller Tasks

## **Setting User Variables**

Each planner must set the user variables described in this topic.

User variables define the context for forms and dashboards.

- 1. On the Home page, click **Tools**, then click **User Preferences**, and then click **User Variables**.
- 2. Select members for these user variables:
  - Customer
  - Project
  - Supplier
  - Context Period—Weekly only
  - **Controller Entity**—For controllers, who have access to multiple entities. Select the entity to use.
  - Currency
  - Entity—For users other than controllers.
  - Reporting Period—Weekly only
  - Scenario
  - Version



## 4

## Performing Daily and Periodic Cash Forecasting

Depending on how your application is set up, you can perform cash forecasting at the daily, weekly, or monthly level.

After setting up driver assumptions and saving the form, (or after completing other methods for deriving cash forecast, such as predictions or manual input), you can review the cash flow forecast results in the **Rolling Forecast** form, and then perform additional analysis and make adjustments.

Line items forecasts are calculated based on the default forecast method for that line item.

Before beginning cash forecasting, make sure you or your administrator has run the **Daily/ Periodic Process Actuals** and **Daily/Periodic Process Forecast** rules. . If you are using multiple currencies, there are additional rules the administrator must run.

#### Note:

If you are working with multiple currencies, review About Using Multiple Currencies in Forms.

- From the Home page, click Daily Cash Forecast or Periodic Cash Forecast. If you are a Cash Manager, then click Daily Rolling Forecast or Periodic Rolling Forecast from the vertical tabs.
- 2. Review the **Summary** dashboard.

The Cash Manager **Summary** dashboard provides a snapshot of the cashflow KPIs and an interactive chart for exploring cash flows. It includes several KPIs that indicates the cash health over the cash flow period. In addition, it also covers Operating and Nonoperating Cash Flows, as well as cash positions.

The Controller **Summary** dashboard displays the snapshot at the regional level in the entity hierarchy and allows for a view of the cash flows by each of the entities in the region. The KPIs for the Controller are at the regional level. You can drill in to specific entities from there.

- 3. Click the Rolling Forecast form to review the actuals, actuals versus daily/periodic forecast, and the rolling forecast for operating cash inflows, operating cash outflows, cash from investing activities, and cash from financing activities, along with the opening and closing balance. You will do most of your daily work from this form.
- 4. If you are a Cash Manager, to perform additional analysis and make adjustments, right-click the form and then select from the following options. If you are a Controller, to perform additional analysis and make adjustments, right-click a line item and then select **Forecast by Entity**. Select the entity and currency you want to plan for from the POV, right-click a line item, and then select from the following options:
  - View by Line Item Details—Review details for each line item.



- Forecast by Bank—Use this option to allocate forecasts by bank based on defined business rules. Once the forecast is finalized, you can allocate the forecast numbers by bank. See Forecasting By Bank.
- View Actuals—Review any actuals that have been loaded to the Actual scenario. Select members from the POV to review different versions, entities, currencies, or line items. You see the Actual range specified by your administrator in Forecast Range Setup.
- Customer Analysis Dashboard—Review an analysis of customer receipts for your entity on a dashboard, with KPIs, DSO trend, aging analysis, and actuals versus forecast.
- View by Forecast Method—For daily forecasting only: Review and adjust the rolling forecast by reviewing line item values categorized by forecast method. You can do your planning and make adjustments from this form. For more information, see Reviewing and Adjusting Your Forecast by Forecast Method.

#### Note:

To see the difference between a forecasted value and an adjusted value, in **View by Forecast Method**, review the **Adjustments** row.

- Supplier Analysis Dashboard—Review an analysis of supplier payments for your entity on a dashboard, with KPIs, DPO trend, payables aging analysis, and so on.
- 5. You can make any further adjustments directly on the **Rolling Forecast** form.
- 6. Save the form when you are done with the forecast.

## About Using Multiple Currencies in Forms

Review important information about working with multiple currencies in Predictive Cash Forecasting forms.

- You can view data in the input currency or the reporting currency in the following forms: Rolling Forecast, Cash From Investing Activities, and Cash From Financing Activities.
- You can enter values only in the input currency in the **Rolling Forecast**, **Cash From Investing Activities**, and **Cash From Financing Activities** forms.
- You can make adjustments to values only in the input currency. (If you select a different currency, the form becomes read only.)
- Driver-based forecasting, trend-based forecasting, manual input, and predictive forecasting is always done using the input currency.
- You can run currency conversion rules to convert to the entity currency. Entity currency is identified by the entity currency UDA for each of the entities. It is represented as the reporting currency.
- Your administrator must run currency conversion rules in order for you to see the input currencies in the reporting currency.
- For controllers, your administrator must run a rollup rule in order for you to see rolled up converted data at a higher level of the hierarchy.



## Forecasting By Bank

You can allocate forecasts by bank based on defined business rules to review the impact on the forecast.

Once the forecast is finalized, you can allocate the forecast numbers by bank.

- From the Home page, click Daily Cash Forecast or Periodic Cash Forecast. If you are a Cash Manager, then click Daily Rolling Forecast or Periodic Rolling Forecast from the vertical tabs.
- 2. Click the Rolling Forecast form.
- 3. Right-click the Rolling Forecast form and then click Forecast by Bank.

If you are a Controller, right-click the form and then select **Forecast by Entity**. Select the entity and currency you want to plan for from the POV, right-click a line item, and then select **Forecast by Bank**.

The Daily/Periodic Forecast by Bank form opens.

- 4. In the **Assumptions** column, in the **Bank Allocations** row, select an option for bank allocations:
  - **Curr Year Average YTD Balance**—Allocates the **Any Bank** balance to specific banks based on the current year average year-to-date balance by bank.
  - Previous Year Average Balance—
  - **Opening Balance** —Allocates the **Any Bank** balance to specific banks based on opening balance by bank.
  - Last Year Same Period Balance—Allocates the Any Bank balance to specific banks based on the last year same period balance by bank.
- 5. Save the form to trigger the calculations.
- 6. Review and verify the results.
- 7. Once the forecast is finalized, you can allocate the forecast numbers by bank using the best method.

## Reviewing and Adjusting Your Forecast by Forecast Method

Review and adjust the rolling forecast by reviewing line item forecasts categorized by forecast method. You can do your forecasting and make adjustments from this form.

- 1. From the Home page, click **Daily Cash Forecast**. If you are a Cash Manager, then click **Daily Rolling Forecast** from the vertical tabs.
- 2. Click the Rolling Forecast form.
- 3. Right-click a line item in the **Rolling Forecast** form and then click **View by Forecast Method**.

If you are a Controller, right-click the form and then select **Forecast by Entity**. Select the entity and currency you want to plan for from the POV, right-click a line item, and then select **View by Forecast Method**.

The **Daily View by Forecast Method** form opens, showing forecast values that come from each forecast method for the selected line item.



- 4. Select members from the POV to review the line item forecast for different versions, entities, or currencies. You can also change to a different line item.
- To do more analysis and adjustments on line items, right-click in the form, and then select a line item.
   The details open in a new form.
- 6. Make adjustments as needed, and then save the form.
  - · You can review and adjust assumptions or values for each period.
  - You can right-click in the form and select the driver assumptions to make adjustments to your assumptions. For example, right-click in the Salary Payments form and then select Salary Pay Terms. Make changes as needed to the driver assumptions.

For more information, see Setting Up Cash Inflow Driver Assumptions for Driver-Based Planning and Setting Up Cash Outflow Driver Assumptions for Driver-Based Planning.

7. Return to the **Daily View by Forecast Method** form to review the impact of your changes.

#### Note:

You can run the **Daily Set Color on View Forecast** rule to set the color to the forecast method that has been slected for the period range.

The line item is calculated based on the default forecast method.

- If needed, based on your analysis, you can change the default forecast method a line item uses. See Setting Forecast Methods.
   If you change the forecast method for a line item, save the form, and then run the Process Forecast rule to see the result reflected in the Rolling Forecast form.
- 9. When you are satisfied with the forecast, return to the **Rolling Forecast** form. You can make any additional manual adjustments in this form.
- 10. Review adjusted values.

The adjustments are the difference between what was loaded or calculated and what you have adjusted.

For traceability, adjustment values are saved in the **Adjustments** member and updated values are saved in a parent member, **Forecasted Cash+ Adj**.



## 5 Analyzing Cash Forecasts

Use the provided dashboards to analyze your cash forecasts.

In addition to the Summary dashboard, Predictive Cash Forecasting provides several dashboards to help in your cash analysis. You can analyze both daily and periodic data in one place using the provided dashboards.

Before you can see updated data in the dashboards, make sure you or your administrator has run the relevant currency conversion and rollup rules and the data maps to push data to the reporting cube.

- 1. From the Home page, click **Analysis**.
- Select one of the dashboards for further analysis. You can select different entities in the POV to look at different data, and you can review the dashboards in any currency.

For cash managers, view data for the forecast range in these dashboards:

- **Daily Overview**—Different ways to look at the daily data, including Cash KPIs, net cash flow, total inflows and outflows by line item, and a cash walkthrough from opening balance to closing balance over the forecast range.
- **Periodic Overview**—Same as the **Daily Overview**, but at the periodic level.
- Daily Variance—Variance analysis at the daily level, comparing the historical actual versus forecast, using data from the entire actual period range, compared to the forecast. It includes a variance walkthrouth from opening balance to closing balance over the forecast range. In the Comparison by Period chart, you can select different line items from the list. All line items related to receipts are combined into Total Customer Receipts (forecast receipts and actual receipts), and all payments are combined into Total Supplier Payments (forecast payments and actual payments) so you can compare actual and forecast. The line item analysis shows the variance between forecast and actual at the rollup level.
- **Periodic Variance**—Sames as the **Daily Variance** analysis, but at the periodic level.
- **Daily vs Periodic**—Compare cash inflows and cash outflows from your daily and periodic forecasts.

For controllers, view data for the forecast range in these dashboards:

- Daily Analysis by Entity—Get a high-level analysis of your daily cash inflows and outflows for all entities, and a cash walkthrough from opening balance to closing balance over the forecast range. You can select different line items to review in the cash walkthrough. Review the cash position for different entities, and in the Forecast report, for each line item, from opening balance to closing balance, review the entity level data rolled up to parent entity.
- **Periodic Analysis by Entity**—Same as the Daily Analysis, but at the periodic level.

The values shown in the charts and KPIs are for the forecast range defined **Forecast Range Setup**.



## **About Driver-Based Forecasting Methods**

Predictive Cash Forecasting provides eleven driver-based forecast methods. Depending on how your administrator enabled the application, driver methods and their associated calculations, along with example line items, are populated in the application.

Administrators enable **Driver Based Forecasting** when enabling the application. Cash Managers set the assumptions for the driver-based forecasting methods.

#### **Process for Working with Driver-Based Forecasting Methods**

- **1.** Set up the assumptions (such as pay terms, due dates, and so on) by entity, line item, and other custom dimensions.
- 2. Load or input the data used to drive the cash forecast.

For DSO and DPO, load or input the average DSO or DPO and the outstanding revenue or expense to drive the cash forecast.

- 3. Run the daily **Daily Process Forecast** / **Periodic Process Forecast**, which calculates the cash flows.
- 4. When you load or save the cash inflow or cash outflow driver form, Predictive Cash Forecasting calculates the cash inflows or outflows based on the driver amount and driver assumptions, and posts them into the appropriate periods.

For DSO and DPO, Predictive Cash Forecasting calculates the cash flows based on the Average DSO or DPO and outstanding revenue or expense.

5. The cash inflow or outflow is automatically populated in the Rolling Forecast form.

#### **Cash Inflow Drivers**

- **Revenue Receipts** Drive cash inflow from product or service revenue using pay terms, for example, revenue from retail stores in retail might have a fixed pattern of 70% cash received in three days and 30% cash received in five days.
- Project Receipts— Drive cash inflow from projects revenue, milestone dates, and pay terms. For example, cash receipts from contracts or IT projects is driven by milestones and pay terms. Useful for project-based contract companies.
- Days Sales Outstanding (DSO) Receipts—Drive cash inflow considering the average Days Outstanding on the Revenue, at the party or entity level. Useful when pay terms are very dynamic.

#### **Cash Outflow Drivers**

• **Expense Payments**—Drive cash outflow considering the expense and the pay terms. For example, for some Operational expenses such as travel and utilities, cash outflows can be determined based on a regular pay term.



- **Fixed Asset Payments**—Drive cash outflow considering the fixed asset spends and pay terms. Fixed assets payments are determined based on pay terms, which can be set by asset class. Data for fixed asset payments could come from the Planning Capital module or other source.
- **Recurring Payments**—Drive cash outflow for ongoing expenses that have payments on a recurring basis, such as lease or rental payments.
- Salary Payments—Drive cash outflow for salary and payroll-related payments based on salary expenses, salary basis, and timing of the pay-outs, such as annually, monthly, or weekly, and salary incidence such as beginning of period, end of period, bi-monthly, or a specific due date. Data for salary payments could come from the Planning Workforce module or a payroll system.
- **Project Payments**—Drive cash outflow from project expenses and pay terms. Project expense cash outflow for material, labor, or other project related costs can be modeled based on milestones and pay terms. Data for project payments could come from the Planning Projects module or other source.
- **Direct Tax Payments**—Drive cash outflow for direct tax payments based on tax liability, installment percentage, and due dates. Used for any direct tax payment, for example to government or regulators.
- Indirect Tax Payments—Drive cash outflow for indirect tax payments based on tax liability and pay terms. For example, indirect tax payments such as GST or Sales Tax that are payable to regulatory agencies.
- **Days Payables Outstanding (DPO) Payments**—Drive cash outflow considering the average days outstanding on the expense, typically by supplier or at the entity level. Useful when pay terms are very dynamic.

#### **Revenue Receipts (Based on Revenue and Pay Terms)**

#### Description

Drive cash inflow from product or service revenue using pay terms.

Use the Revenue Receipts driver method when product or service revenue is based on pay terms, for example, retail customers and direct channel customers. Typically overall stores revenue has a set pattern of receipts that you can model using this method. You can also use this if you want to drive your cash forecast based on direct revenue coming from ERP or Planning and a specified pay term.

You can use this driver method for line items in the Revenue Receipts category, where you can add line items such as product revenue receipts or service revenue receipts.

#### Example

Revenue from retail stores in retail might have a fixed pattern of 70% cash received in three days and 30% cash received in five days.

#### Drivers

Specify for entity and line items. Additional custom dimensions can be considered if they are enabled.

#### **Pay Terms**

- **Percentage**—Percentage expected for each pay term
- **Due Period**—Payment days, weeks, months



#### **Driver Input**

Product or service revenue or other customer-defined line items.

Driver inputs can be extracted from source systems such as a POS system or ERP, loaded through a .csv file, brought in from Planning, or you can manually enter them on the Driver Assumptions form.

Once the driver inputs are loaded, Cash Managers can see them reflected in the Assumptions form, and can make manual adjustments to driver inputs based on their best judgment and experience for the line item.

#### **Calculation Logic**

Based on payment term assumptions, including percentage input and due period, Predictive Cash Forecasting calculates the cash inflow amount considering the revenue amount. It calculates the cash inflow if the due period falls within the cash forecast period range and it posts the inflow amount in the respective periods based on the assumptions entered for percentage and due period.

#### Project Receipts (Based on Project Revenue, Milestones, and Pay Terms)

#### Description

Drive cash inflow from projects revenue, milestone dates, and pay terms, and calculate the milestone amounts based on contract value. This method is useful for project-based contract companies, engineering and construction companies, real estate companies, and project-based consulting service companies.

#### Example

Revenue (cash receipts) from contracts or IT projects driven by milestones and pay terms.

#### Drivers

Specify at the entity, project, line item level. Additional custom dimensions can be considered if they are enabled.

#### Milestones for the project

- Percentage—Percent completion
- Due Date

Pay Terms for the project

- Percentage
- Due Period

#### **Driver Input**

Project revenue by project.

Driver inputs can be extracted from systems such as the ERP Project Management module, the Planning Projects module, or can be loaded through a .csv file.

Once the driver inputs are loaded, Cash Managers can see them reflected in the Assumptions form, and can make manual adjustments to driver inputs based on their best judgment and experience for the line item.

#### **Calculation Logic**



Cash flow is calculated by applying the pay term on the milestone amount for the project. Milestone amounts are derived from the milestone percentage for each project. The drivers are captured by project and the cash flow is calculated on the project.

Predictive Cash Forecasting calculates the project milestone amount based on total contract amount \* the milestone percentage and populates the result in the respective milestone day/ periods. Once the milestones are derived in respective periods, Predictive Cash Forecasting applies the pay terms logic on the milestones to calculate the cash inflow amount and populates it in the respective day or period of the cash forecast. In case the due date or due period falls outside the cash forecasting period range, Predictive Cash Forecasting does not post that milestone / cash inflow amount.

## Days Sales Outstanding (DSO) Receipts (Based on Average DSO and Outstanding Receivables)

#### Description

Drive cash inflow considering the average days outstanding on the revenue at the party or entity level. This method is useful when pay terms are very dynamic.

Days sales outstanding (DSO) is a driver measure of the average number of days that it takes a company to collect payment for a sale. DSO is often determined on a monthly, quarterly, or annual basis. Based on the DSO driver, Predictive Cash Forecasting determines the cash inflow by applying it to the Outstanding Revenue.

This method can be useful for customers who want to forecast cash when they don't have corresponding source data yet, especially for periods further out in the cash forecast.

#### Example

You can use DSO when pay terms are very dynamic, for example, for revenue line items such as revenue not yet booked, or future projected revenue, such as indirect channel revenue cash inflow.

#### Drivers

#### Average DSO

- Assumptions, average across year
- Period buckets, average for the period

#### **Driver Input**

Adjusted DSO days can be used as driver input for calculating the cash inflow in the forecast, and can be loaded or input either at the Entity level or based on the dimension (for example, Party) that this method is applicable for. DSO can be loaded as an overall assumption or by period. Additionally, Outstanding Revenue is available as the driver. Outstanding Revenue is usually the opening Accounts Receivable + Credit Sales for the period.

#### **Calculation Logic**

Cash inflow is calculated based on the Outstanding Revenue (future revenue) and the Average DSO. Predictive Cash Forecasting considers the appropriate periods' average DSO or it takes the overall assumption. The cash inflow is determined based on the Average DSO applied on the driver input amount and posted to the period based on the number of DSO days.



#### Expense Payments (Based on Expense and Pay Terms)

#### Description

Drive cash outflow considering the expense and the pay terms. This driver method is applicable for operating cash outflow line items such as labor payments, travel payments, or hotel payments. This driver method is used to derive the cash outflows based on standard pay terms for that expense applied on the expense.

#### Example

For example, cash outflows for some operational expenses such as travel and utilities can be determined based on a regular pay term.

#### Drivers

Specify at the entity, line item level.

#### **Pay Terms**

- Percentage—Percentage expected for each pay term
- **Due Period**—payment days, weeks, or months

#### **Driver Input**

Any expenses such as travel, hotel, or utilities.

You can extract driver inputs from various sources such as the Planning Financials module, ERP, or you can load purchase orders through a .csv file.

Once the driver inputs are loaded, Cash Managers can see them reflected in the Assumptions form, and can make manual adjustments to driver inputs based on their best judgment and experience for the line item.

#### **Calculation Logic**

Predictive Cash Forecasting calculates the cash outflow amount based on the pay term assumptions. There can be multiple pay terms for certain expenses. Predictive Cash Forecasting calculates the cashout flow amount considering the expense amount (driver input) \* percentage input for each pay term. The calculated amount is then posted in the respective day or period as per the due period defined in the pay terms assumptions. If there are multiple pay terms, Predictive Cash Forecasting posts the outflow in the respective pay term and period according to the driver assumptions.

Fixed Asset Payments (Based on Fixed Asset Spends and Pay Terms)

#### Description

Drive cash outflow considering the fixed asset spends and pay terms. Fixed asset payments are determined based on pay terms that can be set by asset class.

The Fixed Asset Payments driver method is applicable for capital payments (fixed assets payments) line items in the cash forecast.

Cash outflow from this method writes into **Cash from Investing Activities**, as opposed to **Cash from Operating Activities**.

#### Example



This driver method can be used by companies where they are fixed asset purchases booked in the Payables Fixed Assets module and the supplier payment happens on a periodic basis based on pay terms with the asset supplier.

#### Drivers

#### Pay Terms:

Specify at the entity, capital payments line item level. Additional custom dimensions, such as Party, Asset Class or Project, can be considered if they are enabled.

- **Percentage**—Percentage expected for each pay term
- **Due Period**—payment days, weeks, or months

#### Driver Input

Fixed Asset Spends.

Driver inputs can be extracted from the Planning Capital module or other source, such as the ERP Order module, or can be loaded through a .csv file.

Once the driver inputs are loaded, Cash Managers can see them reflected in the Assumptions form, and can make manual adjustments to driver inputs based on their best judgment and experience for the line item.

#### **Calculation Logic**

Cash outflow is calculated by applying the pay term percentage on the driver input and posting the cash outflow to the period buckets based on the due date.

Predictive Cash Forecasting calculates the cash out flow amount considering the Fixed Assets spends (the driver input) \* percentage input for each pay term. The calculated cash outflow amount is then posted in the respective day or period as per the due period defined in the pay terms assumption form.

In case the due date or due period falls outside the cash forecasting period range, Predictive Cash Forecasting does not post that cash outflow amount. If there are multiple pay terms, Predictive Cash Forecasting posts the outflow in the respective pay term and period according to the driver assumptions.

#### **Recurring Payments (Based on Recurring Pay Terms)**

#### Description

Drive cash outflow for ongoing expenses that have payments on a recurring basis, such as lease or rental payments.

#### Example

The Recurring Payments driver method is applicable for recurring expense line items such as Lease or Rent payments or Insurance payments. This driver method can be used by companies for recurring expenses that are paid to suppliers on a contracted periodic basis.

#### Drivers

Specify at the entity, line item level.

- Pay Basis—Annual, Monthly, or Weekly
- Pay Period—The starting period from when recurring payments should begin



- Recurring Frequency—The recurring frequency, for example, every pay cycle or every 3 pay cycles
- Number of Occurrences—The number of recurring payments to be posted

#### **Driver Input**

Any expense that has a recurring pattern.

Driver inputs can be extracted from the Planning Financials or Capital module or other source, such as ERP Expense Management, Lease, GL, or can be loaded through a .csv file.

Once the driver inputs are loaded, Cash Managers can see them reflected in the Assumptions form, and can make manual adjustments to driver inputs based on their best judgment and experience for the line item.

#### **Calculation Logic**

Cash outflow is calculated based on the recurring schedule that is defined by the assumptions applied to the driver input amount and posted in respective days or weeks.

#### Salary Payments (Based on Payment Basis and Pay Terms)

#### Description

Drive cash outflow for all employee-related payments such as salary and other payroll-related payments based on salary expenses, salary basis, and timing of the pay-outs, such as annually, monthly, or weekly, and salary incidence such as beginning of period, end of period, bi-monthly, or a specific due date.

#### Example

The Salary Payments driver method is applicable for periodic salary and benefit expenses line items and other related expenses such as Earnings and Variable Payments, or other periodic fixed expenses.

#### Drivers

Specify at the entity, line item level. Additional custom dimensions can be considered if they are enabled.

- Salary Basis—Annual, Monthly
- Salary Incidence—Drives when the cash flow occurs (Begin Period, End Period, Semimonthly, or Biweekly)
- Annual Payment Due Date—For annual payments, the salary due date
- **Pay Terms**—Optional. If the payment is in multiple payments, defined by the percentage and due periods

#### **Driver Input**

Salary or related expenses.

Data for salary payments could come from the Planning Workforce module, a payroll or other source system, or can be loaded through a .csv file.

Once the driver inputs are loaded, Cash Managers can see them reflected in the Assumptions form, and can make manual adjustments to driver inputs based on their best judgment and experience for the line item.

#### **Calculation Logic**



Cash outflow is calculated based on salary basis and posted to respective periods based on salary incidence, due date, and pay terms.

The driver input can be provided as an assumption, in which case it is divided by the number of periods and posted to the appropriate periods. Or, the driver input can be loaded into period buckets, in which case the amount for each period is considered.

The salary basis and payment due date determines the cash outflow posting date or period for the salary and earnings expenses. If the salary basis is monthly, Predictive Cash Forecasting divides the annual salary amount by 12 and posts it to the last date of the given month.

In weekly model, Predictive Cash Forecasting posts the salary and earnings amount to the last day of corresponding week. If pay terms are defined for salary and earnings line items, Predictive Cash Forecasting calculates the cash outflow based on the percentage input and the due period for each pay term.

There could be annual expenses such as variable compensation that are an annual payout. In this case, Predictive Cash Forecasting posts the entire amount to the corresponding date based on the defined due date or the period where the date falls into. If the middle of the year salary assumption is changed, Predictive Cash Forecasting reforecasts only for the open periods in the rolling forecast (periods after current period).

#### Project Payments (Based on Project Expense, Milestones and Pay Terms)

#### Description

Drive cash outflow from project expenses and pay terms. Project expense cash outflow for material, labor, or other project related costs can be modeled based on milestones and pay terms.

#### Example

Project expense cash outflow for material, labor, or other project-related costs.

#### Drivers

Specify at the entity, project, line item level.

- Milestones—Percentage, Due Date
- Pay Terms—Percentage, Due Period

#### **Driver Input**

Project Expense by Project.

Data for project payments could come from the Planning Projects module or other source, such as the ERP Projects module, or can be loaded through a .csv file.

Once the driver inputs are loaded, Cash Managers can see them reflected in the Assumptions form, and can make manual adjustments to driver inputs based on their best judgment and experience for the line item.

#### **Calculation Logic**

Cash flow is calculated applying the pay term on the milestone amount for the project. Milestone amounts are derived on milestone percentage for each project. The drivers are captured by project and the cash flow is calculated on the project.



Predictive Cash Forecasting calculates the project milestone amount based on project expense \* milestone percentage based on completion of work and populates the result in the respective milestone days or periods. Based on the milestone amount, Predictive Cash Forecasting then applies pay terms logic on each milestone amount to calculate the cash outflow amount and populates it in the respective day or period of the cash forecast.

There can be multiple pay terms for the project. Predictive Cash Forecasting calculates the cash outflow amount considering the project amount per milestone \* percentage input for each pay term. The calculated cash out flow amount is then posted in the respective period according to the due period driver defined in the assumptions.

#### Direct Tax Payments (Based On Tax Installment and Tax amounts)

#### Description

Drive cash outflow for direct tax payments based on tax liability, installment percentage, and due dates. Used for any direct tax payment, for example to government or regulators.

The Direct Tax Payments driver method is applicable for the Annual Direct Tax line item in the cash forecast. This driver method can be used by companies that have to pay direct taxes such as income tax, property tax, taxes on assets, and so on as per the due date on a periodic basis based on local laws or statutory compliance.

#### Example

Direct Tax payments to different regulatory or government agencies based on due dates as per the local government statutory laws and tax compliance regulations.

#### Drivers

Specify at the entity, annual direct tax line item level.

#### Tax Installments for every fiscal year—Percentage and Due Date.

#### **Driver Input**

Tax Liability value.

If there are multiple tax installments during the year, the percentage and due date driver input should be available for each tax installment.

The driver inputs can be extracted from Tax Reporting, ERP GL, or can be loaded through a .csv file.

Once the driver inputs are loaded, Cash Managers can see them reflected in the Assumptions form, and can make manual adjustments to driver inputs based on their best judgment and experience for the line item.

#### **Calculation Logic**

Cash outflow is calculated based on the annual tax liability and the installment percentage and due dates. The annual tax is cumulative and any change in the annual tax amount is adjusted for considering the incremental / decreased amount posted in the future installments

YTD Annual Direct Taxes Liability are loaded to all the periods. Predictive Cash Forecasting calculates the tax installments based on the following rules:

- Taxes are calculated based on the percentage input according to the due date assumption for the first installment.
- The second installment is applied on the latest tax liability. However, if there is a change in the tax liability, Predictive Cash Forecasting calculates the overall tax liability to date by



summing the installment percentages, subtracts the previous tax paid, and then posts the remaining tax amount.

• The same approach is applied to all of the remaining tax installments.

Indirect Tax Payments (Based on Tax Basis, Due Dates and Pay Terms)

#### Description

Drive cash outflow for indirect tax payments based on tax liability and pay terms.

The Indirect Tax Payments driver method can be used by customers for all indirect tax payments where cash outflow occurs based on due dates as per the government statutory laws and indirect tax compliance regulations.

The Indirect Tax Payments driver method is applicable for the Indirect Tax payments line item.

#### Example

Indirect tax payments such as GST, Sales Tax, or other Annual Indirect taxes that are payable to regulatory agencies. This driver method can be used by companies that have to pay indirect taxes such as sales tax, excise taxes, value added taxes, and so on as per the due date on a periodic basis based on statutory compliance.

#### Drivers

- Tax Basis—Annual, Monthly
- Indirect Taxes Due Date—Mainly for annual taxes
- **Pay Terms**—Percentage and due Period

#### **Driver Input**

Indirect tax liability value.

The indirect tax liability value can be loaded from the Planning Financials module, ERP system, or can be loaded through a .csv file.

If there are multiple tax installments during the year, the percentage and due date driver input should be available for each tax installment.

Once the driver inputs are loaded, Cash Managers can see them reflected in the Assumptions form, and can make manual adjustments to driver inputs based on their best judgment and experience for the line item.

#### **Calculation Logic**

Cash outflow is calculated based on the indirect tax liability, tax basis, payment incidence (to be paid in same period or next period), and payment terms based on tax liability value. The driver input is usually recorded in respective periods and that is taken and cash flow is calculated based on this.

Indirect taxes are calculated as follows.

- If the Tax Basis is Annual and the payment incidence is the same period, the Annual Tax amount is posted on the due date.
- If the Tax Basis is Annual and the payment incidence is the next period, the Annual Tax amount is posted on the next day of the due date.



- If the Tax Basis is Annual and the payment incidence is same period and Pay Terms are defined, the Annual Tax amount is posted on the due date and pay terms are applied from the due date.
- If the Tax Basis is Annual and the payment incidence is next period and Pay Terms are defined, the Annual Tax amount is posted on the next day of the due date and pay terms are applied from the next day of the due date.
- If the Tax Basis is Monthly and the payment incidence is the same period and the amount is loaded on a given date, pay terms are applied from the loaded date.
- If the Tax Basis is Monthly and the payment incidence is the next period and the amount loaded is on a given date, pay terms are applied from the next day of the loaded date.

#### DPO Payments (Based on Average DPO and Payables)

#### Description

Drive cash outflow considering the average days outstanding on the expense, typically by supplier or at the entity level. This method is useful when pay terms are very dynamic.

Days payable outstanding (DPO) is a financial ratio that indicates the average time (in days) that a company takes to pay its bills and invoices to its trade creditors, which can include suppliers, vendors, or financiers. The ratio is typically calculated on a quarterly or annual basis, and indicates how well the company's cash outflows are being managed. Based on the calculated DPO days driver, Predictive Cash Forecasting posts the expense amount in the corresponding day or period based on periodicity.

You can adjust the DPO driver input and based on the adjusted DPO days and outstanding expense, Predictive Cash Forecasting calculates the cash outflow and posts the amount in the corresponding day or period.

#### Example

You can use this method for line items in the cash forecast where smart driver logic cannot be applied, when pay terms are very dynamic, such as consumables. You can also use this method for future periods that are beyond what is captured through invoices.

#### Drivers

#### Average DPO

- Assumptions—Average across the year
- Period buckets—Average for the period

#### **Driver Input**

Expense or any line item. The calculated DPO days.

You can load calculated DPO days from ERP as a starting point. Cash Managers can adjust the calculated DPO days based on experience. Adjusted DPO days are used as driver input for calculating the cash outflow in the forecast.

#### **Calculation Logic**

Cash flow is calculated applying the average DPO for the period on the period expense or it by applying the average DPO across the year if the DPO by period does not exist.

Cash outflow is calculated based on the Outstanding Expense and the Average DPO. Predictive Cash Forecasting considers the appropriate periods average DPO or it uses the



overall assumption. The cash outflow is determined based on the Average DPO applied on the driver input amount and posted to the period based on the number DSO days.

## About Trend-Based Forecasting Methods

Predictive Cash Forecasting provides trend-based forecasting methods.

Trend-based forecasting methods can be used for any line items where the cash forecast can be determined based on historical trends. Trend-based methods can be used only with Periodic forecasts. Trend-based methods could be used if the cash inflows and outflows use a standard pattern.

Administrators enable **Trend Based Forecasting** when enabling the application. Cash Managers set the assumptions for the trend-based forecasting methods.

#### Process for Working with Trend-Based Forecasting Methods

- **1.** Set up the trend assumptions by selecting the trend method to use and the percent increase or decrease.
- 2. Load or input the data used to drive the cash forecast.
- 3. Run the daily **Daily Process Forecast** / **Periodic Process Forecast**, which calculates the cash flows.
- 4. When you load or save the trend form, Predictive Cash Forecasting calculates the cash inflows or outflows based on the driver amount and trend assumptions, and posts them into the appropriate periods.
- 5. The cash inflow or outflow is automatically populated in the **Rolling Forecast** form.

Here are some of the trend-based methods that are supported in Predictive Cash Forecasting.

- Current Year Actual Average—Calculates the average for the cash line item for the current fiscal year. Example: Bank charges.
- Current Period Actual—Last period actuals are used for the forecast periods. Example: Utilities.
- Prior Year Actual—Takes the prior year actual for corresponding periods. Example: Marketing or Service Revenue.
- Prior Year Actual Average—Calculates the average for a cash line item for the year prior to the current fiscal year. For example, if the current fiscal year is FY22, the prior year is FY21. Example: Travel.
- Forecast Average—Calculates the average of the forecast for the current fiscal year. Example: Labor.
- Seasonalization—Applies the seasonality of last year actual for forecast periods to the current year actual average. For this method, the current year actual average rate is calculated first. Then, the forecast is calculated using the following formula: Forecast = Prior year actual amount for the period \* sum of forecast amount (as per Current Year Actual Average method) for the remaining periods of current year / Sum of prior year actual data for same remaining periods.

Example: Trade Spends



- Year over Year Inc / Dec—Applies a percentage increase or decrease to the prior year's value. Example: Rent.
- Periodic Growth—Calculates year over year change for a line item using current year and prior year as the basis to calculate the growth. Example: Variable Compensation.

## About Prediction-Based Forecasting Methods

You can use Predictive Planning to forecast cash based on the historical data for the line item using time-series forecasting techniques.

Predictive Planning selects the best prediction method to use, selecting the method that gives the most accurate results based on the data available. For example, use statistical trends based on aggregated account balances to predict cash based on historical patterns of bank account balances by legal entity.

For more information about the statistical forecasting methods, see Predictive Planning Forecasting and Statistical Descriptions in *Working with Planning*.

#### Note:

For Interactive Predictive Planning, Receivable Invoices, Overdue Invoices, Payable Invoices, Payable Overdue Invoices will not provide any results as there is no historical data in these lines. However you can use AutoPredict, because it allows you to reference a different line item for predicting.

