



Microsoft Dynamics AX 2009 Business Intelligence Cube Reference Guide

Microsoft Corporation

Published: July 2009

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Table of Contents

Cube setup and security	5
Access cube data	6
Cube modifications	7
Cube reference	8
Shared dimensions.....	10
General ledger cube.....	27
Accounts receivable cube	63
Accounts payable cube	77
Expense management cube	95
Project accounting cube	109
Sales cube.....	135
Purchase cube	152
Production cube	167
Customer relationship management cube	179
Human resource management cube	218

Cube setup and security

For information about setting up SQL Server Analysis Services cubes and related topics, see the System and Application Setup Help. Select **System and Application Setup** on the Help menu of the Microsoft Dynamics AX Windows client.

Selecting a primary company for cube data

When the cubes are set up, a primary company is selected.

The fiscal calendar and the company currency (AmountMST) for the primary company are used as the fiscal calendar and company currency for all companies in the cubes. When foreign currency (AmountCur) amounts are evaluated, they are converted by using the exchange rates and currencies of the individual company, and converted to the company currency of the individual company. These converted amounts and AmountMST fields are in the company currency of the individual companies. Those amounts are then converted to company currency of the primary company by using the exchange rates and fiscal calendar of the primary company. All analysis services calculations take place by using that currency.

If the amount is to be displayed in a foreign currency or the company currency of the individual company, the amount is converted again before it is displayed in Role Centers or Microsoft Office Excel. For information about updating cubes with exchange rate information, see the System and Application Setup Help.

Security for cubes

To access cube data, users must be assigned to appropriate roles in Microsoft Dynamics AX. To grant security access to a user, you can assign the user to the appropriate role. You also can grant security to specific users. For information about configuring security settings for cubes, see the System and Application Setup Help.

You also must assign users to database roles. See the "Configuring security settings for cubes" topic in the System and Application Setup Help.

For a list of security roles that are used by default for each cube, see the following topics:

- [General ledger cube](#)
- [Accounts receivable cube](#)
- [Accounts payable cube](#)
- [Expense management cube](#)
- [Project accounting cube](#)
- [Sales cube](#)
- [Purchase cube](#)

- [Production cube](#)
- [Customer relationship management cube](#)
- [Human resource management cube](#)

Access cube data

There are two ways to access data in Microsoft Dynamics AX cubes:

- By using Microsoft Office Excel to connect to a cube through a data connection and to create PivotTable reports. For information about creating an ad hoc multidimensional report, see the Application and Business Processes Help.
- By viewing data provided on role center pages. For information about viewing preconfigured multidimensional reports, see the Application and Business Processes Help.

Role Centers

The role centers provide reports, key performance indicators (KPIs), charts, and named queries in which the data comes from the analysis cubes database. For more information, see the Role Centers documentation.

Using role-playing dimensions for analysis

A role-playing dimension is a dimension that is used in a cube more than one time, each time for a different purpose. For example, a Time dimension can be included in a cube three times to track the time that products are ordered, shipped, and invoiced. Each role-playing dimension is joined to a fact table by a different field. Microsoft Dynamics AX cubes include Time and LedgerPeriodDimension role-playing dimensions. Use the Time dimension for analysis by calendar year, quarter, month, week, or day. Use the LedgerPeriodTimeDimension dimension for analysis by fiscal year, period, or day.

Drill through to transaction data in Office Excel

When you create a PivotTable report in Excel based on a measure group, you can drill through the data to see a list of the transactions that are included in the aggregation. Some transactions are represented by multiple rows, such as an account and one or more offset accounts. In the drill-through worksheet, the columns come from the dimensions and the measures that are used by the measure group. For example, if you create a PivotTable report by using the Ledger balances measure group and drill through on the amounts, the following columns are displayed:

- Department
- Cost center
- Purpose

- Company accounts
- Ledger chart of accounts
- Ledger period time dimension
- Days
- Ledger balances Count
- Master Debit Amount – Ledger
- Master Credit Amount – Ledger

Cube modifications

Configuration keys

The predefined cubes require full license keys. If any configuration keys are disabled, related tables and fields are automatically removed when the Microsoft Dynamics AX database is synchronized. Similarly, when the OLAP database is synchronized with the Microsoft Dynamics AX database, some related cube components are removed. In this case, you must manually remove those elements of the cube, such as key performance indicators (KPIs), calculated measures, and dimensions based on named queries, before you can successfully process the cubes. Use the error messages that appear in the synchronization log as your guide to the elements that must be removed.

For a list of tables and configuration keys that are used by each cube, see the following topics:

- [General ledger cube](#)
- [Accounts receivable cube](#)
- [Accounts payable cube](#)
- [Expense management cube](#)
- [Project accounting cube](#)
- [Sales cube](#)
- [Purchase cube](#)
- [Production cube](#)
- [Customer relationship management cube](#)
- [Human resource management cube](#)

Cube modification and deployment

If you choose to make significant changes to the cube functionality by adding or removing fields, measures or dimensions, you must redeploy the cubes project. Contact your authorized Microsoft Dynamics Partner for more information.

Cube reference

The topics in this section provide information about the cubes that are delivered with Microsoft Dynamics AX.

[Shared dimensions](#)

[General ledger cube](#)

[Accounts receivable cube](#)

[Accounts payable cube](#)

[Expense management cube](#)

[Project accounting cube](#)

[Sales cube](#)

[Purchase cube](#)

[Production cube](#)

[Customer relationship management cube](#)

[Human resource management cube](#)

Cube elements

A measure group is a collection of related measures in a cube. Each measure group is based on a fact table, which can be either a single table in the Microsoft Dynamics AX database or a named query that includes information from multiple tables in the Microsoft Dynamics AX database.

A measure is a set of values that is usually numeric and is based on a column in the fact table of the cube. Measures are the central values that are aggregated and analyzed. Measures can be static values or calculated values. For example, the extended cost for an item is a static measure, while the margin percentage is a calculated measure. For more information, see the following table for each cube.

- Measures

Each OLAP cube includes multiple dimensions. A dimension is an OLAP metadata structure that describes the data in a fact table. For example, the Receivables cube includes a Customers dimension. A single cube dimension includes related attributes. For example, the Customers dimension includes information about customer balances, credit limits, and salespersons assigned to the customers.

The attributes of a dimension are organized into hierarchies. The hierarchical relationship between two attributes depends on how the data is being viewed. For example, if you select to view customers by salesperson name, the salesperson names are at the top of the hierarchy, followed by customer names.

In a PivotTable report or PivotChart report, each dimension and its attributes corresponds to a set of fields where you can expand and collapse detail. For more information, see the following tables for each cube.

- Dimensions and attributes
- Hierarchies for organizing attributes

Some dimensions allow you to drill through a report to the transactional data that comprises the report. For more information, see the following table for each cube.

- Drill-through dimensions by source table/measure group

Shared dimensions

Shared dimensions and attributes

The following dimensions and attributes are shared by multiple cubes.

Dimension	Dimension ID	ID	Attribute
Aging Periods	AGINGPERIODS	Name	Aging Bucket
		DATAAREAID	Company
		DESCRIPTION	Description
		HEADING	Header
		INTERVALTYPE	Interval
		STATREPINTERVALLINE	Lines for setup of statistics
		STATREPINTERVAL	Statistics
		QTY	Unit
Closed date	Time_CLOSED/Time (role-playing dimension)	Days	Days
		FiscalDate	FiscalDate
		FiscalHalfYears	FiscalHalfYears
		FiscalMonths	FiscalMonths
		FiscalQuarters	FiscalQuarters
		FiscalTrimesters	FiscalTrimesters
		FiscalWeeks	FiscalWeeks
		FiscalYears	FiscalYears
		HalfYears	HalfYears
		Months	Months
		Quarters	Quarters

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
		TenDays	TenDays
		Trimesters	Trimesters
		Weeks	Weeks
		Years	Years
Color	INVENTCOLOR	INVENTCOLOR	Colors
		NAME	Colors – Name
Company information	COMPANYINFO	CITY	City
		COMPANYINFO	Company information
		ADDRESSCOUNTRYREGION	Company information Country region
		NAME	Country region
		ADDRESSCOUNTRYREGION CURRENCY	Currency
		CURRENCYCODE	Functional Currency ID
		SECONDARYCURRENCYCODE	Reporting Currency ID
		STATE	State
		EUROCURRENCYCODE	Triangulation currency
		ZIPCODE	Zipcode
Company	DATAAREA	NAME	Company accounts
		CURRENCYCODE	Currency code
		ISPIVOT	Is pivot currency
		SECONDARYCURRENCYCODE	Secondary

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
			currency
Configuration	CONFIGTABLE	CONFIGTABLE	Item configurations
		NAME	Item configurations - Name
Cost center	TABLEEX_DIMENSION_2	TABLEEX_DIMENSION_2	Cost Center
		DESCRIPTION	Description
Currency	BICURRENCYDIMENSION	BICURRENCYDIMENSION	Currency
		CURRENCYNAME	Currency name
		ISOCURRENCYCODE	ISO currency code
		SYMBOL	Symbol
Customers	CUSTTABLE	DESCRIPTION	Chain
		CITY	City
		COMMISSIONSALESGROUP	Commission sales group
		SMMBUSRELCHAINGROUP	Company chains
		ADDRESSCOUNTRY REGION NAME	Country region
		CURRENCYCODE	Country region – Currency
		COUNTRY	Country
		CREATEDDATETIME	Created Date Time
		CREDITMAX	Credit limit
		CURRENCY	Currency
		CUSTGROUP	Customer group

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
		CUSTGROUP NAME	Customer groups – Name
		NAME	Customer name
		CUSTTABLE	Customers
		ADDRESSCOUNTRYREGION	Customers Country region
		DESTINATIONCODE	Customers Destination code
		LINEOFBUSINESS	Customers Line of business
		INVENTSITE	Customers Site
		DESTINATIONCODE DESCRIPTION	Destination code
		DIRPARTYTABLE	Global address book
		DIRPARTYTABLE NAME	Global address book - Name
		INVOICEACCOUNT	Invoice account
		LINEOFBUSINESS DESCRIPTION	Line of business
		PATMTERMID	Payment Term ID
		COMMISSIONSALESGROUP NAME	Sales group
		SMMBUSRELSEGMENTGROUP DESCRIPTION	Segment
		SMMBUSRELSEGMENTGROUP	Segment table
		INVENTSITE NAME	Site

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
		STATE	State
		ZIPCODE	ZIP postal code
Customers – Invoice account	CUSTTABLE	DESCRIPTION	Chain
		CITY	City
		COMMISSIONSALESGROUP	Commission sales group
		SMMBUSRELCHAINGROUP	Company chains
		ADDRESSCOUNTRY REGION NAME	Country region
		CURRENCYCODE	Country region – Currency
		COUNTRY	Country
		CREATEDDATETIME	Created Date Time
		CREDITMAX	Credit limit
		CURRENCY	Currency
		CUSTGROUP	Customer group
		CUSTGROUP NAME	Customer groups – Name
		NAME	Customer name
		CUSTTABLE	Customers
		ADDRESSCOUNTRYREGION	Customers Country region
		DESTINATIONCODE	Customers Destination code

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
		LINEOFBUSINESS	Customers Line of business
		INVENTSITE	Customers Site
		DESTINATIONCODE DESCRIPTION	Destination code
		DIRPARTYTABLE	Global address book
		DIRPARTYTABLE NAME	Global address book - Name
		INVOICEACCOUNT	Invoice account
		LINEOFBUSINESS DESCRIPTION	Line of business
		PATMTERMID	Payment Term ID
		COMMISSIONSALESGROUP NAME	Sales group
		SMMBUSRELSEGMENTGROUP DESCRIPTION	Segment
		SMMBUSRELSEGMENTGROUP	Segment table
		INVENTSITE NAME	Site
		STATE	State
		ZIPCODE	ZIP postal code
Date	Time_TRANSDATE/Time (role-playing dimension)	Days	Days
		FiscalDate	FiscalDate
		FiscalHalfYears	FiscalHalfYear s
		FiscalMonths	FiscalMonths
		FiscalQuarters	FiscalQuarters

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
		FiscalTrimesters	FiscalTrimesters
		FiscalWeeks	FiscalWeeks
		FiscalYears	FiscalYears
		HalfYears	HalfYears
		Months	Months
		Quarters	Quarters
		TenDays	TenDays
		Trimesters	Trimesters
		Weeks	Weeks
		Years	Years
Department	TABLEEX_DIMENSION_1	TABLEEX_DIMENSION_1	Department
		DESCRIPTION	Description
Document Date	Time_DOCUMENTDATE/Time (role-playing dimension)	Days	Days
		FiscalDate	FiscalDate
		FiscalHalfYears	FiscalHalfYears
		FiscalMonths	FiscalMonths
		FiscalQuarters	FiscalQuarters
		FiscalTrimesters	FiscalTrimesters
		FiscalWeeks	FiscalWeeks
		FiscalYears	FiscalYears
		HalfYears	HalfYears
		Months	Months
		Quarters	Quarters
		TenDays	TenDays

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
		Trimesters	Trimesters
		Weeks	Weeks
		Years	Years
Employee	EMPLTABLE	ACCOUNTTYPE	Account type
		BIRTHDATE	Birthdate
		EMPLTABLE	Employee
		INVENTSITE	Employee site
		TODATETIME	End date
		DIRPARTYTABLE FIRSTNAME	First name
		EMPLGENDER	Gender
		DIRPARTYTABLE	Global address book
		NAME	Global address book - Name
		DIRPARTYTABLE LASTNAME	Last name
		MARITAL STATUS	Marital status
		DIRPARTYTABLE MIDDLENAME	Middle name
		PROJPERIODID	Period code
		INVENTSITE NAME	Site
		FROMDATETIME	Start date
		STATUS	Status
Employee – Recipient	EMPLTABLE	ACCOUNTTYPE	Account type
		DAYSOFFWITHSALARY	Additional paid vacation days
		BIRTHDATE	Birthdate
		EMPLTABLE	Employee
		INVENTSITE	Employee Site

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
		TODATETIME	End date
		DIRPARTYTABLE FIRSTNAME	First name
		EMPLGENDER	Gender
		DIRPARTYTABLE	Global address book
		NAME	Global address book – Name
		DIRPARTYTABLE LASTNAME	Last name
		MARITALSTATUS	Marital status
		DIRPARTYTABLE MIDDLENAME	Middle name
		VACATIONWITHSALARY	Paid vacation
		PROJPERIOD	Period code
		CAREWITHSALARY	Personal days
		SENIORITYDATE	Seniority date
		INVENTSITE NAME	Site
		FROMDATETIME	Start date
		STATUS	Status
		EMPLOYEE TYPE	Type
		SALARYTYPE	Wage type
End Date	Time	Days	Days
		FiscalDate	FiscalDate
		FiscalHalfYears	FiscalHalfYears
		FiscalMonths	FiscalMonths
		FiscalQuarters	FiscalQuarters
		FiscalTrimesters	FiscalTrimesters
		FiscalWeeks	FiscalWeeks

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
		FiscalYears	FiscalYears
		HalfYears	HalfYears
		Months	Months
		Quarters	Quarters
		TenDays	TenDays
		Trimesters	Trimesters
		Weeks	Weeks
		Years	Years
Expiry Date	Time	Days	Days
		FiscalDate	FiscalDate
		FiscalHalfYears	FiscalHalfYears
		FiscalMonths	FiscalMonths
		FiscalQuarters	FiscalQuarters
		FiscalTrimesters	FiscalTrimesters
		FiscalWeeks	FiscalWeeks
		FiscalYears	FiscalYears
		HalfYears	HalfYears
		Months	Months
		Quarters	Quarters
		TenDays	TenDays
		Trimesters	Trimesters
		Weeks	Weeks
		Years	Years
Item	INVENTTABLE	ABCTIEUP	ABC-code carrying cost
		ABCCONTRIBUTIONMARGIN	ABC-code

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
			margin
		ABCREVENUE	ABC-code revenue
		ABCVALUE	ABC-code value
		ADDRESSCOUNTRYREGION NAME	Country region
		CURRENCYCODE	Currency
		INVENTTABLEMODULE UNITID	Inventory module parameters – Unit
		NAME	Item group
		INVENTITEMGROUP	Item groups
		ITEMNAME	Item name
		ITEMTYPE	Item type
		INVENTTABLE	Items
		ADDRESSCOUNTRYREGION	Items Country region
		INVENTTABLEMODULE PRICE	Price
Ledger Period Closed Date	Ledger period time dimension 3/Ledger Period Time Dimension (role-playing dimension)	COMPANYID	Company accounts ID
		LEDGERPERIODDATE	Date
		LEDGERPERIODTIMEDIMENSION	Ledger period time dimension
		LEDGERPERIOD	Period
		LEDGERPERIODYEAR	Year
Ledger period document	Ledger period time dimension 2/Ledger Period Time Dimension (role-	COMPANYID	Company accounts ID

Dimension	Dimension ID	ID	Attribute
date	playing dimension)		
		LEDGERPERIODDATE	Date
		LEDGERPERIODTIMEDIMENSION	Ledger period time dimension
		LEDGERPERIOD	Period
		LEDGERPERIODYEAR	Year
Ledger period time dimension	Ledger period time dimension	COMPANYID	Company accounts ID
		LEDGERPERIODDATE	Date
		LEDGERPERIODTIMEDIMENSION	Ledger period time dimension
		LEDGERPERIOD	Period
		LEDGERPERIODYEAR	Year
Ledger Period Trans Date	Ledger period time dimension 1/Ledger Period Time Dimension (role-playing dimension)	COMPANYID	Company accounts ID
		LEDGERPERIODDATE	Date
		LEDGERPERIODTIMEDIMENSION	Ledger period time dimension
		LEDGERPERIOD	Period
		LEDGERPERIODYEAR	Year
Master Company Reporting Currency	Reporting currency 1	BICURRENCYDIMENSION	Currency
		CURRENCYNAME	Currency name
		ISOCURRENCYCODE	ISO currency code
		SYMBOL	Symbol

Dimension	Dimension ID	ID	Attribute
Purpose	TABLEEX_DIMENSION_3	TABLEEX_DIMENSION_3	Purpose
		DESCRIPTION	Description
Reporting Currency	Reporting Currency	BICURRENCYDIMENSION	Currency
		CURRENCYNAME	Currency name
		ISOCURRENCYCODE	ISO currency code
		SYMBOL	Symbol
Size	INVENTSIZE	INVENTSIZE	Sizes
		NAME	Sizes - Name
Time	Time	Days	Days
		FiscalDate	FiscalDate
		FiscalHalfYears	FiscalHalfYears
		FiscalMonths	FiscalMonths
		FiscalQuarters	FiscalQuarters
		FiscalTrimesters	FiscalTrimesters
		FiscalWeeks	FiscalWeeks
		FiscalYears	FiscalYears
		HalfYears	HalfYears
		Months	Months
		Quarters	Quarters
		TenDays	TenDays
		Trimesters	Trimesters
		Weeks	Weeks
		Years	Years
Warehouse	INVENTLOCATION	INVENTSITE NAME	Site

Dimension	Dimension ID	ID	Attribute
		NAME	Warehouse
		INVENTLOCATIONTYPE	Warehouse type
		INVENTLOCATION	Warehouses
		INVENTSITE	Warehouse Site

Shared dimension usage

Yes indicates that the shared dimension is used by the specified cube.

Shared dimension	General ledger cube	Accounts receivable cube	Accounts payable cube	Expense management cube	Project accounting cube
Aging Periods	Yes	Yes	Yes	No	No
Closed Date	Yes	No	Yes	No	No
Color	No	No	No	No	No
Company	Yes	Yes	Yes	Yes	Yes
Company Information	Yes	Yes	Yes	No	No
Configuration	No	No	No	No	No
Cost Center	Yes	Yes	Yes	Yes	Yes
Currency	Yes	Yes	Yes	Yes	Yes
Customers	No	No	No	No	Yes
Customers – Invoice account	No	No	No	No	Yes
Date	Yes	Yes	Yes	No	No
Department	Yes	Yes	Yes	Yes	Yes
Document Date	Yes		Yes	No	No
Employee	No	No	No	Yes	Yes
Employee –	No	No	No	No	Yes

Shared dimension	General ledger cube	Accounts receivable cube	Accounts payable cube	Expense management cube	Project accounting cube
Recipient					
End Date	No	No	No	No	Yes
Expiry Date	No	No	No	No	Yes
Item	No	No	No	No	Yes
Ledger Period Closed Date	Yes	No	Yes	No	No
Ledger Period Document Date	Yes	Yes	Yes	No	No
Ledger Period Time Dimension	Yes	Yes	Yes	No	No
Ledger Period Trans Date	Yes	No	Yes	No	No
Master Company Reporting Currency	Yes	Yes	Yes	Yes	Yes
Purpose pose	Yes	Yes	Yes	Yes	Yes
Reporting Currency	No	No	No	No	Yes
Size	No	No	No	No	No
Time	Yes	Yes	Yes	Yes	Yes
Warehouse	No	No	No	No	Yes

Shared dimension usage, continued

Shared dimension	Sales cube	Purchase cube	Production cube	CRM cube	HRM cube
Aging Periods	No	No	No	No	No
Closed Date	No	No	No	No	No

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Shared dimension	Sales cube	Purchase cube	Production cube	CRM cube	HRM cube
Color	Yes	Yes	Yes	No	No
Company	Yes	Yes	Yes	Yes	Yes
Company Information	No	No	No	No	No
Configuration	Yes	Yes	Yes	No	No
Cost Center	Yes	Yes	Yes	Yes	Yes
Currency	Yes	Yes	Yes	Yes	Yes
Customers	Yes	No	No	No	No
Customers – Invoice account	Yes	No	No	No	No
Date	No	No	No	No	No
Department	Yes	Yes	Yes	Yes	Yes
Document Date	No	No	No	No	No
Employee	Yes	Yes		Yes	Yes
Employee – Recipient	No	No	No	Yes	No
End Date	No	No	Yes	Yes	Yes
Expiry Date	No	No	No	Yes	Yes
Item	Yes	Yes	Yes	No	No
Ledger Period Closed Date	No	No	No	No	No
Ledger Period Document Date	No	No	No	No	No
Ledger Period Time Dimension	No	No	No	No	No
Ledger Period Trans Date	No	No	No	No	No
Master Company Reporting Currency	Yes	Yes	Yes	Yes	Yes

Microsoft Dynamics AX

Shared dimension	Sales cube	Purchase cube	Production cube	CRM cube	HRM cube
Purpose pose	Yes	Yes	Yes	Yes	Yes
Reporting Currency	Yes	Yes	No	No	No
Size	Yes	Yes	Yes	No	No
Time	Yes	Yes	Yes	Yes	Yes
Warehouse	Yes	Yes	Yes	No	No

General ledger cube

Use the General ledger cube to report on ledger accounts and bank accounts.

The General ledger cube corresponds to the **LedgerCube** perspective in Microsoft Dynamics AX.

Cross-company analysis for financial data

To use analysis cubes to analyze data for multiple companies, the fiscal periods must be defined the same way in all companies.

Key performance indicators and account categories

The default ledger account categories and the analysis cubes that are provided with Microsoft Dynamics AX are designed to work together. Keep the following considerations in mind if you want to make changes to either the default ledger account categories or the analysis cubes:

- You cannot delete the default ledger account categories.
- Use care if you change the name of a default ledger account category. If the new name means something different than the default value, key performance indicators (KPIs) that use data from that ledger account category might show incorrect data. For example, if you change the name of ledger account category 1 from Cash to Cost of Goods Sold, KPIs that use that account category will continue to use account category 1 as if it contains the Cash amounts.
- You can add ledger account categories. To incorporate data from the ledger account categories into KPIs and other calculated measures, you must also revise the relevant calculations.

For information about the default ledger account categories and the KPIs and calculated measures that use them, see Applications and Business Processes Help.

Configuration keys and tables

The following configuration keys are required for the General ledger cube to work properly:

- Bank
- BankCheque
- LedgerBasic
- LedgerBudgetBasic
- CurrencySecondaryCurrency: An extended data type key for LedgerTrans.AmtMSTSecond.
- BankDeposit: An extended data type key for BankTrans.DepositNum.



Note:

If a configuration key is not activated, the associated tables do not exist in the database. Therefore, references to those tables from the General ledger cube will not work.

The General ledger cube uses data from the following Ledger tables.

Table	Description	Configuration key
CompanyInfo	Company master	Not applicable
BudgetModel	Budget models	LedgerBasic
LedgerAccountCategory	Account groupings	LedgerBasic
LedgerBudget	Ledger budgets	LedgerBudgetBasic
LedgerTable	Ledger account descriptions	LedgerBasic
LedgerTrans	Ledger transactions	LedgerBasic, CurrencySecondaryCurrency
LedgerPeriodTimeDim	Fiscal periods	LedgerBasic

The General ledger cube uses data from the following Bank tables.

Table	Description	Configuration key
BankAccountTable	Bank account descriptions	Bank
BankAccountTrans	Bank account transactions	Bank, Bank Deposit
BankChequePaymentTrans	Bank payment transactions	BankCheque
CompanyInfo	Company master	Not applicable
LedgerPeriodTimeDimension	Ledger periods and date tokens	LedgerBasic

Fact tables and measure groups

The General ledger cube includes several measure groups. Each measure group is based on a fact table. Some fact tables are mapped to Microsoft Dynamics AX tables; others are based on named queries.

Measure group	Fact table (table/named query)	Description
Bank Account Transactions	BankAccountTrans (table)	Contains posted transaction information from bank accounts.
Bank Payment	BankChequePaymentTrans (table)	Contains references to

Measure group	Fact table (table/named query)	Description
Transactions		checks and the transactions they paid.
Exchange rate	BIExchangeRates (table)	Contains a record for each exchange rate for each company.
Master company exchange rate	BIMasterCompanyExchangeRates (table)	Contains a record for each exchange rate for the company that is selected in the Setup Exchange Rates form.
Ledger Budget	LedgerBudget (table)	Contains budget transactions for ledger accounts.
Open Customer Transactions	CustTransOpen (table)	Contains customer transactions that have not been settled.
Ledger Transactions	LedgerTrans (table)	Contains posted general ledger transactions.
Ledger Balances	LedgerBalancesDimTrans (table)	Contains the posted ledger amount per account, dimension combinations, and date.

Named queries

The named query for Ledger Budgets is based on the LedgerBudget table, with the following additional fields brought into the query.

Additional fields	Description
LedgerBudget.AccountNum	Ledger account number.
LedgerBudget.ExpandID	Record ID of the transaction that generated the item.
LedgerBudget.Active	Budget active status.
LedgerBudget.Amount	The amount by which the line contributes to the budget.

Additional fields	Description
LedgerBudget.Dimension	Department dimension.
LedgerBudget.Dimension2	Cost center dimension.
LedgerBudget.Dimension3	Purpose dimension.
LedgerBudget.Currency	Currency of the budget.
LedgerBudget.ModelNum	Model number of the budget.
LedgerBudget.AmountMST	The master budget amount.
LedgerBudget.DaraAreaID	The company associated with the budget.
LedgerBudget.RecVersion	The version of the record.
LedgerBudget.ReclID	Unique record ID for each transaction.
LedgerBudget.StartDate	Start date for the budget.
Ledger.Budget.EndDate	End date for the budget.
LedgerBudget.RevisionDate	The date the budget revision was made.
LedgerBudget.ModifiedDateTime	The date and time the ledger budget was modified.

Dimensions and attributes

The General ledger cube includes the following dimensions and attributes.

Dimension	Dimension	ID	Attribute
Aging Periods*			
Bank account descriptions	BANKACCOUNTTABLE	BANKACCOUNTTABLE	Bank accounts
		NAME	Bank name
		CURRENCYCODE	Currency
Bank transactions	BANKACCOUNTTRANS_DIM	BANKACCOUNTTRANS_DIM	Bank transactions
		RECONCILED	Reconciled
Budget	BUDGETMODEL	BLOCKED	Blocked

Dimension	Dimension	ID	Attribute
models			
		TXT	Budget name
		COV	Cov
		BUDGETMODEL	Ledger budget models
		MODELID	Model ID
		SUBMODELID	Submodel ID
		TYPE	Type
Company information*			
Company*			
Cost center*			
Currency*			
Date*	Time (role-playing dimension)		
Department*			
Ledger account descriptions	LEDGERTABLE	ACCOUNTCATEGORY	Account category
		ACCOUNTNAME	Account name
		ACCOUNTPLTYPE	Account type
		DESCRIPTION	Category Description
		CLOSED	Closed
		CURRENCYCODE	Currency
		LEDGERACCOUNTCATEGORY	Ledger account categories

Dimension	Dimension	ID	Attribute
		ACCOUNTTYPE	Ledger account categories - Account type
		LEDGERTABLE	Ledger chart of accounts
Ledger budgets	LEDGERBUDGET_DIM	ACTIVE	Active
		LEDGERBUDGET_DIM	Ledger budget
Ledger period document date*	Ledger Period Time Dimension (role-playing dimension)		
Ledger period time dimension*			
Ledger transactions	LEDGERTRANS_DIM	LEDGERTRANS_DIM	Ledger transactions
		PERIODCODE	Period code
		POSTING	Posting
		TRANSTYPE	Transaction type
Master Company Reporting Currency*			
Purpose*			
Time*			

Dimensions by measure group

The measure groups in the General ledger cube can be sliced by the following dimensions and fields.

Dimension	Master company exchange rate	Exchange rate	Ledger balances	Ledger budgets
Department			Department	Department
Cost center			Cost center	Cost center
Purpose			Purpose	Purpose
Currency	Currency	Currency		Currency
Company	Company accounts	Company accounts	Company accounts	Company accounts
Ledger chart of accounts (Ledger account descriptions)			Ledger chart of accounts	Ledger chart of accounts
Ledger period time dimension	Ledger period time dimension	Ledger period time dimension	Ledger period time dimension	Ledger period time dimension
Ledger budget models (Budget models)				Model ID
Company information				
Bank accounts (Bank account descriptions)				
Lines for setup of statistics (Aging Periods)				
Ledger budget (Ledger budget)				Ledger budget
Ledger transactions				
Bank transactions				
Time	Days	Days	Days	Days

Dimension	Master company exchange rate	Exchange rate	Ledger balances	Ledger budgets
Time (Date)				
Ledger period time dimension (Ledger period document date)				
Master Company Reporting Currency				

Dimensions by measure group, continued

The measure groups in the General ledger cube can be sliced by the following dimensions and fields.

Dimension	Ledger transactions	Bank payment transactions	Bank transactions	Open customer transactions
Department	Department		Department	
Cost center	Cost center		Cost center	
Purpose	Purpose		Purpose	
Currency	Currency	Currency	Currency	
Company	Company accounts	Company accounts	Company accounts	Company accounts
Ledger chart of accounts (Ledger account descriptions)	Ledger chart of accounts		Ledger chart of accounts	Ledger chart of accounts
Ledger period time dimension	Ledger period time dimension	Ledger period time dimension	Ledger period time dimension	Ledger period time dimension
Ledger budget models (Budget models)				
Company information				

Dimension	Ledger transactions	Bank payment transactions	Bank transactions	Open customer transactions
Bank accounts (Bank account descriptions)		Bank accounts	Bank accounts	
Lines for setup of statistics (Aging Periods)				
Ledger budget (Ledger budget)				
Ledger transactions	Ledger transactions			
Bank transactions			Bank transactions	
Time	Days	Days	Days	Days
Time (Date)	Days			
Ledger period time dimension (Ledger period document date)	Ledger period time dimension			
Master Company Reporting Currency				

Hierarchies for organizing attributes

Some attributes can be organized in hierarchies. You can use the following hierarchies to organize dimension attributes.

Dimension	Hierarchies	Attributes in hierarchical order
Aging Periods	Hierarchy	Company
		Statistics
		Interval
		Lines for setup of statistics
	By Period	Interval

Dimension	Hierarchies	Attributes in hierarchical order
		Header
		Lines for setup of statistics
Bank account descriptions	By Bank Account ID – Name	Bank Name
		Bank Accounts
Company information	Country region – Company information	Country/region
		State
		City
		ZIP Code
		Company information
Date	Years Quarters Months Weeks Days	Year
		Quarter
		Month
		Week
		Days
Ledger account descriptions	Ledger account categories – Ledger chart of accounts	Ledger account categories
		Ledger chart of accounts
	By Account Type and Number	Account type
		Account name
		Ledger chart of accounts
Ledger period document date	Ledger Period Hierarchy	Year
		Period
		Ledger period time dimension
Ledger period time dimension	Ledger Period Hierarchy	Year
		Period

Dimension	Hierarchies	Attributes in hierarchical order
		Ledger period time dimension
Time	Years Quarters Months Weeks Days	Year
		Quarter
		Month
		Week
		Days

Measures

The General ledger cube includes the following measure groups and measures.

Measure group: Master company exchange rate

This measure group is based on the BIMasterCompanyExchangeRates table.

Measure	Measure field name	Aggregation	Description
Count	Not applicable	Count	Number of exchange rate records.
Master end of day rate	BIMasterCompanyExchangeRates.EndOfDayRate	Max	Maximum exchange rate in the company that is specified as the master exchange rate company, as of the end of the specified day.

Measure group: Exchange rate

This measure group is based on the BIXchangeRates table.

Measure	Measure field name	Aggregation	Description
Exchange rate Count	Not applicable	Count	Number of exchange rate records.
End of day rate	BIExchangeRates.EndOfDayRate	Max	Maximum exchange rate as of the end of the specified day.

Measure group: Ledger balances

This measure group is based on the LedgerBalancesDimTrans table.

Measure	Measure field name	Aggregation	Description
Ledger balances Count	Not applicable	Count	Number of ledger balance records.
Master Debit Amount - Ledger	LedgerBalancesDimTrans.DebitMst	Sum	Total debit amount of ledger balances, in company currency.
Master Credit Amount - Ledger	LedgerBalancesDimTrans.CreditMst	Sum	Total credit amount of ledger balances, in company currency.

Measure group: Ledger budgets

This measure group is based on the LedgerBudget table.

Measure	Measure field name	Aggregation	Description
Ledger budgets Count	Not applicable	Count	Number of ledger balance records.
Master Budget Amount - Ledger	LedgerBudget.AmountMst	Sum	Total budget amount, in company currency.

Measure	Measure field name	Aggregation	Description
Budget Amount - Ledger	LedgerBudget.Amount	Sum	Total budget amount, in transaction currency.

Measure group: Ledger transactions

This measure group is based on the LedgerTrans table.

Measure	Measure field name	Aggregation	Description
Ledger transactions Count	Not applicable	Count	Number of ledger transactions.
Secondary Master Amount - Ledger	LedgerTrans.AmountMstSecond	Sum	Total ledger transaction amount, in reporting currency.
Master Amount - Ledger	LedgerTrans.AmountMst	Sum	Total ledger transaction amount, in company currency.
Transaction Amount - Ledger	LedgerTrans.AmountCur	Sum	Total ledger transaction amount, in transaction currency.

Measure group: Bank payment transactions

This measure group is based on the BankChequePaymTrans table.

Measure	Measure field name	Aggregation	Description
Bank payment transactions Count	Not applicable	Count	Number of bank payment transactions.
Cheque Transaction	BankChequePaymTrans.PaymentAmountCur	Sum	Total bank payment

Measure	Measure field name	Aggregation	Description
Amount - Bank			transaction amount, in transaction currency.

Measure group: Bank transactions

This measure group is based on the BankAccountTrans table.

Measure	Measure field name	Aggregation	Description
Bank transactions Count	Not applicable	Count	Number of bank transactions.
Bank Transaction Amount – Bank	BankAccountTrans.BankTransAmountCur	Sum	Total bank transaction amount, in transaction currency.
Master Amount – Bank	BankAccountTrans.AmountMst	Sum	Total bank transaction amount, in company currency.
Transaction Amount – Bank	BankAccountTrans.AmountCur	Sum	Total bank transaction amount, in the registration currency.

Measure group: Open customer transactions

This measure group is based on the CustTransOpen table.

Measure	Measure field name	Aggregation	Description
Open customer transactions Count	Not applicable	Count	Number of open customer transactions.

Measure	Measure field name	Aggregation	Description
Transaction Outstanding Amount	CustTransOpen.AmountCur	Sum	Total open customer transaction amount, in transaction currency.
Master Outstanding Amount	CustTransOpen.AmountMst	Sum	Total open customer transaction amount, in company currency.

Calculated measures

The General ledger cube contains the following calculated measures.

Measure	Formula	Aggregation	Description
COGS	Summation of LedgerTrans AmountMST field for ledger accounts assigned to the ledger account category 35 (COGS).	No accumulation	Cost of Goods Sold amount for your organization.
Gross profit	Sales calculated measure times -1, minus Sales Return and Discounts calculated measure, minus COGS calculated measure.	No accumulation	Gross profit for your organization.
Sales	Summation of LedgerTrans AmountMST field for ledger accounts assigned to the ledger account category 33 (Sales).	No accumulation	Sales for your organization.
Sales returns and	Summation of	No accumulation	Sales returns and

Measure	Formula	Aggregation	Description
discounts	LedgerTrans AmountMST field for ledger accounts assigned to the ledger account category 34 (Sales Returns and Discounts).		discounts for your organization.
Total Actuals	Summation of LedgerTrans AmountMST field for all accounts.	No accumulation	Total actuals for your organization.
Total Budget	Summation of LedgerBudget AmountMST field.	No accumulation	Total budget amounts for your organization.
Total Payables	Year-to-date summation of LedgerTrans AmountMST field for ledger accounts assigned to the ledger account category 15 (AP).	Year-to-date accumulation	YTD payables for your organization.
Total Receivables	Year-to-date summation of LedgerTrans AmountMST field for ledger accounts assigned to the ledger account category 4 (AR).	Year-to-date accumulation	YTD receivables for your organization.
Total Sales	Sales calculated measure + Sales Return and Discount calculated measure.	No accumulation	Total sales for your organization.

General ledger cube KPI calculations

The key performance indicators (KPIs) in the General ledger cube depend on ledger account categories. Ledger account categories are attributes that are used to classify ledger accounts. KPI calculations refer to the ledger account categories, not directly to ledger accounts. For example, you might set up the following ledger accounts:

- 11000 Cash
- 11020 Cash Reserves
- 11030 Petty Cash

All three ledger accounts can be assigned to the Cash (Reference ID = 1) ledger account category. When a KPI is calculated, the total of the amounts for all three ledger accounts is included in the calculation.

Keep the following considerations in mind if you want to make changes to either the General ledger cube or the default ledger account categories:

- You cannot delete the default ledger account categories.
- Use care if you change the name of a default ledger account category. If the new name means something different than the default name, key performance indicators (KPIs) that use data from that ledger account category might show incorrect data. For example, if you change the name of ledger account category 1 from Cash to Cost of Goods Sold, KPIs that use that account category will continue to use account category 1 as if it contains the Cash amounts.
- You can add ledger account categories. To incorporate data from the ledger account categories into KPIs and other calculated measures, you must also revise the relevant calculations.

The following table lists the KPIs that are associated with the General ledger cube. The reference ID numbers refer to ledger account categories. The balances for the ledger accounts that correspond to some ledger account categories are stored as negative values in the MSDAX database. To express the amount as a positive amount, these values are multiplied by -1.

An asterisk (*) indicates that the KPI calculations use accumulated amounts. Accumulated amounts, such as some period-to-date amounts, are not stored in the Microsoft Dynamics AX database. For example, to calculate a period-to-date amount, all the transactions from the beginning of the fiscal calendar to the end of the previous period are totaled. Then all the amounts from the beginning of the fiscal calendar to the current date are totaled. The difference between these two amounts is the period-to-date amount.

You can use the information in the following table to help verify the information in your KPIs. Export your chart of accounts to Office Excel and verify that the accounts that should be included in the KPIs are assigned to the correct ledger account category.

KPI name	Calculation
Accounts Payable Turnover *	[Cost of Goods Sold (Reference ID = 35) + (Ending

KPI name	Calculation
	Inventory (Reference ID = 5) for period - Beginning Inventory (Reference ID = 5) for period) / [Beginning Accounts Payable (Reference ID = 15) + Ending Accounts Payable (Reference ID = 15) / 2]  Note: * Only the Inventory and Accounts Payable parts of this KPI are accumulated.
Accounts Receivable Days Outstanding *	Ending Accounts Receivable (Reference ID = 4) balance for the period / [(Credit Sales for the period (Reference ID = 33) *-1] - Sales Returns and Discounts (Reference ID = 34) for the period] * Number of days in the period  Note: * Only the Ending Accounts Receivable balance for the period part of this KPI is accumulated.
Accounts Receivable Turnover *	[Sales (Reference ID = 33) *-1] - Sales Returns and Discounts (Reference ID = 34) / [Beginning Accounts Receivable (Reference ID = 4) + Ending Accounts Receivable (Reference ID = 4) / 2]  Note: * Only the Accounts Receivable part of this KPI is accumulated.
Average Collection Period *	Accounts Receivable (Reference ID = 4) / Average Daily Sales (Average Daily Sales = Total Sales for the year to date (Reference ID = 33) *-1 / Number of days in fiscal year to date) Note: * Only the Accounts Receivable part of this KPI is accumulated.
Average Days Delinquent *	Accounts Receivable Days Outstanding KPI - Best Possible Days Sales Outstanding KPI  Note: * Only the Accounts Receivable part of this KPI is accumulated.
Average Days to Pay *	Ending Accounts Payable (Reference ID = 15) balance for the period / [Cost of Goods Sold (Reference ID = 35) +

KPI name	Calculation
	(Ending Inventory (Reference ID = 5) for the period - Beginning Inventory (Reference ID=5) for the period)] * Number of days in the period  Note: * Only the Accounts Payable and Inventory parts of this KPI are accumulated.
Best Possible Days Sales Outstanding *	Current portion of Accounts Receivable (Reference ID = 4) for the period / [[Credit Sales for the period (Reference ID = 33) *-1] - Sales Returns and Discounts (Reference ID = 34)] * Number of days in period  Note: * Only the Current portion of the Accounts Receivable part of this KPI is accumulated.
Cash Position *	Cash (Reference ID = 1) + Cash Equivalents (Reference ID = 2)  Note: * Accumulation applies to all calculations.
Cash Ratio *	Cash Equivalents (Reference ID = 2) + Cash (Reference ID = 1) / (Accounts Payable (Reference ID = 15) + Notes Payable (Reference ID = 16) + Current Maturities on Long Term Debt (Reference ID = 17) + Taxes Payable (Reference ID = 18) + Interest Payable (Reference ID = 19) + Dividends Payable (Reference ID = 20) + Leases Payable (Current) (Reference ID = 21) + Sinking Fund Payable (Current) (Reference ID = 22) + Other Current Liabilities (Reference ID = 23))  Note: * Accumulation applies to all calculations.
Collection Effectiveness Index *	[[Beginning Accounts Receivable (Reference ID = 4) balance for the period + [Credit Sales for the period (Reference ID =33) *-1] - Sales Returns and Discounts (Reference ID = 34) - Ending Total Accounts Receivable (Reference ID = 4) for the period] / [(Beginning Accounts Receivable (Reference ID = 4) for the period + [Credit Sales (Reference ID = 33) *-1]) for the period - Sales Returns and Discounts (Reference ID = 34) - Ending

KPI name	Calculation
	Current Accounts Receivable (Reference ID =4) for the period.]] Multiply the expression result by 100.  Note: * Only the Beginning Accounts Receivable, Ending Total Accounts Receivable, and Ending Current Accounts Receivable parts of this KPI are accumulated.
Cost of Goods Sold	Cost of Goods Sold (Reference ID = 35)
Current Ratio *	[Cash (Reference ID = 1) + Cash Equivalents (Reference ID = 2) + Short Term Investments (Reference ID = 3) + Accounts Receivable (Reference ID = 4) + Inventory (Reference ID = 5) + Notes Receivables (Reference ID = 6) + Work in Process (Reference ID = 7) + Prepaid Expenses (Reference ID = 8) + Other Current Assets (Reference ID = 9) + Inventory (Reference ID = 5)] / [Accounts Payable (Reference ID = 15) + Notes Payable (Reference ID = 16) + Current Maturities on Long Term Debt (Reference ID = 17) + Taxes Payable (Reference ID = 18) + Interest Payable (Reference ID = 19) + Dividends Payable (Reference ID = 20) + Leases Payable (Current) (Reference ID = 21) + Sinking Fund Payable (Current) (Reference ID = 22) + Other Current Liabilities (Reference ID = 23)]  Note: * Accumulation applies to all calculations.
Debt to Equity *	Accounts Payable (Reference ID = 15) + Notes Payable (Reference ID = 16) + Current Maturities on Long Term Debt (Reference ID=17) + Taxes Payable (Reference ID = 18) + Interest Payable (Reference ID = 19) + Dividends Payable (Reference ID = 20) + Leases Payable (Current) (Reference ID = 21) + Sinking Fund Payable (Current) (Reference ID = 22) + Other Current Liabilities (Reference ID = 23) + Long Term Debt (Reference ID = 24) / Common Stock (Reference ID = 25) + Preferred Stock (Reference ID = 26) + Additional Paid in Capital: Common (Reference ID= 27) + Additional Paid in Capital: Preferred (Reference ID = 28) + Retained Earnings (Reference ID = 29) + Treasury Stock (Reference ID = 30)

KPI name	Calculation
	 Note: * Accumulation applies to all calculations.
Debt to Total Assets *	[Accounts Payable (Reference ID = 15) + Notes Payable (Reference ID = 16) + Current Maturities on Long Term Debt (Reference ID = 17) + Taxes Payable (Reference ID = 18) + Interest Payable (Reference ID = 19) + Dividends Payable (Reference ID = 20) + Leases Payable (Current) (Reference ID = 21) + Sinking Fund Payable (Current) (Reference ID = 22) + Other Current Liabilities (Reference ID = 23) + Long Term Debt (Reference ID = 24)] / [Cash (Reference ID = 1) + Cash Equivalents (Reference ID = 2) + Short Term Investments (Reference ID = 3) + Accounts Receivable (Reference ID = 4) + Inventory (Reference ID = 5) + Notes Receivables (Reference ID = 6) + Work in Process (Reference ID = 7) + Prepaid Expenses (Reference ID = 8) + Other Current Assets (Reference ID = 9) + Long Term Investments (Reference ID = 10) + Property Plant and Equipment (Reference ID = 11) + Accumulated Depreciation (Reference ID = 12) + Intangible Assets (Reference ID = 13) + Other Assets (Reference ID = 14)]  Note: * Accumulation applies to all calculations.
Expense Budget Variance	Sum of budget amounts for the period selected for the accounts / Sum of actual balances for expense accounts for the same time period = Variance. The result is displayed as a percentage. The following ledger account categories are included in the sum of the budget amounts and in the sum of the actual amounts: Cost of Goods Sold (Reference ID = 35) + Selling Expense (Reference ID = 36) + Administrative Expense (Reference ID = 37) + Manufacturing Expense (Reference ID = 38) + Travel and Entertainment Expenses (Reference ID = 39) + Project Operation Expenses (Reference ID = 40) + Salaries Expense (Reference ID = 41) + Other Employee Expenses (Reference ID = 42) + Interest Expense (Reference ID = 43) + Tax Expense (Reference ID = 44) + Depreciation Expense (Reference ID = 45) + Income Tax Expense (Reference ID = 46) + Other Expenses

KPI name	Calculation
	(Reference ID = 47) + Amortization of Intangible Assets (Reference ID = 52) + Gain/Loss on Asset Disposal (Reference ID = 51)  Note: If necessary, the amounts for each account category are summed by dimension combination to compare the budget versus actual amounts by department, cost center, and so on. Reference ID 51 is included only if the balance of the accounts in that account category is positive. Otherwise it is excluded.
Gross Profit	[Sales (Reference ID = 33) *-1] - Sales Returns and Discounts (Reference ID = 34) - Cost of Goods Sold (Reference ID = 35)  Note: The Sales account category is multiplied by -1 to reflect the sales amount as a positive value.
Gross Profit Margin	[Sales (Reference ID = 33) *-1] - Sales Returns and Discounts (Reference ID = 34) - Cost of Goods Sold (Reference ID = 35) / [Sales (Reference ID = 33) *-1] - Sales Returns and Discounts (Reference ID = 34)
Inventory Turnover *	Cost of Goods Sold (Reference ID = 35) / [Beginning Inventory (Reference ID = 5) + Ending Inventory (Reference ID = 5) / 2]  Note: * Only the Inventory part of this KPI is accumulated.
Net Income	Result A - Result B Result A = [Sales (Reference ID = 33) + Other Income (Reference ID = 48) + Sales Returns and Discounts (Reference ID = 34)] *-1 Result B = Cost of Goods Sold (Reference ID = 35) + Selling Expense (Reference ID = 36) + Administrative Expense (Reference ID = 37) + Manufacturing Expense (Reference ID = 38) + Travel and Entertainment Expenses (Reference ID = 39) + Project Operation Expenses (Reference ID = 40) + Salaries Expense (Reference ID =

KPI name	Calculation
	41) + Other Employee Expenses (Reference ID = 42) + Interest Expense (Reference ID = 43) + Tax Expense (Reference ID = 44) + Depreciation Expense (Reference ID = 45) + Income Tax Expense (Reference ID = 46) + Other Expenses (Reference ID = 47)
Quick Ratio *	[Cash (Reference ID =1) + Cash Equivalents (Reference ID = 2) + Short Term Investments (Reference ID = 3) + Accounts Receivable (Reference ID = 4) + Notes Receivables (Reference ID = 6)] / (Accounts Payable (Reference ID = 15) + Notes Payable (Reference ID = 16) + Current Maturities on Long Term Debt (Reference ID = 17) + Taxes Payable (Reference ID = 18) + Interest Payable (Reference ID=19) + Dividends Payable (Reference ID = 20) + Leases Payable (Current) (Reference ID=21) + Sinking Fund Payable (Current) (Reference ID = 22) + Other Current Liabilities (Reference ID = 23)  Note: * Accumulation applies to all calculations.
Return on Total Assets *	[Sales (Reference ID = 33) + Other Income (Reference ID = 48) + Gain or Loss on Asset Disposal (Reference ID = 51) *-1] - Sales Returns and Discounts (Reference ID = 34) - Cost of Goods Sold (Reference ID = 35) - Selling Expense (Reference ID = 36) - Administrative Expense (Reference ID = 37) - Manufacturing Expense (Reference ID = 38) - Travel and Entertainment Expenses (Reference ID = 39) - Project Operation Expense (Reference ID = 40) - Salaries Expense (Reference ID = 41) - Other Employee Expenses (Reference ID = 42) - Depreciation Expense (Reference ID = 45) - Other Expenses (Reference ID = 47) - Amortization of Intangible Assets (Reference ID = 52) / Cash (Reference ID = 1) + Cash Equivalents (Reference ID = 2) + Short Term Investments (Reference ID = 3) + Accounts Receivable (Reference ID = 4) + Inventory (Reference ID = 5) + Notes Receivables (Reference ID = 6) + Work in Process (Reference ID = 7) + Prepaid Expenses (Reference ID = 8) + Other Current Assets (Reference ID = 9) + Long Term Investments (Reference ID = 10) + Property Plant and Equipment (Reference ID =

KPI name	Calculation
	11) + Accumulated Depreciation (Reference ID = 12) + Intangible Assets (Reference ID = 13) + Other Assets (Reference ID = 14)  Note: Reference ID 51 is included only if the balance of the accounts in that account category is negative. Otherwise it is excluded. * Only the total assets (Reference ID 1 through 14) part of this KPI is accumulated.
Revenue Budget Variance	Sum of budget amounts for the period selected for the accounts / Sum of actual balances for revenue accounts for the same time period = Variance. The result is displayed as a percentage. The following ledger account categories are included in the sum of the budget amounts and in the sum of the actual amounts: Sales (Reference ID = 33) + Other Income (Reference ID = 48) + Sales Returns and Discounts (Reference ID = 34) + Gain/Loss on Asset Disposal (Reference ID = 51)  Note: If necessary, the amounts for each account category are summed by dimension combination to compare the budget versus actual amounts by department, cost center, and so on. Reference ID 51 is included only if the balance of the accounts in that account category is negative. Otherwise it is excluded.
Times Interest Earned	[Sales (Reference ID = 33) + Other Income (Reference ID = 48) + Gain/Loss on Asset Disposal (Reference ID = 51)] *-1] - Sales Returns and Discounts (Reference ID = 34) - Cost of Goods Sold (Reference ID = 35) - Selling Expense (Reference ID = 36) - Administrative Expense (Reference ID = 37) - Manufacturing Expense (Reference ID = 38) - Travel and Entertainment Expenses (Reference ID = 39) - Project Operation Expense (Reference ID = 40) - Salaries Expense (Reference ID = 41) - Other Employee Expenses (Reference ID = 42) - Depreciation Expense (Reference ID = 45) - Other Expenses (Reference ID = 47) - Amortization of Intangible Assets (Reference ID = 52) / Interest

KPI name	Calculation
	Expense (Reference ID = 43)  Note: Reference ID 51 is included only if the balance of the accounts in that account category is negative. Otherwise it is excluded.
Total Expenses	Cost of Goods Sold (Reference ID = 35) + Selling Expense (Reference ID = 36) + Administrative Expense (Reference ID = 37) + Manufacturing Expense (Reference ID = 38) + Travel and Entertainment Expense (Reference ID = 39) + Project Operation Expenses (Reference ID = 40) + Salaries Expense (Reference ID = 41) + Other Employee Expense (Reference ID = 42) + Interest Expense (Reference ID = 43) + Tax Expense (Reference ID = 44) + Depreciation Expense (Reference ID = 45) + Income Tax Expense (Reference ID = 46) + Other Expenses (Reference ID = 47) + Amortization of Intangible Assets (Reference ID = 52) + Gain/Loss on Asset Disposal (Reference ID = 51)  Note: Reference ID 51 is included only if the balance of the accounts in that account category is positive. Otherwise it is excluded.
Total Revenue	[Sales (Reference ID = 33) + Other Income (Reference ID = 48) + Sales Returns and Discounts (Reference ID = 34) + Gain/Loss on Asset Disposal (Reference ID = 51)] *-1  Note: Reference ID 51 is included only if the balance of the accounts in that account category is negative. Otherwise it is excluded.

General ledger cube KPI source tables, configuration keys, and Role Centers

The following table lists the key performance indicators (KPIs) that are associated with the General ledger cube. The tables from which data is drawn, required configuration keys, and related role centers are included.

KPI name	Source tables	Configuration keys (Tables)	Role Centers
Accounts Payable Turnover *	LedgerTrans, LedgerTable	LedgerBasic (LedgerTrans and LedgerTable), CurrencySecondaryCurrency (LedgerTrans)	Accounting Manager, Bookkeeper, CFO, Controller
Accounts Receivable Days Outstanding *	LedgerTrans, LedgerTable	LedgerBasic (LedgerTrans and LedgerTable), CurrencySecondaryCurrency (LedgerTrans)	
Accounts Receivable Turnover *	LedgerTrans, LedgerTable	LedgerBasic (LedgerTrans and LedgerTable), CurrencySecondaryCurrency (LedgerTrans)	Accounting Manager, Bookkeeper, CFO, Controller, Credit and Collections Manager
Average Collection Period *	LedgerTrans, LedgerTable	LedgerBasic (LedgerTrans and LedgerTable), CurrencySecondaryCurrency (LedgerTrans)	Credit and Collections Manager
Average Days Delinquent *	LedgerTrans, LedgerTable, CustTransOpen	Ledger Basic (LedgerTrans, LedgerTable, and CustTransOpen), CurrencySecondaryCurrency (LedgerTrans)	Credit and Collections Manager
Average Days to Pay *	LedgerTrans, LedgerTable	Ledger Basic (LedgerTrans and LedgerTable), CurrencySecondaryCurrency (LedgerTrans)	Accounting Manager, Bookkeeper, CFO, Controller
Best Possible Days Sales Outstanding *	LedgerTrans, LedgerTable	Ledger Basic (LedgerTrans and LedgerTable), CurrencySecondaryCurrency (LedgerTrans)	Accounting Manager, Bookkeeper, CFO, Controller, Credit and Collections

KPI name	Source tables	Configuration keys (Tables)	Role Centers
			Manager
Cash Position *	LedgerTrans, LedgerTable	Ledger Basic (LedgerTrans and LedgerTable), CurrencySecondaryCurrency (LedgerTrans)	Accounting Manager, Bookkeeper, CFO, Controller
Cash Ratio *	LedgerTrans, LedgerTable	Ledger Basic (LedgerTrans and LedgerTable), CurrencySecondaryCurrency (LedgerTrans)	Accounting Manager, Bookkeeper, CFO, Controller
Collection Effectiveness Index *	LedgerTrans, LedgerTable, CustTransOpen	Ledger Basic (LedgerTrans, LedgerTable, and CustTransOpen), CurrencySecondaryCurrency (LedgerTrans)	Credit and Collections Manager
Cost of Goods Sold	LedgerTrans, LedgerTable	Ledger Basic (LedgerTrans and LedgerTable), CurrencySecondaryCurrency (LedgerTrans)	Accountant, Accounting Manager, Bookkeeper, CEO, CFO, Controller
Current Ratio *	LedgerTrans, LedgerTable	Ledger Basic (LedgerTrans and LedgerTable), CurrencySecondaryCurrency (LedgerTrans)	Accounting Manager, Bookkeeper, CFO, Controller
Debt to Equity *	LedgerTrans, LedgerTable	Ledger Basic (LedgerTrans and LedgerTable), CurrencySecondaryCurrency (LedgerTrans)	Accounting Manager, CFO, Controller
Debt to Total Assets *	LedgerTrans, LedgerTable	Ledger Basic (LedgerTrans and LedgerTable), CurrencySecondaryCurrency (LedgerTrans)	Accounting Manager, CFO, Controller
Expense Budget	LedgerTrans, LedgerTable, LedgerBalancesDimTrans,	Ledger Basic (LedgerTrans, LedgerTable, and	Accounting Manager,

KPI name	Source tables	Configuration keys (Tables)	Role Centers
Variance	LedgerBudget, TmpBudgetBalances	LedgerBalancesDimTrans), CurrencySecondaryCurrency (LedgerTrans), LedgerBasicBudget (LedgerBudget)	Bookkeeper, CFO, Controller
Gross Profit	LedgerTrans, LedgerTable	Ledger Basic (LedgerTrans and LedgerTable), CurrencySecondaryCurrency (LedgerTrans)	Accountant, Accounting Manager, Bookkeeper, CFO, Controller
Gross Profit Margin	LedgerTrans, LedgerTable	Ledger Basic (LedgerTrans and LedgerTable), CurrencySecondaryCurrency (LedgerTrans)	Accountant, Accounting Manager, Bookkeeper, CEO, CFO, Controller
Inventory Turnover *	LedgerTrans, LedgerTable	Ledger Basic (LedgerTrans and LedgerTable), CurrencySecondaryCurrency (LedgerTrans)	Accounting Manager, CEO, CFO, Controller
Net Income	LedgerTrans, LedgerTable	Ledger Basic (LedgerTrans and LedgerTable), CurrencySecondaryCurrency (LedgerTrans)	Accountant, Accounting Manager, Bookkeeper, CFO, Controller
Quick Ratio *	LedgerTrans, LedgerTable	Ledger Basic (LedgerTrans, LedgerTable), CurrencySecondaryCurrency (LedgerTrans)	Accounting Manager, Bookkeeper, CFO, Controller
Return on Total Assets *	LedgerTrans, LedgerTable	Ledger Basic (LedgerTrans and LedgerTable), CurrencySecondaryCurrency (LedgerTrans)	Accountant, Accounting Manager, CFO, Controller
Revenue Budget	LedgerTrans, LedgerTable,	Ledger Basic (LedgerTrans and LedgerTable),	Accounting Manager,

KPI name	Source tables	Configuration keys (Tables)	Role Centers
Variance	LedgerBudget	CurrencySecondaryCurrency (LedgerTrans), LedgerBasicBudget (LedgerBudget)	Bookkeeper, CFO, Controller
Times Interest Earned	LedgerTrans, LedgerTable	Ledger Basic (LedgerTrans and LedgerTable), CurrencySecondaryCurrency (LedgerTrans)	Accounting Manager, CFO, Controller
Total Expenses	LedgerTrans, LedgerTable	Ledger Basic (LedgerTrans and LedgerTable), CurrencySecondaryCurrency (LedgerTrans)	Accountant, Accounting Manager, Bookkeeper, CFO, Controller
Total Revenue	LedgerTrans, LedgerTable	Ledger Basic (LedgerTrans and LedgerTable), CurrencySecondaryCurrency (LedgerTrans)	Accountant, Accounting Manager, Bookkeeper, CEO, CFO, Controller

General ledger KPI account categories

Each account in the chart of accounts can be assigned to a ledger account category. The calculations for General ledger KPIs use the balances in the accounts that are assigned to the specified ledger account categories. The following table lists the ledger account categories and descriptions for each General ledger KPI.

KPI	Reference ID	Ledger account category description
Accounts Payable Turnover	5, 15, 35	Inventory, Accounts Payable, Cost of Goods Sold
Accounts Receivable Days Outstanding	4, 33, 34	Accounts Receivable, Sales, Sales Returns and Discounts
Accounts Receivable Turnover	4, 33, 34	Accounts Receivable, Sales, Sales Returns and Discounts
Average Collection Period	4, 33	Accounts Receivable, Sales

KPI	Reference ID	Ledger account category description
Average Days Delinquent	4, 33, 34	Accounts Receivable, Sales, Sales Returns and Discounts
Average Days to Pay	5, 15, 35	Inventory, Accounts Payable, Cost of Goods Sold
Best Possible Days Sales Outstanding	4, 33, 34	Accounts Receivable, Sales, Sales Returns and Discounts
Cash Position	1, 2	Cash, Cash Equivalents
Cash Ratio	1, 2, 15-23	Cash Equivalents, Accounts Payable, Notes Payable, Current Maturities on Long Term Debt, Taxes Payable, Interest Payable, Dividends Payable, Leases Payable (Current), Sinking Fund Payable (Current), Other Current Liabilities
Collection Effectiveness Index	4, 33, 34	Accounts Receivable, Sales, Sales Returns and Discounts
Cost of Goods Sold	35	Cost of Goods Sold
Current Ratio	1-9, 15-23	Cash, Cash Equivalents, Short Term Investments, Accounts Receivable, Inventory, Notes Receivables, Work in Process, Prepaid Expenses, Other Current Assets, Inventory, Accounts Payable, Notes Payable, Current Maturities on Long Term Debt, Taxes Payable, Interest Payable, Dividends Payable, Leases Payable (Current), Sinking Fund Payable (Current), Other Current Liabilities
Debt to Equity	15-30	Accounts Payable, Notes payable, Current Maturities on Long Term Debt, Taxes

Microsoft Dynamics AX

KPI	Reference ID	Ledger account category description
		Payable, Interest payable, Dividends Payable, Leases Payable (Current), Sinking Fund Payable (Current), Other Current Liabilities, Long Term Debt, Common Stock, Preferred Stock, Additional Paid in Capital - Common, Additional Paid in Capital - Preferred, Retained Earnings, Treasury Stock
Debt to Total Assets	1-24	Accounts Payable, Notes Payable, Current Maturities on Long Term Debt, Taxes Payable, Interest Payable, Dividends Payable, Leases Payable (Current), Sinking Fund Payable (Current), Other Current Liabilities, Long Term Debt, Cash, Cash Equivalents, Short Term Investments, Accounts Receivable, Inventory, Notes Receivables, Work in Process, Prepaid Expenses, Other Current Assets, Long Term Investments, Property, Plant, and Equipment, Accumulated Depreciation, Intangible Assets, Other Assets
Expense Budget Variance	35-47, 51, 52	Cost of Goods Sold, Selling Expense, Administrative Expense, Manufacturing Expense, Travel and Entertainment Expense, Project Expenses, Salaries Expense, Other Employee Expenses, Interest Expense, Tax Expense, Depreciation Expense, Income

Microsoft Dynamics AX

KPI	Reference ID	Ledger account category description
		Tax Expense, Other Expenses, Amortization of Intangible Assets, Gain/Loss on Asset Disposal
Gross Profit	33-35	Sales, Sales Returns and Discounts, Cost of Goods Sold
Gross Profit Margin	33-35	Sales, Sales Returns and Discounts, Cost of Goods Sold
Inventory Turnover	5, 35	Cost of Goods Sold, Inventory
Net Income	33-48	Sales, Other Income, Sales Returns and Discounts, Cost of Goods Sold, Selling Expense, Administrative Expense, Manufacturing Expense, Travel and Entertainment Expense, Project Expenses, Salaries Expense, Other Employee Expense, Interest Expense, Tax Expense, Depreciation Expense, Income Tax Expense, Other Expenses
Quick Ratio	1-4, 6, 15-23	Cash, Cash Equivalents, Short Term Investments, Accounts Receivable, Notes Receivables, Accounts Payable, Notes Payable, Current Maturities on Long Term Debt, Taxes Payable, Interest Payable, Dividends Payable, Leases Payable (Current), Sinking Fund Payable (Current), Other Current Liabilities
Return on Total Assets	1-14, 33-48, 51, 52	Sales, Other Income, Gain or Loss on Asset Disposal, Sales Returns and Discounts, Cost of Goods Sold, Selling Expense, Administrative Expense,

Microsoft Dynamics AX

KPI	Reference ID	Ledger account category description
		Manufacturing Expense, Travel and Entertainment Expense, Project Operation Expense, Salaries Expense, Other Employee Expense, Depreciation Expense, Other Expenses, Amortization on Intangible Assets, Cash, Cash Equivalents, Short Term Investments, Accounts Receivable, Inventory, Notes Receivable, Work in Process, Prepaid Expenses, Other Current Assets, Long Term Investments, Property Plant, and Equipment, Accumulated Depreciation, Intangible Assets, Other Assets
Revenue Budget Variance	33, 34, 48, 51	Sales, Other Income, Gain or Loss on Asset Disposal, Sales Returns and Discounts
Times Interest Earned	33-43, 45, 47, 48, 51, 52	Sales, Other Income, Gain or Loss on Asset Disposal, Cost of Goods Sold, Selling Expense, Administrative Expense, Manufacturing Expense, Travel and Entertainment Expense, Project Operation Expense, Salaries Expense, Other Employee Expense, Depreciation Expense, Other Expenses, Amortization of Intangible Assets, Interest Expense
Total Expenses	35-47, 51, 52	Cost of Goods Sold, Selling Expense, Administrative Expense, Manufacturing Expense, Travel and Entertainment Expense, Project

KPI	Reference ID	Ledger account category description
		Operation Expenses, Salaries Expense, Other Employee Expenses, Interest Expense, Tax Expense, Depreciation Expense, Income Tax Expense, Other Expenses, Amortization of Intangible Assets, Gain/Loss on Asset Disposal
Total Revenue	33, 34, 48, 51	Sales, Other Income, Sales Returns and Discounts, Gain/Loss on Asset Disposal

General ledger cube security by role

The following tables list the dimensions, measures, calculated measures, and KPIs that are associated with the General ledger cube, and the roles that provide security access to them.

Yes indicates that security access is provided by default.

Dimensions

Dimensions	CFO	Controller	Accounting manager	Accountant	Bookkeeper	Credit & collections manager	Accounts payable coordinator	Accounts receivable coordinator
Ledger Accounts	Yes	Yes	Yes	Yes	Yes	No	No	No
Ledger Transactions	Yes	Yes	Yes	Yes	Yes	No	No	No
Period Codes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Company	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Account Categories	Yes	Yes	Yes	Yes	Yes	No	No	No

Dimensions	CFO	Controller	Accounting manager	Accountant	Bookkeeper	Credit & collections manager	Accounts payable coordinator	Accounts receivable coordinator
Budgets	Yes	Yes	Yes	Yes	Yes	No	No	No
Ledger Balances by Dimension	Yes	Yes	Yes	Yes	Yes	No	No	No
Bank Transactions	Yes	Yes	Yes	Yes	Yes	No	No	No
Bank Payments	Yes	Yes	Yes	Yes	Yes	No	No	No
Checkbook Register	Yes	Yes	Yes	Yes	Yes	No	No	No

Measures

Measures	CFO	Controller	Accounting manager	Accountant	Bookkeeper	Credit & collections manager	Accounts payable coordinator	Accounts receivable coordinator
Master Amount - Ledger	Yes	Yes	Yes	Yes	Yes	No	No	No
Transaction Amount - Ledger	Yes	Yes	Yes	Yes	Yes	No	No	No
Budget Amount - Ledger	Yes	Yes	Yes	Yes	Yes	No	No	No
Master Budget Amount -	Yes	Yes	Yes	Yes	Yes	No	No	No

Microsoft Dynamics AX

Measures	CFO	Controller	Accounting manager	Accountant	Bookkeeper	Credit & collections manager	Accounts payable coordinator	Accounts receivable coordinator
Ledger								
Secondary Master Amount - Ledger	Yes	Yes	Yes	Yes	Yes	No	No	No
Master Debit Amount - Ledger	Yes	Yes	Yes	Yes	Yes	No	No	No
Master Credit Amount - Ledger	Yes	Yes	Yes	Yes	Yes	No	No	No
Bank Transaction Amount - Bank	Yes	Yes	Yes	Yes	Yes	No	No	No
Cheque Transaction Amount - Bank	Yes	Yes	Yes	Yes	Yes	No	No	No

Accounts receivable cube

Use the Accounts receivable cube to report on customer transactions and accounts receivable.

The Accounts Receivable cube corresponds to the **CustCube** perspective in Microsoft Dynamics AX.

Cross-company analysis for financial data

To use analysis cubes to analyze data for multiple companies, the fiscal periods must be defined the same way in all companies.

Configuration keys and tables

The following configuration keys are required for the Accounts Receivable cube to work properly:

- LedgerBasic
- CurrencySecondaryCurrency: An extended data type key for CompanyInfo.SecondaryCurrencyCode.
- Commissions: An extended data type key for CustTable.SalesGroup.



Note:

If a configuration key is not activated, the associated tables do not exist in the database.

Therefore, references to those tables from the Accounts Receivable cube will not work.

The Accounts Receivable cube uses data from the following tables.

Table	Description	Configuration key
AddressCountryRegion	Addresses	Not applicable
CompanyInfo	Company master	CurrencySecondaryCurrency
CustGroup	Customer groups	LedgerBasic
CustTable	Customer master table	LedgerBasic, Commissions
CustTrans	Customer transactions	LedgerBasic
CustTransOpen	Open customer transactions	LedgerBasic
DirParty	Directory ID	Not applicable
LedgerPeriodTimeDimension	Fiscal periods	LedgerBasic
StatRepInterval	Aging master table	LedgerBasic
StatRepIntervalLine	Aging periods	LedgerBasic

Fact tables and measure groups

The Accounts Receivable cube includes several measure groups. Each measure group is based on a fact table. Some fact tables are mapped to Microsoft Dynamics AX tables; others are based on named queries.

Measure group	Fact table (table/named query)	Description
Customer Transactions	CustTrans (table)	Contains a record for each customer transaction.
Open Customer Transactions	CustTransOpen (table)	Contains a record for each customer transaction that has not been settled.
Exchange rate	BIExchangeRates (table)	Contains a record for each exchange rate for each company.
Master company exchange rate	BIMasterCompanyExchangeRates (table)	Contains a record for each exchange rate for the company that is selected in the Setup Exchange Rates form.

Named queries

CustTransTotalSales, based on CustTrans

The named query for CustTransTotalSales is based on the CustTrans table, with the following additional fields brought into the query.

Additional fields	Description
CustTransTotalSales.AccountNum	Ledger account number.
CustTransTotalSales.Voucher	Voucher number the transaction is attached to.
CustTransTotalSales.Invoice	The invoice the transaction is attached to.
CustTransTotalSales.AmountMST	The master transaction amount.
CustTransTotalSales.CurrencyCode	Currency used for the transaction.
CustTransTotalSales.TransType	Transaction type.

Additional fields	Description
CustTransTotalSales.Approved	Approval status of the transaction.
CustTransTotalSales.Dimension	Department dimension.
CustTransTotalSales.Dimension2	Cost center dimension.
CustTransTotalSales.Dimension3	Purpose dimension.
CustTransTotalSales.PaymMode	Method of payment.
CustTransTotalSales.DataAreaID	The company associated with the transaction.
CustTransTotalSales.RecVersion	The version of the record.
CustTransTotalSales.RecID	Unique record ID for each transaction.
CustTransTotalSales.DueDate	Due date associated with the transaction.
CustTransTotalSales.LastSettledDate	The last settled date of the transaction.
CustTransTotalSales.Closed	Date of total settlement for the transaction.
CustTransTotalSales.TransDate	The transaction date.
CustTransTotalSales.DocumentDate	The date of the document associated with the transaction.
CustTransTotalSales.LastExchAdj	Date of last transaction exchange adjustment.
CustTransTotalSales.ModifiedDateTime	The date and time the transaction was modified
CustTransTotalSales.CreatedDateTime	The date and time the record was created.
CustTransTotalSales.PaymManLackDate	Time limit for feedback from the bank on payments.

Dimensions and attributes

The Accounts Receivable cube includes the following dimensions and attributes.

* Indicates a shared dimension. For detailed information, see [Shared dimensions](#).

Dimension	Dimension ID	ID	Attribute
Aging periods*			
Company*			
Company			

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
information*			
Customers	CUSTTABLE	DESCRIPTION	Chain
		CITY	City
		COMMISSIONSALESGROUP	Commission sales group
		SMMBUSRELCHAINGROUP	Company chains
		ADDRESSCOUNTRYREGION NAME	Country/region
		CURRENCYCODE	Country/region - currency
		COUNTY	County
		CREATEDDATETIME	Created Date Time
		CREDITMAX	Credit limit
		CURRENCY	Currency
		CUSTGROUP	Customer group
		CUSTGROUP NAME	Customer groups - Name
		NAME	Customer name
		CUSTTABLE	Customers
		ADDRESSCOUNTRYREGION	Customers Country region
		DESTINATIONCODE	Customers destination code
		LINEOFBUSINESS	Customers line of business
		INVENTSITE	Customers site
		DESTINATIONCODE DESCRIPTION	Destination code

Dimension	Dimension ID	ID	Attribute
		DIRPARTYTABLE	Global address book
		DIRPARTYTABLE NAME	Global address book - Name
		INVOICEACCOUNT	Invoice account
		LINEOFBUSINESS DESCRIPTION	Line of business
		PAYMTERMID	Payment Term ID
		COMMISSIONSALESGROUP NAME	Sales group
		SMMBUSRELSEGMENTGROUP DESCRIPTION	Segment
		SMMBUSRELSEGMENTGROUP	Segment table
		INVENTSITE NAME	Site
		STATE	State
		ZIPCODE	ZIP postal code
Customer transactions	CUSTTRANS	CUSTTRANS_DIM	Customer transactions
		TRANSTYPE	Transaction type
Date*	Time (role-playing dimension)		
Department*			
Closed date*	Time (role-playing dimension)		
Cost center*			
Currency*			
Document date*	Time (role-playing dimension)		

Dimension	Dimension ID	ID	Attribute
Ledger period closed date*	Ledger Period Time Dimension (role-playing dimension)		
Ledger Period Time Dimension*			
Ledger period trans date*	Ledger Period Time Dimension (role-playing dimension)		
Master Company Reporting Currency*			
Methods of payment - Customers	CUSTPAYMMODETABLE	CUSTPAYMMODETABLE	Methods of payment - Customers
		NAME	Name
Purpose*			
Time*			

Dimensions by measure group

The measure groups in the Accounts receivable cube can be sliced by the following dimensions and fields.

Dimension	Master company exchange rate	Exchange rate	Open customer transactions	Customer transactions	Cust Trans Total Sales
Department				Department	Department
Cost center				Cost center	Cost center
Purpose				Purpose	Purpose
Currency	Currency	Currency		Currency	Currency

Microsoft Dynamics AX

Dimension	Master company exchange rate	Exchange rate	Open customer transactions	Customer transactions	Cust Trans Total Sales
Company	Company accounts	Company accounts	Company accounts	Company accounts	Company accounts
Ledger period time dimension	Ledger period time dimension	Ledger period time dimension	Ledger period time dimension	Ledger period time dimension	Ledger period time dimension
Company information					
Lines for setup of statistics (aging periods)					
Customers			Customers	Customers	Customers
Methods of payment – Customers				Methods of payment - Customers	Methods of payment - Customers
Customer transactions				Customer transactions	Customer transactions
Time	Days	Days	Days	Days	Days
Time (Date)			Days	Days	Days
Time (Closed date)				Days	Days
Time (Document date)				Days	Days
Ledger period time dimension (Ledger period trans date)			Ledger period time dimension	Ledger period time dimension	Ledger period time dimension
Ledger period time dimension (Ledger period document date)				Ledger period time dimension	Ledger period time dimension

Dimension	Master company exchange rate	Exchange rate	Open customer transactions	Customer transactions	Cust Trans Total Sales
Ledger period time dimension (Ledger period closed date)				Ledger period time dimension	Ledger period time dimension
Master Company Reporting Currency					

Hierarchies for organizing attributes

Some attributes can be organized in hierarchies. You can use the following hierarchies to organize dimension attributes.

Dimension	Hierarchies	Attributes in hierarchical order
Aging Periods	By Period	Interval
		Header
		Lines for setup of statistics
	Hierarchy	Company
		Statistics
		Interval
		Lines for setup of statistics
Closed Date	YearsQuartersMonthsWeeksDays	Year
		Quarter
		Month
		Week
		Days
Company Information	Country/Region – Company information	Country/region

Dimension	Hierarchies	Attributes in hierarchical order
		State City ZIP code Company information
Customers	Commission sales group – Customers	Commission sales group Customers
	Company chains – Customers	Company chains Customers
	Country/region – Customers	Country/region State City ZIP code Customers
	Customer groups – Customers	Customer group Customers
	Destination code – Customers	Destination code Customers
	Global address book – Customers	Global address book Customers
	Line of business – Customers	Line of business Customers
	Segment table – Customers	Segment table Customers
	Site - Customers	Site Customers
Date	YearsQuartersMonthsWeeksDays	Year
		Quarter
		Month
		Week

Dimension	Hierarchies	Attributes in hierarchical order
		Days
Document date	YearsQuartersMonthsWeeksDays	Year
		Quarter
		Month
		Week
		Days
Ledger period closed date	Ledger Period Hierarchy	Year Period Ledger period time dimension
Ledger period document date	Ledger Period Hierarchy	Year Period Ledger period time dimension
Ledger period time dimension	Ledger Period Hierarchy	Year Period Ledger period time dimension
Ledger period trans date	Ledger Period Hierarchy	Year Period Ledger period time dimension
Time	YearsQuartersMonthsWeeksDays	Year
		Quarter
		Month
		Week
		Days

Measures

The Accounts Receivable cube includes the following measure groups and measures.

Measure group: Master company exchange rate

This measure group is based on the BIMasterCompanyExchangeRates table.

Measure	Measure field name	Aggregation	Description
Count	Not applicable	Count	Number of exchange rate records.
Master end of day rate	BIMasterCompanyExchangeRates.EndOfDayRate	Max	Maximum exchange rate in the company that is specified as the master exchange rate company, as of the end of the specified day.

Measure group: Exchange rate

This measure group is based on the BIXchangeRates table.

Measure	Measure field name	Aggregation	Description
Exchange rate Count	Not applicable	Count	Number of exchange rate records.
End of day rate	BIXchangeRates.EndOfDayRate	Max	Maximum exchange rate as of the end of the specified day.

Measure group: Open customer transactions

This measure group is based on the CustTransOpen table.

Measure	Measure field name	Aggregation	Description
Open customer transactions Count	Not applicable	Count	Number of open customer transactions.
Transaction Outstanding Amount	CustTransOpen.AmountCur	Sum	Total open customer transaction amount, in transaction currency.
Master Outstanding Amount	CustTransOpen.AmountMst	Sum	Total open customer transaction amount, in company currency.

Measure group: Customer transactions

This measure group is based on the CustTrans table.

Measure	Measure field name	Aggregation	Description
Customer transactions Count	Not applicable	Count	Number of customer transactions.
Transaction amount - Receivables	CustTrans.AmountCur	Sum	Total customer transaction amount, in transaction currency.
Settled currency	CustTrans.SettleAmountCur	Sum	Total amount of customer transactions that have been settled, in transaction currency.
Master amount - Receivables	CustTrans.AmountMst	Sum	Total customer transaction amount, in company currency.
Amount settled	CustTrans.SettleAmountMst	Sum	Total amount of

Measure	Measure field name	Aggregation	Description
			customer transactions that have been settled, in company currency.

Measure group: CustTrans Total Sales

This measure group is based on the CustTransTotalSales table.

Measure	Measure field name	Aggregation	Description
Total Sales	CustTransTotalSales.AmountMst	Sum	Total customer sales, in company currency.

Calculated measures

The Accounts receivable cube contains no calculated measures.

Accounts Receivable cube security by role

The following tables list the dimensions, measures, calculated measures, and key performance indicators (KPIs) that are associated with the Accounts Receivable cube, and the roles that provide security access to them.

Yes indicates that security access is provided by default.

Dimensions

Dimensions	CFO	Controller	Accounting manager	Accountant	Bookkeeper	Credit & collections manager	Accounts payable coordinator	Accounts receivable coordinator
Customer Transactions	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Company	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes

Microsoft Dynamics AX

Dimensions	CFO	Controller	Accounting manager	Accountant	Bookkeeper	Credit & collections manager	Accounts payable coordinator	Accounts receivable coordinator
Customer	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Customer group	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Period Codes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Aging Periods	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Open Customer Transactions	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes

Measures

Measures	CFO	Controller	Accounting manager	Accountant	Bookkeeper	Credit & collections manager	Accounts payable coordinator	Accounts receivable coordinator
Master Amount - Receivables	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Transaction Amount - Receivables	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Master Outstanding Amount	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Transaction Outstanding Amount	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes

Accounts payable cube

Use the Accounts payable cube to report on purchase transactions.

The Accounts payable cube corresponds to the **VendCube** perspective in Microsoft Dynamics AX.

Cross-company analysis for financial data

To use analysis cubes to analyze data for multiple companies, the fiscal periods must be defined the same way in all companies.

Currency conversion when using Excel for analysis

The currency conversion process within the Accounts payable and Accounts receivable cubes uses the due date, rather than the transaction date. As a result, when viewing data through Microsoft Office Excel, there may be a variance in the currency amount in Office Excel when compared to the currency amount within Microsoft Dynamics AX. The amount of the variance depends on the number of transactions involved and the variances of the exchange rates between the transaction dates and the due dates.

Currency amounts are correct when viewed through key performance indicators (KPIs) or built-in SQL Server Reporting Services (SSRS) reports or when transactions involve only one currency.

Configuration keys and tables

The following configuration keys are required for the Accounts payable cube to work properly:

- LedgerBasic
- CurrencySecondaryCurrency: An extended data type key for CompanyInfo.SecondaryCurrencyCode.

Note:

If a configuration key is not activated, the associated tables do not exist in the database. Therefore, references to those tables from the Accounts payable cube will not work.

The Accounts payable cube uses data from the following tables.

Table	Description	Configuration key
CompanyInfo	Company master	CurrencySecondaryCurrency
LedgerPeriodTimeDimension	Fiscal periods	LedgerBasic
StatRepInterval	Aging master	LedgerBasic
StatRepIntervalLine	Aging periods	LedgerBasic
VendGroup	Vendor groups	LedgerBasic

Table	Description	Configuration key
VendTable	Vendor master	LedgerBasic
VendTrans	Vendor transactions	LedgerBasic
VendTransOpen	Open vendor transactions	LedgerBasic

Fact tables and measure groups

The Accounts payable cube includes several measure groups. Each measure group is based on a fact table. Some fact tables are mapped to Microsoft Dynamics AX tables; others are based on named queries.

Measure group	Fact table (table/named query)	Description
Vendor transactions	VendTrans (table)	Contains a record for each vendor transaction, such as an invoice or payment.
Open vendor transactions	VendTransOpen (table)	Contains a record for each vendor transaction, such as an invoice or payment, that has not been settled.
Open customer transactions	CustTransOpen (table)	Contains a record for each customer transaction, such as an invoice or payment, that has not been settled.
Exchange rate	BIExchangeRates (table)	Contains a record for each exchange rate for each company.
Master company exchange rate	BIMasterCompanyExchangeRates (table)	Contains a record for each exchange rate for the company that is selected in the Setup Exchange Rates form.

Named queries

VendTransTotalPurchases, based on VendTrans

The named query for Total Purchases is based on the VendTrans table, with the following additional fields brought into the query.

Additional fields	Description
VendTransTotalPurchases.AccountNum	Ledger account number.
VendTransTotalPurchases.TransDate	The transaction date.
VendTransTotalPurchases.Voucher	Voucher number the transaction is attached to.
VendTransTotalPurchases.Invoice	The invoice the transaction is attached to.
VendTransTotalPurchases.AmountMST	The transaction amount, in the company currency.
VendTransTotalPurchases.CurrencyCode	Currency used for the transaction.
VendTransTotalPurchases.DueDate	Due date associated with the transaction.
VendTransTotalPurchases.LastSettleDate	The last settled date of the transaction.
VendTransTotalPurchases.Closed	Date of total settlement for the transaction.
VendTransTotalPurchases.TransType	Transaction type.
VendTransTotalPurchases.Approved	Approval status of the transaction.
VendTransTotalPurchases.Dimension	Department dimension.
VendTransTotalPurchases.Dimension2	Cost center dimension.
VendTransTotalPurchases.Dimension3	Purpose dimension.
VendTransTotalPurchases.DocumentDate	The date of the document associated with the transaction.
VendTransTotalPurchases.LastExchAdj	Date of last transaction exchange adjustment.
VendTransTotalPurchases.PaymMode	Method of payment.
VendTransTotalPurchases.Tax1099Date	1099 tax reporting date.
VendTransTotalPurchases.ApprovedDate	Date the transaction was approved.
VendTransTotalPurchases.ModifiedDateTime	The date and time the transaction was modified
VendTransTotalPurchases.CreatedDateTime	The date and time the record was created.
VendTransTotalPurchases.DataAreaID	The company associated with the transaction.

Additional fields	Description
VendTransTotalPurchases.RecVersion	The version of the record.
VendTransTotalPurchases.RecID	Unique record ID for each transaction.

Dimensions and attributes

The Accounts payable cube includes the following dimensions and attributes.

* Indicates a shared dimension. For detailed information, see [Shared dimensions](#).

Dimension	Dimension ID	ID	Attribute
Aging Periods*			
Approved date	VendTrans, Time (role-playing dimension)	Days	Days
		FiscalDate	FiscalDate
		FiscalHalfYears	FiscalHalfYears
		FiscalMonths	FiscalMonths
		FiscalQuarters	FiscalQuarters
		FiscalTrimesters	FiscalTrimesters
		FiscalWeeks	FiscalWeeks
		FiscalYears	FiscalYears
		HalfYears	HalfYears
		Months	Months
		Quarters	Quarters
		TenDays	TenDays
		Trimesters	Trimesters
		Weeks	Weeks
		Years	Years
Closed date*	Time (role-playing dimension)		

Dimension	Dimension ID	ID	Attribute
Company*			
Company information*			
Cost center*			
Currency*			
Date*	Time (role-playing dimension)		
Department *			
Document date*	Time (role-playing dimension)		
Last settlement	VendTrans, Time (role-playing dimension)	Days	Days
		FiscalDate	FiscalDate
		FiscalHalfYears	FiscalHalfYears
		FiscalMonths	FiscalMonths
		FiscalQuarters	FiscalQuarters
		FiscalTrimesters	FiscalTrimesters
		FiscalWeeks	FiscalWeeks
		FiscalYears	FiscalYears
		HalfYears	HalfYears
		Months	Months
		Quarters	Quarters
		TenDays	TenDays
		Trimesters	Trimesters
		Weeks	Weeks
		Years	Years

Dimension	Dimension ID	ID	Attribute
Ledger period approved date	Ledger Period Time Dimension (role-playing dimension)	COMPANYID	Company accounts ID
		LEDGERPRIODDATE	Date
		LEDGERPERIODTIMEDIMENSION	Ledger period time dimension
		LEDGERPERIOD	Period
		LEDGERPERIODYEAR	Year
Ledger period closed date*	Ledger Period Time Dimension (role-playing dimension)		
Ledger period document date*	Ledger Period Time Dimension (role-playing dimension)		
Ledger period time dimension*			
Ledger period trans date*	Ledger Period Time Dimension (role-playing dimension)		
Master company reporting currency*			
Methods of payment - Vendors	VENDPAYMMODETABLE	VENDPAYMMODETABLE	Methods of payment - Vendors
		NAME	Name
Purpose*			
Time*			

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
Vendor Master	VENDTABLE	BLOCKED	Blocked Status
		DESCRIPTION	Chain
		CITY	City
		SMMBUSRELCHAINGROUP	Company chains
		ADDRESSCOUNTRYREGION NAME	Country region
		CURRENCY CODE	Country region - Currency
		COUNTY	County
		CREDITMAX	Credit limit
		CURRENCY	Currency
		DESTINATIONCODE DESCRIPTION	Destination code
		FEMALEOWNED	Female Owned
		DIRPARTYTABLE	Global address book
		DIRPARTYTABLE NAME	Global address book - Name
		INVOICEACCOUNT	Invoice account
		LINEOFBUSINESS DESCRIPTION	Line of business
		MINORITYOWNED	Minority Owner
		ONETIMEVENDOR	One-time supplier
		SMMBUSRELSEGMENTGROUP DESCRIPTION	Segment
		SMMBUSRELSEGMENTGROUP	Segment table
		INVENTSITE NAME	Site
		STATE	State

Dimension	Dimension ID	ID	Attribute
		PAYMTERMID	Terms of payment
		NAME	Vendor
		VENDGROUP	Vendor group
		VENDGROUP NAME	Vendor groups - Name
		VENDTABLE	Vendors
		ADDRESSCOUNTRYREGION	Vendors Country region
		DESTINATIONCODE	Vendors Destination code
		LINEOFBUSINESS	Vendors Line of business
		INVENTSITE	Vendors Site
		ZIPCODE	ZIP postal Code
Vendor transactions	VENDTRANS_DIM	APPROVED	Approved
		TRANSTYPE	Transaction type
		VENDTRANS_DIM	Vendor transactions

Dimensions by measure group

The measure groups in the Accounts payable cube can be sliced by the following dimensions and fields.

Dimension	Master company exchange rate	Exchange rate	Open customer transactions	Vendor transactions	Open vendor transactions	Vend Trans Total Purchases
Department				Department		Department

Microsoft Dynamics AX

Dimension	Master company exchange rate	Exchange rate	Open customer transactions	Vendor transactions	Open vendor transactions	Vend Trans Total Purchases
Cost center				Cost center		Cost center
Purpose				Purpose		Purpose
Currency	Currency	Currency		Currency		Currency
Company	Company accounts	Company accounts	Company accounts	Company accounts	Company accounts	Company accounts
Ledger period time dimension	Ledger period time dimension	Ledger period time dimension	Ledger period time dimension	Ledger period time dimension	Ledger period time dimension	Ledger period time dimension
Company information						
Lines for setup of statistics (aging periods)						
Vendors (Vendor Master)				Vendors	Vendors	Vendors
Methods of payment - Vendors				Methods of payment - Vendors		Methods of payment - Vendors
Vendor transactions				Vendor transactions		Vendor transactions
Time	Days	Days	Days	Days	Days	Days
Time (Date)			Days	Days	Days	Days
Time (Last settlement)				Days		Days
Time (Closed date)				Days		Days

Microsoft Dynamics AX

Dimension	Master company exchange rate	Exchange rate	Open customer transactions	Vendor transactions	Open vendor transactions	Vend Trans Total Purchases
Time (Document date)				Days		Days
Time (Approved date)				Days		Days
Ledger period time dimension (Ledger period trans date)			Ledger period time dimension	Ledger period time dimension	Ledger period time dimension	Ledger period time dimension
Ledger period time dimension (Ledger period document date)				Ledger period time dimension		Ledger period time dimension
Ledger period time dimension (Ledger period closed date)				Ledger period time dimension		Ledger period time dimension
Ledger period time dimension (Ledger period approved date)				Ledger period time dimension		Ledger period time dimension
Master Company Reporting						

Dimension	Master company exchange rate	Exchange rate	Open customer transactions	Vendor transactions	Open vendor transactions	Vend Trans Total Purchases
Currency						

Hierarchies for organizing attributes

Some attributes can be organized in hierarchies. You can use the following hierarchies to organize dimension attributes.

Dimension	Hierarchies	Attributes in hierarchical order
Aging Periods	By Period	Interval
		Header
		Lines for setup of statistics
	Hierarchy	Company
		Statistics
		Interval
		Lines for setup of statistic
Approved date	YearsQuartersMonthsWeeksDays	Year
		Quarter
		Month
		Week
		Days
Closed date	YearsQuartersMonthsWeeksDays	Year
		Quarter
		Month
		Week
		Days
Company information	Country/region – Company information	Country/region

Dimension	Hierarchies	Attributes in hierarchical order
		State
		City
		ZIP Code
		Company information
Date	YearsQuartersMonthsWeeksDays	Year
		Quarter
		Month
		Week
		Days
Document date	YearsQuartersMonthsWeeksDays	Year
		Quarter
		Month
		Week
		Days
Last settlement	YearsQuartersMonthsWeeksDays	Year
		Quarter
		Month
		Week
		Days
Ledger period approved date	YearsQuartersMonthsWeeksDays	Year
		Period
		Ledger period time dimension
Ledger period closed date	YearsQuartersMonthsWeeksDays	Year
		Period

Dimension	Hierarchies	Attributes in hierarchical order
		Ledger period time dimension
Ledger period document date	YearsQuartersMonthsWeeksDays	Year
		Period
		Ledger period time dimension
Ledger period time dimension	Ledger Period Hierarchy	Year
		Period
		Ledger period time dimension
Ledger period trans date	Ledger Period Hierarchy	Year
		Period
		Ledger period time dimension
Time	YearsQuartersMonthsWeeksDays	Year
		Quarter
		Month
		Week
		Days
Vendor Master	Company chains – Vendors	Company chains
		Vendors
	Country/region - Vendors	Country/region
		State
		City
		ZIP code
		Vendors

Dimension	Hierarchies	Attributes in hierarchical order
	Destination code – Vendors	Destination code
		Vendors
	Global address book – Vendors	Global address book
		Vendors
	Line of business – Vendors	Line of business
		Vendors
	Segment table – Vendors	Segment table
		Vendors
	Site – Vendors	Site
		Vendors
	Vendor groups - Vendors	Vendor group
		Vendors

Measures

The Accounts payable cube includes the following measure groups and measures.

Measure group: Master company exchange rate

This measure group is based on the BIMasterCompanyExchangeRates table.

Measure	Measure field name	Aggregation	Description
Count	Not applicable	Count	Number of exchange rate records.
Master end of day rate	BIMasterCompanyExchangeRates.EndOfDayRate	Max	Maximum exchange rate in the company that is specified as the master exchange rate company, as

Measure	Measure field name	Aggregation	Description
			of the end of the specified day.

Measure group: Exchange rate

This measure group is based on the BIEExchangeRates table.

Measure	Measure field name	Aggregation	Description
Exchange rate Count	Not applicable	Count	Number of exchange rate records.
End of day rate	BIEExchangeRates.EndOfDayRate	Max	Maximum exchange rate as of the end of the specified day.

Measure group: Open customer transactions

This measure group is based on the CustTransOpen table.

Measure	Measure field name	Aggregation	Description
Open customer transactions Count	Not applicable	Count	Number of open customer transactions.
Transaction Outstanding Amount - Customers	CustTransOpen.AmountCur	Sum	Total open customer transaction amount, in transaction currency.
Master Outstanding Amount - Customers	CustTransOpen.AmountMst	Sum	Total open customer transaction amount, in company currency.

Measure group: Vendor transactions

This measure group is based on the VendTrans table.

Measure	Measure field name	Aggregation	Description
Vendor transactions Count	Not applicable	Count	Number of vendor transactions.
Transaction amount - Payables	VendTrans.AmountCur	Sum	Total vendor transaction amount, in transaction currency.
Master amount - Payables	VendTrans.AmountMst	Sum	Total vendor transaction amount, in company currency.

Measure group: Open vendor transactions

This measure group is based on the VendTransOpen table.

Measure	Measure field name	Aggregation	Description
Open vendor transactions Count	Not applicable	Count	Number of open vendor transactions.
Transaction Outstanding Amount	VendTransOpen.AmountCur	Sum	Total open vendor transaction amount, in transaction currency.
Master Outstanding Amount	VendTransOpen.AmountMst	Sum	Total open vendor transaction amount, in company currency.

Measure group: VendTrans Total Purchases

This measure group is based on the VendTransTotalPurchases named query.

Measure	Measure field name	Aggregation	Description
Vend Trans Total Purchases	VendTransTotalPurchases.AmountMst	Sum	Total purchases amount in company currency.

Calculated measures

The Accounts payable cube contains no calculated measures.

Accounts payable cube security by role

The following tables list the dimensions, measures, calculated measures, and KPIs that are associated with the Accounts payable cube, and the roles that provide security access to them.

Yes indicates that security access is provided by default.

Dimensions

Dimensions	CFO	Controller	Accounting manager	Accountant	Bookkeeper	Credit & collections manager	Accounts payable coordinator	Accounts receivable coordinator
Vendor Transactions	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Company	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Vendor	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Vendor Group	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Period Codes	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Aging Periods	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Open Vendor transactions	Yes	Yes	Yes	Yes	Yes	No	Yes	No

Measures

Microsoft Dynamics AX

Measures	CFO	Controller	Accounting manager	Accountant	Bookkeeper	Credit & collections manager	Accounts payable coordinator	Accounts receivable coordinator
Master Amount - Payables	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Transaction Amount - Payables	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Master Outstanding Amount	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Transaction Outstanding Amount	Yes	Yes	Yes	Yes	Yes	No	Yes	No

Expense management cube

Use the Expense management cube to report on expense reports and policy violations.

The Expense management cube corresponds to the **TrvCube** perspective in Microsoft Dynamics AX.

Shared dimensions and attributes

The Expense cube shares the following dimensions with other cubes.

Dimension	Shared with
Employee	N/A
Company	N/A
Geography	N/A
Department	Financial cube
Cost Center	Financial cube
Purpose	Financial cube
Currency	N/A
Exchange rate	N/A
Time	N/A
Reporting currency	N/A

Configuration keys and tables

The following configuration keys are required for the Expense management cube to work properly:

- Trv
- TrvPerDiem



Note:

If a configuration key is not activated, the associated tables do not exist in the database.

Therefore, references to those tables from the Expense management cube will not work.

The Expense management cube uses data from the following tables.

Table	Description	Configuration key
TrvExpTable	Expense report header information	Trv
TrvExpTrans	Expense report transaction information	Trv
CompanyInfo	Company information	Trv
CategoryTable	Expense category information	Trv
TrvPolicyTable	Stores expense policies defined by company	Trv
TrvPolicyViolationsLog	Tracks expense policy violations	Trv
TrvDestinations	Travel locations	Trv
TrvPayMethod	Payment methods	Trv

Fact tables and measure groups

The Expense management cube includes several measure groups. Each measure group is based on a fact table. Some fact tables are mapped to Microsoft Dynamics AX tables; others are based on named queries.

Measure group	Fact table (table/named query)	Description
Expense header	TrvExpTable (table)	Expense report header information.
Expense lines	TrvExpTrans (table)	Expense report transaction information.
Policy violations log	TrvPolicyViolationsLog (table)	Expense policy violations information.

Named queries

The Expense management cube does not contain named queries.

Dimensions and attributes

The Expense management cube includes the following dimensions and attributes.

Dimension	Dimension ID	ID	Attribute
Expense header	TrvExpTable	TrvAppStatus	Approved status
		TrvPostStatus	Posting status
		TrvPosting	Posting type
Expense lines	TrvExpTrans	TrvAppStatus	Approved status
		TrvCostOwner	Cost owner
		TrvExpType	Expense type
		TrvPostStatus	Posting status
Expense category	TrvCostType	LedgerJournalACType	Account type
		CategoryId	Category table
		CategoryName	Cost category
		CostTxt	Cost type
		Description	Cost type statistic
		TrvExpType	Expense type
		Trv	Statistics groups
		TrvCostTypeStatisticsId	
Expense policies	TrvPolicyTable	Description	Description
Policy violations log	TrvPolicyViolationsLog	TrvWorkflowAction	Action taken
Travel destination	TrvDestinations	Description	Description name
Payment method	TrvPayMethod	AutomaticPayment	Automatic payment
		CostOwner	Expense owner
		PayedByTxt	Payment method description
		TrvPostMethod	Post method
Travel			Destination

Dimension	Dimension ID	ID	Attribute
Destination			Description Name
Travel Purpose			Purpose
Payment Method			Payment Method Payment Method Description

Dimensions by measure groups

Dimension	Expense header	Expense lines	Policy violations log
Department	Department	Department	Department
Cost center	Cost center	Cost center	Cost center
Purpose	Purpose	Purpose	Purpose
Employee	Employee	Employee	Employee
Currency			
Company	Company accounts	Company accounts	Company accounts
Policy table (Expense policies)			Policy table
Expense category		Expense category	Expense category
Travel locations	Travel locations		
Payment method		Payment method	Payment method
Policy violations log			Policy violations log
Expense header	Expense header		
Expense lines		Expense lines	
Time	Days	Days	Days
Time (Report date)	Days		
Employee (Employee - Approved by)			Employee
Employee (Employee - Rejected by)			Employee

Dimension	Expense header	Expense lines	Policy violations log
Time (Date approved)		Days	Days
Time (From date)		Days	
Time (To date)		Days	
Master company reporting currency			

Hierarchies for organizing attributes

The Expense management cube does not contain hierarchies for organizing attributes.

Measures

The Expense management cube includes the following measure groups and measures.

Measure group: Master company exchange rate

This measure group is based on the BIMasterCompanyExchangeRates table.

Measure	Measure field name	Aggregation	Description
Count	Not applicable	Count	The number of exchange rate records.
Master end of day rate	BIMasterCompanyExchangeRates.EndOfDayRate	Max	The maximum exchange rate in the company that is specified as the master exchange rate company, as of the end of the specified day.

Measure group: Exchange rate

This measure group is based on the BIXchangeRates table.

Measure	Measure field name	Aggregation	Description
Exchange rate Count	Not applicable	Count	The number of exchange rate records.
End of day rate	BIExchangeRates.EndOfDayRate	Max	The maximum exchange rate as of the end of the specified day.

Measure group: Policy Violations Log

This measure group is based on the TrvPolicyViolationsLog table.

Measure	Measure field name	Aggregation	Description
Policy Violations Log Count	Not applicable	Count	The number of policy violation log records.
Policy	TrvPolicyViolationsLog.PolicyId	Count	The number of expense policies that have been defined.
Violation log count	TrvPolicyViolationsLog.ReclId	Count	The number of distinct policy violation log records. If three managers approve and three managers reject an expense report with policy violations, the distinct count will be 3.

Measure group: Expense header

This measure group is based on the TrvExpTable table.

Measure	Measure field name	Aggregation	Description
Expense header Count	Not applicable	Count	The number of expense header records.
Expense report number	TrvExpTable.ExpNumber	Count	The number of expense header records.

Measure group: Expense lines

This measure group is based on the TrvExpTrans table.

Measure	Measure field name	Aggregation	Description
Expense lines Count	Not applicable	Count	The number of expense line records.
Billed amount	TrvExpTrans.AmountMst	Sum	The sum of the transaction amounts in the company currency.
Mileage	TrvExpTrans.KMOwnCar	Sum	The sum of the number of miles traveled.

Calculated measures

The Accounts payable cube contains the following calculated measures.

Measure	Formula	Aggregation	Description
Average expense report total billed amount	Expense report total billed amount (SUM) / Posted expense reports (COUNT)		The average amount per expense report for posted expense reports.
Average expense report amount paid by company	Expense report amount paid by company (SUM) / Posted expense reports (COUNT)		The average amount paid by the company per expense report for posted expense

Microsoft Dynamics AX

Measure	Formula	Aggregation	Description
			reports.
Average expense report amount paid by employee	Expense report amount paid by employee (SUM) / Posted expense reports (COUNT)		The average amount paid by an employee per expense report for posted expense reports.
Average policy violations per expense report	Policy violations (DISTINCT COUNT) / Posted expense reports (COUNT)		The average number of policy violations per expense report for posted expense reports.
Average policy violations per expense report (Approved)	Policy violations (Approved) (COUNT) / Posted expense reports (COUNT)		The average number of approved policy violations per expense report for posted expense reports.
Average policy violations per expense report (Returned)	Policy violations (Returned) (COUNT) / Posted expense reports (COUNT)		The average number of returned policy violations per expense report for posted expense reports.
Policy violations (Approved) per expense report	Policy violations (Approved) / Expense reports		The number of approved policy violations per expense report.
Policy violations (Returned) per expense report	Policy violations (Returned) / Expense reports		The number of returned policy violations per expense report.
Average cost	Billed amount / Expense transactions (COUNT)		The average transaction amount.
Posted expense reports	TrvExpTable table, PostStatus field = Transferred (COUNT)		The number of posted expense reports.

Measure	Formula	Aggregation	Description
Policy violations (Approved)	TrvPolicyViolations table, Actions field = Approved (COUNT)		The number of policy violations that have been approved.
Policy violations (Returned)	TrvPolicyViolations table, Action field = Returned (COUNT)		The number of policy violations that have been returned.
Policy violations	TrvPolicyViolations table, Action field = Approved or Action field = Returned (DISTINCT COUNT) + Returned (DISTINCT COUNT)		The number of policy violations that have been approved and returned.
Percent change in expense report totals	Expense report total billed amount (Time dimension B) - Expense report total billed amount (Time dimension A) / Expense report total billed amount (Time dimension A) *100		The percentage change in the expense report total between two specified periods of time.
Total expense amount	BilledAmount.ExpenseType = Expense		The total amount of transactions with an expense type of miscellaneous.
Total per diem amount	BilledAmount.ExpenseType = Per diem		The total amount of transactions with an expense type of per diem.
Total mileage amount	BilledAmount.ExpenseType = Mileage		The total amount of transactions with an expense type of mileage.
Total cash advance amount	BilledAmount.ExpenseType = Cash advance		The total amount of transactions with an expense type of cash advance returns.
Expense report miles traveled	Mileage where ExpenseType = Mileage		Total amount of miles traveled.

Measure	Formula	Aggregation	Description
Expense report amount paid by employee	Expense report amount paid by employee (SUM)	Sum	The sum of expense report amounts paid by an employee.
Expense report amount paid by company	Expense report amount paid by company (SUM)	Sum	The sum of expense report amounts paid by the company.

Drill-through attributes

The Expense management cube does not contain actions with drill-through attributes.

Expense management cube KPI calculations

The following table lists the key performance indicators (KPIs) that are associated with the Expense management cube. You can use the information in the following table to help verify the information in your KPIs.

KPI name	Calculation
Expenses with Policy Violations – Approved	Policy Violations Log Count where Action Taken = 1 (Approved by All Approvers), 5 (Approved by Some Approvers)
Time Over Time Expenses	Sum of Expense Report Total Billed Amount

Expense management cube KPI source tables, configuration keys, and Role Centers

The following table lists the key performance indicators (KPIs) that are associated with the Expense management cube. The tables from which data is drawn, required configuration keys, and related role centers are included.

KPI name	Source tables	License keys	Role Centers
Expenses with Policy Violations – Approved	TrvExpTable, TrvExpTrans, TrvPolicyViolationsLog	Trv (TrvExpTable)	Not applicable
Time over Time Expenses	TrvExpTable	Trv (TrvExpTable, TrvExpTrans, TrvPolicyViolationsLog)	Not applicable

Expense management cube security by role

The following tables list the dimensions, measures, calculated measures, and key performance indicators (KPIs) that are associated with the Expense management cube, and the roles that provide security access to them.

Yes indicates that security access is provided by default.

Dimensions

Dimensions	CFO	Accounting manager	Controller	Accounts payable coordinator	Project manager	Non-project manager
Expense header	Yes	Yes	Yes	Yes	Yes	Yes
Expense line	Yes	Yes	Yes	Yes	Yes	Yes
Employee	Yes	Yes	Yes	Yes	Yes	Yes
Company	Yes	Yes	Yes	Yes	Yes	Yes
Department	Yes	Yes	Yes	Yes	Yes	Yes
Cost center	Yes	Yes	Yes	Yes	Yes	Yes
Purpose	Yes	Yes	Yes	Yes	Yes	Yes
Policy table (Expense policies)	Yes	Yes	Yes	Yes	Yes	Yes
Expense category	Yes	Yes	Yes	Yes	Yes	Yes
Travel locations	Yes	Yes	Yes	Yes	Yes	Yes
Payment method	Yes	Yes	Yes	Yes	Yes	Yes
Policy violations log	Yes	Yes	Yes	Yes	Yes	Yes
Time	Yes	Yes	Yes	Yes	Yes	Yes
Time (Report date)	Yes	Yes	Yes	Yes	Yes	Yes

Microsoft Dynamics AX

Dimensions	CFO	Accounting manager	Controller	Accounts payable coordinator	Project manager	Non-project manager
Employee (Employee - Approved by)	Yes	Yes	Yes	Yes	Yes	Yes
Employee (Employee - Rejected by)	Yes	Yes	Yes	Yes	Yes	Yes
Time (Date approved)	Yes	Yes	Yes	Yes	Yes	Yes
Time (From date)	Yes	Yes	Yes	Yes	Yes	Yes
Time (To date)	Yes	Yes	Yes	Yes	Yes	Yes

Measures

Measures	CFO	Accounting manager	Controller	Accounts payable coordinator	Project manager	Non-project manager
Count	Yes	Yes	Yes	Yes	Yes	Yes
Master end of day rate	Yes	Yes	Yes	Yes	Yes	Yes
Exchange rate count	Yes	Yes	Yes	Yes	Yes	Yes
End of day rate	Yes	Yes	Yes	Yes	Yes	Yes
Policy violations log count	Yes	Yes	Yes	Yes	Yes	Yes
Policy	Yes	Yes	Yes	Yes	Yes	Yes
Violation log count	Yes	Yes	Yes	Yes	Yes	Yes

Measures	CFO	Accounting manager	Controller	Accounts payable coordinator	Project manager	Non-project manager
Expense header count	Yes	Yes	Yes	Yes	Yes	Yes
Expense report number	Yes	Yes	Yes	Yes	Yes	No
Expense lines count	Yes	Yes	Yes	Yes	No	Yes
Billed amount	Yes	Yes	Yes	Yes	Yes	Yes
Mileage	Yes	Yes	Yes	Yes	Yes	Yes

Key performance indicators

Time over Time Expenses

Value:

([Measures].[Expense Report Total Billed Amount])

Goal:

5% * [Measures].[Expense Report Total Billed Amount from last time period]

Status:

Case

When KpiValue("Percent Change in Expense Report Totals by Time Dimension") <= 105%

Then green

When KpiValue("Percent Change in Expense Report Totals by Time Dimension") > 105%

And

KpiValue("Percent Change in Expense Report Totals by Time Dimension") <= 110%

Then Yellow

Else red

End

Trend:

If current value < than previous time period's value at current point in time THEN

Decreasing

Else If current value > than previous time period's value at current point in time THEN

Increasing

Else

Flat

Expenses with Policy Violations – Approved

Value:

([Measures].[Policy Violations (Approved)Per Expense Report])

Goal:

Set value of 0

Status:

Case

When KpiValue("Policy Violations (Approved) Per Expense Report") >= 0

And

KpiValue("Policy Violations (Approved) Per Expense Report") <= .25

Then Green

When KpiValue("Policy Violations (Approved) Per Expense Report") > .25

And

KpiValue("Policy Violations (Approved) Per Expense Report") <= .75

Then Yellow

Else Red

End

Trend:

If current value < than previous year's value at current point in time THEN

Decreasing

Else If current value > than previous year's value at current point in time THEN

Increasing

Else

Flat

Project accounting cube

Use the Project Accounting cube to report on project profitability, committed cost, employee utilization, and cash flow for one or multiple projects in a company.

The Project accounting cube corresponds to the **Proj** perspective in Microsoft Dynamics AX.

Configuration keys and tables

The following configuration keys are required for the Project accounting cube to work properly:

- Project Basic (ProjBasic) configuration key is required for:
ProjStatements
ProjHourUtilization
- Project Advance (ProjAdvanced) configuration key is required for:
ProjCashFlow
ProjCostControl
ProjKPI



Note:

If a configuration key is not activated, the associated tables do not exist in the database.

Therefore, references to those tables from the Project accounting cube will not work.

The Project accounting cube uses data from the following tables.

Table	Description	Configuration key
ProjTable	Projects	ProjBasic
ProjInvoiceTable	Project invoice	ProjBasic
ProjGroup	Project groups	ProjBasic
ProjCategory	Project category	ProjBasic
ProjCategoryGroup	Category group	ProjBasic
ProjParameters	Project parameters	ProjBasic
ProjActivity	Activities	N/A
ProjTransPosting	Ledger updated	ProjBasic
ProjTransBudget	Budget updates	ProjBasic
TaxGroupHeading	Sales tax group description	LedgerBasicSalesTax
ForecastModel	Forecast models	LedgerBasic

Table	Description	Configuration key
SalesQuotationTable	Quotations	QuotationBasic
CostControlTransCommittedCost	Committed cost updates	ProjAdvCostControl
ProjEmplTrans	Hours	ProjBasicHour
ProjCostTrans	Expense	ProjBasicCost
ProjItemTrans	Items	ProjBasic
ProjRevenueTrans	Fee	ProjBasicRevenue
ProjOnAccTrans	On-account	ProjBasicOnAcc
SalesQuotationLine	Quotation lines	QuotationBasic
ProjForecastEmpl	Hour forecast	ProjBasicForecast
ProjUtilTypes	Project type utilization settings	ProjBasicHour

Fact tables and measure groups

The Project accounting cube includes several measure groups. Each measure group is based on a fact table. Some fact tables are mapped to Microsoft Dynamics AX tables; others are based on named queries.

Measure group	Fact table (table/named query)	Description
Ledger updates	ProjTransPosting (table)	ProjTransPosting contains the project ledger updates of actual project transactions and is used for reporting and inquiry purposes. All project posting will create records in the ProjTransPosting table. The table can then be queried to determine the total actual project cost of a project.
Budget updates	ProjTransBudget (table)	ProjTransBudget contains the project budget updates of forecast project transactions and is used for reporting and inquiry purposes. Creating project forecast transactions will create records on

Measure group	Fact table (table/named query)	Description
		this table. The table can be queried to determine the total forecast project cost of a project.
Committed cost updates	CostControlTransCommittedCost (table)	CostControlTransCommittedCost is used to store the committed cost of a project.
Hours	ProjEmplTrans (table)	ProjEmplTrans contains hour transactions recorded against a project for work done by an employee.
On-account transaction	ProjOnAccTrans (table)	ProjOnAccTrans is used to store on-account transactions of projects. Prepayment and deduction on-account transactions can be entered for Time and material projects while milestone on-account transactions can be entered for Fixed-price projects.
Fee transaction	ProjForecastEmpl (table)	ProjForecastEmpl is used to store forecast time transactions for a project.
Expense transaction	ProjForecastCost (table)	ProjForecast is used to store forecast expense transactions for a project.
Hour forecast	ProjForecastSales (table)	ForecastSales contains sales forecast lines. These lines are created for a forecast model.
Expense forecast	ProjForecastCost (table)	This table is used to store forecast expense transactions for a project.
Fee forecast	ProjForecastRevenue (table)	This table is used to store forecast fee transactions for a project.
Sales forecast	ForecastSales (table)	This table contains sales forecast lines. These are created for a forecast model.
Project periods - Employee	ProjPeriodEmpl (table)	ProjPeriodEmpl contains employee periods which are periods generated

Measure group	Fact table (table/named query)	Description
		for a particular employee from period lines.
Projects	ProjTable (table)	ProjTable contains information about each project and its subprojects.
Quotation lines	SalesQuotationTable (table)	SalesQuotationTable contains sales quotation headers.
Service orders	SMAServiceOrderTable (table)	SMAServiceOrderTable contains service orders.

Named queries

The Project accounting cube does not contain named queries.

Dimensions and attributes

The Project accounting cube includes the following dimensions and attributes.

Dimension	Dimension ID	ID	Attribute
Project	ProjTable	ProjID	Project ID
	ProjTable		Projects - Name
	ProjTable		Estimate project
	ProjTable		Invoice project
	ProjTable		Created date
	ProjTable		Start date
	ProjTable		End date
	ProjTable	CustAccount	Customer account
	ProjTable	Responsible	Project manager
	ProjTable	ResponsibleSales	Sales manager
	ProjTable	DivZipCode	Zip code

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
	ProjTable	DivState	State
	ProjTable	DivCountry Region	Country for delivery
	ProjTable	SortingId	Sort field 1
	ProjTable	SortingId	Sort field 2
	ProjTable	SortingId	Sort field 3
	BASEENUM_ProjStatus		Project status
	BASEENUM_ProjType	Type	Project type
Project group	ProjGroup	ProjGroupId	Project group
Project category	PROJCATEGORY		Transaction type
Ledger updates	PROJTRANSPosting	LedgerTransDate	Ledger date
	PROJTRANSPosting	Account	Ledger account
	BASEENUM_LedgerPostingType	Posting type	Posting type
	PROJTRANSPosting	Voucher	Voucher
	PROJTRANSPosting	PaymentDate	Payment date
	PROJTRANSPosting	PaymentStatus	Payment status
	BASEENUM_ProjOrigin	Transaction Origin	Transaction origin
	BASEENUM_ProjOrigin_1	LedgerOrigin	Ledger origin
	PROJTRANSPosting	ProjTransDate	Project transaction date

Dimension	Dimension ID	ID	Attribute
	BASEENUM_ProjTransType		Transaction type
	PROJTRANSPosting		Voucher ledger date
	PROJTRANSPosting		Ledger updates
Invoice projects	PROJINVOICETABLE.NAME	Name	Invoice customer
	PROJINVOICETABLE.INVOICEACCOUNT	Invoice account	Customer account
	PROJINVOICETABLE.PROJINVOICEPROJID	ProjInvoice ProjID	Project invoice table
	PROJINVOICETABLE.ADDRESSCOUNTRYREGION_COUNTRYREGIONID		Project invoice country
	PROJINVOICETABLE	CurrencyId	Sales currency
Budget updates	BASEENUM_LedgerPostingType	PostingType	Posting type
	BASEENUM_ProjTransType		Transaction type
	PROJTRANSBUDGET.LEDGERTRANSDATE		Ledger date
Project type utilization settings	BASEENUM_ProjType		Project type
	BASEENUM_ProjUtilOption		Billable type
	BASEENUM_ProjUtilOption		Efficiency type
	PROJUTILTYPES		Project type utilization settings
Committed cost	BASEENUM_ProjTransType		Transaction type

Dimension	Dimension ID	ID	Attribute
updates			
	BASEENUM_NoYes		Open
	BASEENUM_NoYes_1		Reversed
	COSTCONTROLTRANSCOMMITTEDCOST		Committed date
Line property	PROJLINEPROPERTY		Line property
	BASEENUM_NoYes_1		Efficient hours
	BASEENUM_NoYes_2		Add to norm hours - Billable rate
	PROJLINEPROPERTY		Line property - Name
	BASEENUM_NoYes_3		Add to norm hours - Efficient rate
	BASEENUM_NoYes_4		Chargeable
	BASEENUM_boolean		Accrue revenue
	BASEENUM_boolean_1		Capitalize quote
Project parameters	PROJPARAMETERS		Project parameters
	BASEENUM_NoYes_12		No never ledger hour qty
	BASEENUM_NoYes_14		No never ledger hour cost
	BASEENUM_NoYes15		ItemNeverLedgerP L
	BASEENUM_NoYes_18		StatementConsumpHourQty
	BASEENUM_NoYes_20		ItemNeverLedgerConsum

Dimension	Dimension ID	ID	Attribute
	BASEENUM_NoYes_24		StatementConsumpHourCost

Dimensions by measure groups

Dimension	Ledger updates	Budget updates	Committed cost updates	Project periods - Employee	Projects
Department	Department	Department	Department		Department
Cost center	Cost center	Cost center	Cost center		Cost center
Purpose	Purpose	Purpose	Purpose		Purpose
Employee	Employee	Employee	Employee	Employee	Employee
Company	Company accounts	Company accounts	Company accounts	Company accounts	Company accounts
Forecast models		Model			
Warehouses					
Project type utilization settings					
Sales tax group description					Sales tax group description
Project category	Project category	Project category	Project category	Project category	Project category
Line property					Line property
Project contract					
Project parameters	Project parameters	Project parameters	Project parameters	Project parameters	Project parameters
Project periods				Project	

Microsoft Dynamics AX

Dimension	Ledger updates	Budget updates	Committed cost updates	Project periods - Employee	Projects
				periods	
Project period lines				Project ID - Period from	
Projects	Projects	Projects	Projects		Projects
Customers					Customers
Item transaction					
Budget updates		Budget updates			
Quotations					
Committed cost updates			Committed cost updates		
Service orders					
Ledger updates	Ledger updates				
Time	Days	Days	Days	Days	Days
Time (Payment date)		Days			
Time (Project date)		Days			
Time (Ledger date)	Days				
Employee (Project manager)					Employee (Project manager)
Employee (Project controller)					Employee (Project controller)
Employee - Item					Employee - Item
Time (Start					Days

Dimension	Ledger updates	Budget updates	Committed cost updates	Project periods - Employee	Projects
date)					
Time (End date)					Days

Hierarchies for organizing attributes

Some attributes can be organized in hierarchies. You can use the following hierarchies to organize dimension attributes.

Dimension	Hierarchies	Attributes in hierarchical order
Project	Country and Region	Town
		County
		State
		Country
	Project group	
Project contract	Country and Region	
Customer invoice account	Country and Region	
Project date	Years, Quarters, Months, Weeks, Days	Year
		Quarter
		Month
		Week
		Day
Payment date	Years, Quarters, Months, Weeks, Days	Year
		Quarter
		Month
		Week

Dimension	Hierarchies	Attributes in hierarchical order
		Day
Time	Years, Quarters, Months, Weeks, Days	Year
		Quarter
		Month
		Week
		Day

Measures

Default ledger posting

This measure group is based on default ledger posting types.

Reference ID	Ledger posting type	Description	Typical account type
121	ProjCost	Project - Cost	Profit and loss
			Consumption
122	ProjPayrollAllocation	Project - Payroll allocation	Payroll allocation
123	ProjWIPCostvalue	Project - WIP cost	Balance sheet
			Consumption
124	ProjOffsetAccountItem	Project - Cost - Item	Profit and loss
			Consumption
125	ProjStatusAccountItem	Project - WIP cost - Item	Balance sheet
			Consumption
126	ProjTurnover	Project - Invoiced revenue	Profit and loss
127	ProjOnAccount	Project - Invoiced on-account	Profit and loss

Microsoft Dynamics AX

Reference ID	Ledger posting type	Description	Typical account type
128	ProjSalesValue	Project - Accrued revenue - Sales	Profit and loss
129	ProjSalesValueOffset	Project - WIP - Sales	Balance sheet
130	ProjAccruedTurnoverProd	Project - Accrued revenue - Production	Profit and loss
131	ProjWIPProduction	Project - WIP - Production	Balance sheet
132	ProjAccruedTurnoverProfit	Project - Accrued revenue - Profit	Balance sheet
133	ProjWIPProfit	Project - WIP - Profit	Balance sheet
134	ProjNeverLedger	Never ledger	Profit and loss
			Consumption
135	ProjAccruedCost	Project - Accrued loss	Profit and loss
136	ProjWIPCost	Project - WIP - Accrued loss	Balance sheet
137	ProjAccruedRevenueOnAccount	Project - Accrued revenue - On account	Profit and loss
138	ProjWIPInvoiceOnAccount	Project - WIP invoiced - On account	Balance sheet
139	ProjNoLedger	No ledger	Profit and loss
			Consumption
207	ProjAccruedRevenueSubscription	Accrued revenue - Subscription	Profit and loss - Not used
208	ProjWIPSubscription	WIP - Subscription	Balance sheet

KPI measures using default ledger types

Measure or KPI	Type	Ledger posting type reference ID
Actual invoiced revenue	Calculated measure	126, 127
Budget invoiced revenue	Calculated measure	126, 127
Actual accrued revenue	Calculated measure	128, 130, 132, 137
Budget accrued revenue	Calculated measure	128, 130, 132, 137
Actual revenue	Calculated measure	126, 127, 128, 130, 132, 137
Budget revenue	Calculated measure	126, 127, 128, 130, 132, 137
Actual cost	Calculated measure	121, 124, 134, 139, 135
Budget cost	Calculated measure	121, 124, 134, 139, 135
Actual cost - Hour	Calculated measure	121, 134, 139
Budget cost - Hour	Calculated measure	121, 134, 139
Actual cost - Expense	Calculated measure	121
Budget cost - Expense	Calculated measure	121
Actual cost - Item	Calculated measure	121, 124
Budget cost - Item	Calculated measure	121, 124
Actual accrued loss	Calculated measure	135
Actual WIP cost	Calculated measure	123, 125, 136
Budget WIP cost	Calculated measure	123, 125, 136
Actual WIP sales	Calculated measure	129, 131, 133, 208
Budget WIP sales	Calculated measure	129, 131, 133, 208
Actual WIP invoiced on-account	Calculated measure	138
Budget WIP invoiced on-account	Calculated measure	138
Actual hours	Calculated measure	121, 123, 134, 139
Budget hours	Calculated measure	121, 123, 134, 139
Actual consumption	Calculated measure	121, 123, 124, 125, 134, 139
Budget Consumption	Calculated measure	121, 123, 124, 125, 134, 139

Measure or KPI	Type	Ledger posting type reference ID
Actual consumption cost - Hours	Calculated measure	121, 134, 139
Budget consumption cost - Hours	Calculated measure	121, 134, 139
Actual consumption cost - Expense	Calculated measure	121, 123
Budget consumption cost - Expense	Calculated measure	121, 123
Actual consumption cost - Item	Calculated measure	121, 124, 125
Budget consumption cost - Item	Calculated measure	121, 124, 125
Actual payroll allocation	Calculated measure	122
Budget payroll allocation	Calculated measure	122
Actual invoiced on-account	Calculated measure	122, 127, 137, 138
Budget invoiced on-account	Calculated measure	122, 127, 137, 138
Actual cost - Transaction type	Calculated measure	134
Total budget cost	Calculated measure	121, 123, 124, 125, 134
Remaining budget cost	Calculated measure	121, 123, 124, 125, 134, 139
Original budget cost	Calculated measure	121, 123, 124, 125, 134, 139
Actual cash inflow	Calculated measure	126, 127, 138
Budget cash inflow	Calculated measure	126, 127, 138
Actual cash outflow	Calculated measure	121, 123, 134, 139
Budget cash outflow	Calculated measure	121, 123, 134, 139
Invoiced revenue deviation	Calculated measure	126, 127
Accrued revenue deviation	Calculated measure	128, 130, 132, 137
Revenue deviation	Calculated measure	126, 127, 128, 130, 132, 137
Cost deviation	Calculated measure	121, 124, 134, 139, 135
Cost - Hour deviation	Calculated measure	121, 134, 139
Cost - Expense deviation	Calculated measure	121

Measure or KPI	Type	Ledger posting type reference ID
Cost - Item deviation	Calculated measure	121, 124
Actual gross margin	Calculated measure	121, 124, 126, 127, 128, 130, 132, 134, 139, 135, 137
Budget gross margin	Calculated measure	121, 124, 126, 127, 128, 130, 132, 139, 135, 137
Gross margin deviation	Calculated measure	121, 124, 126, 127, 128, 130, 132, 134, 139, 135, 137
WIP cost deviation	Calculated measure	123, 125, 136
WIP sales deviation	Calculated measure	129, 131, 133, 208
Actual gross WIP cost	Calculated measure	123, 125, 129, 131, 133, 136, 208
Budget gross WIP cost	Calculated measure	123, 135, 129, 131, 133, 136, 208
Gross WIP cost deviation	Calculated measure	123, 125, 129, 131, 133, 136, 208
WIP invoiced on-account deviation	Calculated measure	138
Actual net WIP	Calculated measure	123, 125, 129, 131, 133, 136, 138, 208
Budget net WIP	Calculated measure	123, 125, 129, 131, 133, 136, 138, 208
Net WIP deviation	Calculated measure	123, 125, 129, 131, 133, 136, 138, 208
Hours deviation	Calculated measure	121, 123, 134, 139
Consumption deviation	Calculated measure	121, 123, 124, 125, 134, 139
Consumption cost-hours deviation	Calculated measure	121, 134, 139
Consumption cost-expense deviation	Calculated measure	121, 123
Consumption cost-item deviation	Calculated measure	121, 124, 125

Measure or KPI	Type	Ledger posting type reference ID
Payroll allocation deviation	Calculated measure	122, 127, 137
Total cost (Total budget)	Calculated measure	121, 123, 124, 125, 134, 139
Actual cost committed	Calculated measure	121, 123, 124, 125, 134, 139
Deviation (Total budget)	Calculated measure	121, 123, 124, 125, 134, 139
Remaining budget Cost 1	Calculated measure	121, 123, 124, 125, 134, 135, 139
Remaining budget deviation	Calculated measure	121, 123, 124, 125, 134, 139
Cash inflow deviation	Calculated measure	126, 127, 138
Cash outflow deviation	Calculated measure	121, 123, 134, 139
Actual net cash flow	Calculated measure	121, 123, 126, 127, 134, 138, 139
Budget net cash flow	Calculated measure	121, 123, 126, 127, 134, 138, 139
Net cash flow deviation	Calculated measure	121, 123, 126, 127, 134, 138, 139

KPI measures that do not use default ledger posting types

Measure or KPI	Type
Committed hour cost	Calculated measure
Committed expense cost	Calculated measure
Committed item cost	Calculated measure
Committed cost	Calculated measure
Committed hour qty	Calculated measure
Item qty deviation	Calculated measure
Actual utilization (Efficiency rate)	Calculated measure
Actual burden (efficiency rate)	Calculated measure
Actual utilization rate (Efficiency)	Calculated measure
Actual utilization (Billable rate)	Calculated measure

Measure or KPI	Type
Actual burden (Billable rate)	Calculated measure
Actual utilization rate (Billable)	Calculated measure
Budget utilization (Efficiency rate)	Calculated measure
Budget burden (Efficiency rate)	Calculated measure
Budget utilization rate (Efficiency)	Calculated measure
Budget utilization (Billable rate)	Calculated measure
Budget burden (Billable rate)	Calculated measure
Budget utilization rate (Billable)	Calculated measure
Actual overtime hours (Efficiency rate)	Calculated measure
Actual overtime hours (Billable rate)	Calculated measure
Budget overtime hours (Efficiency rate)	Calculated measure
Budget overtime hours (Billable rate)	Calculated measure
Actual utilization rate (Efficiency - Employee)	Calculated measure
Actual utilization rate (Billable - Employee)	Calculated measure
Budget utilization rate (Efficiency - Employee)	Calculated measure
Budget utilization rate (Billable - Employee)	Calculated measure
Actual utilization rate (Efficiency - Employee2) no period	Calculated measure
Actual utilization rate (Efficiency - Employee2) no period	Calculated measure

Drill-through attributes

The Project accounting cube does not contain actions with drill-through attributes.

Project accounting cube KPI calculations

The key performance indicators (KPIs) in the Project accounting cube depend on ledger posting types. Ledger posting types specify the ledger accounts to which project transactions are posted. The following table lists the key performance indicators (KPIs) that are associated with the Project accounting cube. You can use the information in the following table to help verify the information in your KPIs.

**Note:**

For information about each of the enumeration values used in the calculations, see the “Project accounting cube KPI enumeration values” section of this document.

KPI name	Calculation
Actual vs. Budget Cash Inflow	$\frac{[[[(\text{Budget Updates Amounts where Posting Type} = 126, 127, 138, \text{Payment Status} = 1, 2)] * -1] - [(\text{Amount where Ledger Origin} = 57, 58, \text{Posting Type} = 126, 127, \text{Payment Status} = 1, 2)] * -1]]}{[[(\text{Budget Updates Amounts where Posting Type} = 126, 127, 138, \text{Payment Status} = 1, 2)] * -1]]} * 100$
Actual vs. Budget Cash Outflow	$\frac{[(\text{Budget Updates Amounts where Posting Type} = 121, 123, \text{Payment Status} = 1, 2)] - [(\text{Amount where Ledger Origin} = 57, 58, \text{Posting Type} = 121, 123, \text{Payment Status} = 1, 2)]}{[(\text{Budget Updates Amounts where Posting Type} = 121, 123, \text{Payment Status} = 1, 2)]} * 100$
Actual vs. Budget Hours	$\frac{[(\text{Budget Updates Quantities where Transaction Type} = 2, \text{Posting Type} = 121, 123)] + (\text{Budget Updates Quantity where Transaction Type} = 2, \text{StatementConsumpHourCost} = 1, \text{Posting Type} = 134, 139)] - [(\text{Ledger Updates Quantity where LedgerOrigin} = 57, 58, \text{Transaction Type} = 2, \text{Posting Type} = 123)] + [(\text{Ledger Updates Quantity where Transaction Type} = 2, \text{StatementConsumpHourCost} = 1, \text{Posting Type} = 134, 139)]}{[(\text{Budget Update Quantities where Transaction Type} = 2, \text{Posting Type} = 121, 123)] + (\text{Budget Updates Quantity where Transaction Type} = 2, \text{StatementConsumpHourCost} = 1, \text{Posting Type} = 134, 139)]} * 100$
Actual vs. Budget Gross Margin	$\begin{aligned} & [(((\text{Budget Updates Amount where Transaction Type} = 1, 3, 4, \text{Posting Type} = 126)] * -1) + (\text{Budget Updates Amount where Transaction Type} = 5, \text{Posting Type} = 127)] * -1] + [((\text{Budget Updates Amounts where Transaction Type} = 1, 2, 3, \text{Posting Type} = 128) * -1) + [(\text{Budget Updates Amounts where Transaction Type} = 1, \text{Posting Type} = 130, 137) * -1]] + \\ & [((\text{Budget Updates Amounts where Posting Type} = 121, \text{Transaction Type} = 2) + (\text{Budget Updates Amounts where Posting Type} = 134, \text{Transaction Type} = 2, \text{No Never Ledger Hour Cost} = 1) + (\text{Budget Updates Amounts where Posting Type} = 139, \text{Transaction Type} = 2, \text{No Never Ledger Hours Cost} = 1)] + [(\text{Budget Updates Amounts where Posting Type} = 121, \text{Transaction Type} = 3)] + [(\text{Budget Updates Amounts where Posting Type} = 121) + (\text{Budget Updates Amounts} \end{aligned}$

KPI name	Calculation
	where Posting Type = 124, Transaction Type = 4) + (Budget Updates Amounts where Posting Type = 134, Transaction Type = 4, Item Never Ledger PL = 1)] + [(Budget Updates Amounts where Posting Type = 135, Transaction Type = 3)] - [(((Amount where Transaction Type = 1, 3, 4, Posting Type = 126) *-1) + [(Amount where Transaction Type = 5, Posting Type = 127) *-1] + [(Amount where Transaction Type = 1,3,4) *-1] + [(Amount where Transaction Type 1, Posting Type =130, 137) *-1] - [((Amount where Posting Type = 121, Transaction Type = 2) + (Amount where Posting Type = 134, 139)] + [(Amount where Posting Type = 121, Transaction Type = 2) + (Amount where Posting Type = 134, 139)] + [(Amount where Posting Type = 121, Transaction Type = 3)] + [(Amount where Posting Type = 121, 124, 134)] + [(Amount where Posting Type = 135, Transaction Type = 3)]]) / [(((Budget Updates Amount where Transaction Type = 1, 3, 4, Posting Type = 126)) *-1) + [(Budget Updates Amount where Transaction Type = 5, Posting Type = 127)] *-1] + [((Budget Updates Amounts where Transaction Type = 1, 2, 3, Posting Type = 128) *-1] + [(Budget Updates Amounts where Transaction Type = 1, Posting Type = 130, 137) *-1]] + [((Budget Updates Amounts where Posting Type = 121, Transaction Type = 2) + (Budget Updates Amounts where Posting Type = 134, Transaction Type = 2, No Never Ledger Hour Cost = 1) + (Budget Updates Amounts where Posting Type = 139, Transaction Type = 2, No Never Ledger Hours Cost = 1)] + [(Budget Updates Amounts where Posting Type = 121, Transaction Type = 3)] + [(Budget Updates Amounts where Posting Type = 121) + (Budget Updates Amounts where Posting Type = 124, Transaction Type = 4) + (Budget Updates Amounts where Posting Type = 134, Transaction Type = 4, Item Never Ledger PL = 1)] + [(Budget Updates Amounts where Posting Type = 135, Transaction Type = 3)]]) * 100
Actual vs. Budget Net Cash Flow	[(((Budget Updates Amount where Posting Type = 126, 127, Payment Status = 1, 2)) *-1] - [(Budget Updates Amount where Posting Type = 121, 123, Payment Status = 1, 2)] - [((Amount where Ledger Origin = 57, 58, Posting Type = 126, 127, Payment Status = 1, 2)) *-1] - [(Amount where Ledger Origin = 57, 58. Posting Type = 121, 123, Payment Status = 1, 2)] / [((Budget Updates Amount where Posting Type = 126,

KPI name	Calculation
	127, Payment Status = 1, 2)] *-1] - [(Budget Updates Amount where Posting Type = 121, 123, Payment Status = 1, 2))] * 100
Actual vs. Budget Net WIP	$\frac{[(\text{Budget Updates Amounts where Transaction Type} = 2, \text{ Posting Type} = 123) + \text{Budget Updates Amounts where Transaction Type} = 4) + (\text{Budget Updates Amounts where Transaction Type} = 3)] + [(\text{Budget Updates Amounts where Transaction Type} = 1, 3, \text{ Posting Type} = 129) + \text{Budget Updates Amounts where Transaction Type} = 1, \text{ Posting Type} = 131, 208)] - [(\text{Budget Updates Amounts where Transaction Type} = 5, \text{ Posting Type} = 138)]}{[(\text{Amount where Transaction Type} = 2, \text{ Posting Type} = 123) + (\text{Amount where Transaction Type} = 4) + \text{Amount where Transaction Type} = 3)] + [(\text{Amount where Transaction Type} = 1, \text{ Posting Type} = 129) + \text{Amount where Transaction Type} = 1, \text{ Posting Type} = 131)] - [(\text{Amount where Transaction Type} = 5, \text{ Posting Type} = 138) * -1]]} * 100$
Actual vs. Budget Revenue	$\frac{[(\text{Budget Updates Amount where Transaction Type} = 1, 3, \text{ Posting Type} = 126) * -1] + [(\text{Budget Updates Amount where Transaction Type} = 5, \text{ Posting Type} = 127) * -1] + [(\text{Budget Updates Amount where Transaction Type} = 1, 3, \text{ Posting Type} = 128) * -1] + [(\text{Budget Updates Amount where Transaction Type} = 1, \text{ Posting Type} = 130, 137) * -1]] - [(\text{Amount where Transaction Type} = 1, 3, \text{ Posting Type} = 126) * -1] + [(\text{Amount where Transaction Type} = 5, \text{ Posting Type} = 127) * -1] + [(\text{Amount where Transaction Type} = 1, 3, \text{ Posting Type} = 128) * -1] + [(\text{Amount where Transaction Type} = 1, \text{ Posting Type} = 130, 137) * -1]}{[(\text{Budget Updates Amount where Transaction Type} = 1, 3, \text{ Posting Type} = 126) * -1] + [(\text{Budget Updates Amount where Transaction Type} = 5, \text{ Posting Type} = 127) * -1] + [(\text{Budget Updates Amount where Transaction Type} = 1, 3, \text{ Posting Type} = 128) * -1] + [(\text{Budget Updates Amount where Transaction Type} = 1, \text{ Posting Type} = 130, 137) * -1]]} * 100$

Project accounting cube KPI source tables, configuration keys, and Role Centers

The following table lists the key performance indicators (KPIs) that are associated with the Project accounting cube. The tables from which data is drawn, required configuration keys, and related role centers are included.

KPI name	Source tables	Configuration keys (Tables)	Role Centers
Actual vs. Budget Cash Inflow	ProjTransPosting, ProjTransBudget	ProjBasic (ProjTransPosting, ProjTransBudget)	Project manager
Actual vs. Budget Cash Outflow	ProjTransPosting, ProjTransBudget	ProjBasic (ProjTransPosting, ProjTransBudget)	Project manager
Actual vs. Budget Hours	ProjTransPosting, ProjTransBudget	ProjBasic (ProjTransPosting, ProjTransBudget)	Project manager
Actual vs. Budget Gross Margin	ProjTransPosting, ProjTransBudget	ProjBasic (ProjTransPosting, ProjTransBudget)	Project manager
Actual vs. Budget Net Cash Flow	ProjTransPosting, ProjTransBudget	ProjBasic (ProjTransPosting, ProjTransBudget)	Project manager
Actual vs. Budget Net WIP	ProjTransPosting, ProjTransBudget	ProjBasic (ProjTransPosting, ProjTransBudget)	Project manager
Actual vs. Budget Revenue	ProjTransPosting	ProjBasic (ProjTransPosting)	Project manager

Project accounting cube KPI enumeration values

The following table lists the enumeration values that are used by the KPIs in the Project accounting cube.

KPI name	Field	Enumeration values used
Actual vs. Budget Cash Inflow	Posting Type	126=Project - Invoiced revenue 127=Project - Invoiced on-account

KPI name	Field	Enumeration values used
		138=Project - WIP invoiced - On account
	Payment Status	1=Expected payment 2=Paid
Actual vs. Budget Cash Outflow	Posting Type	121=Project - Cost 123=Project - WIP cost
	Payment Status	1=Expected payment 2=Paid
	Ledger Origin	57=Reverse estimate 58=Eliminate estimate
Actual vs. Budget Hours	Ledger Origin	57=Reverse estimate 58=Eliminate estimate
	Transaction Type	2=Hour
	Posting Type	121=Project - Cost 123=Project - WIP cost 134=Never ledger 139=No ledger
	StatementConsumpHourCost	1=No/Never ledger – Hour cost
Actual vs. Budget Gross Margin	Transaction Type	1=Revenue 3=Cost 4=Item 5=On account
	Posting Type	121=Project - Cost 127=Project - Invoiced on-account 130=Project - Accrued revenue - Production 134=Never ledger, 135= Project - Accrued loss 137=Project - Accrued revenue - On account
	ItemNeverLedgerPL	1=Never ledger – Item cost
Actual vs. Budget Net	Posting Type	121=Project - Cost

KPI name	Field	Enumeration values used
Cash Flow		123=Project - WIP cost 126=Project - Invoiced revenue 127=Project - Invoiced on-account
	Payment status	1=Expected payment 2=Paid
	Ledger Origin	57=Reverse estimate 58=Eliminate estimate
Actual vs. Budget Net WIP	Transaction Type	1=Revenue 2=Hour 3=Cost 4=Item
	Posting Type	123=Project - WIP cost 129=Project - WIP - Sales value 131=Project - WIP - Production 138=Project - WIP invoiced - On account
Actual vs. Budget Revenue	Transaction Type	1=Revenue 2=Hour 3=Cost 4=Item 5=On account
	Posting Type	126=Project - Invoiced revenue 127=Project - Invoiced on-account 130=Project - Accrued revenue - Production 137=Project - Accrued revenue - On account

Project accounting cube security by role

The following tables list the dimensions, measures, calculated measures, and key performance indicators (KPIs) that are associated with the Project accounting cube, and the roles that provide security access to them.

Yes indicates that security access is provided by default.

Dimensions

Dimensions	Project manager	Project team member
Project	Yes	No
Project group	Yes	No
Project category	Yes	No
Ledger updates	Yes	No
Invoice projects	Yes	No
Budget updates	Yes	No
Project type utilization settings	Yes	No
Committed cost updates	Yes	No
Line property	Yes	No
Project parameters	Yes	No

Measures

Measures	Project manager	Project team member
Amount	Yes	No
Budget updates count	Yes	No
Budget updates quantity	Yes	No
Amount currency	Yes	No
Committed cost updates amount	Yes	No
Committed cost updates count	Yes	No
Committed cost updates quantity	Yes	No
Customers count	Yes	No
Expense transaction cost price	Yes	No
Expense transaction count	Yes	No
Expense transaction quantity	Yes	No

Measures	Project manager	Project team member
Fee forecast count	Yes	No
Fee forecast quantity	Yes	No
Fee transactions count	Yes	No
Fee transactions quantity	Yes	No
Hour forecast cost price	Yes	No
Hour forecast count	Yes	No
Hour forecast quantity	Yes	No
Hours cost price	Yes	No
Hours count	Yes	No
Hours quantity	Yes	No
Item count	Yes	No
Item transaction count	Yes	No
Quantity	Yes	No
Ledger updates count	Yes	No
Ledger updated quantity	Yes	No
On-account transaction amount	Yes	No
On-account transaction count	Yes	No
Order lines count	Yes	No
Line amount	Yes	No
Quantity	Yes	No
Norm billable	Yes	No
Norm efficiency	Yes	No
Project periods - Employee count	Yes	No
Project	Yes	No
Line amount	Yes	No
Quotation lines count	Yes	No
Quotation lines quantity	Yes	No

Microsoft Dynamics AX

Measures	Project manager	Project team member
Cost price	Yes	No
Sales forecast count	Yes	No
Sales forecast quantity	Yes	No
Quotation	Yes	No
Sales quotation count	Yes	No
Service order	Yes	No

Sales cube

Use the Sales cube to report on sales transactions, specifically in relation to posting sales order invoices and sales order packing slips.

The Sales cube corresponds to the **SalesCube** perspective in Microsoft Dynamics AX.

Units of measure and reporting with the Sales cube

When working with SQL Server Reporting Services reports that display a quantity of an item, the appropriate unit of measure must be incorporated into the report to ensure that the quantity is correct, rather than simply presenting a SUM value.

For example, the InventTrans.QTY field is expressed in the inventory unit of measure. The Inventory unit of measure is stored in the InventTableModule table in Microsoft Dynamics AX for each item number. Each Item number has three records with different values that represent the unit of measure (ModuleType): Sales, Inventory, and Purchase. For this purpose, use the UnitID where the ModuleType equals Inventory.

For the Quantity measure that uses the sales order unit of measure, slicing on the Unit dimension separates the quantities by unit of measure.

Configuration keys and tables

The following configuration keys are required for the Sales cube to work properly:

- LedgerBasic
- LogisticsBasic
- LogisticsAdvanced

 Note:

If a configuration key is not activated, the associated tables do not exist in the database.

Therefore, references to those tables from the Sales cube will not work.

The Sales cube uses data from the following tables.

Table	Description	Configuration key
CustInvoiceJour	Customer invoice	LedgerBasic
CustTable	Customer master	LedgerBasic
CustInvoiceTrans	Customer invoice transaction	LogisticsBasic
CustPackingSlipTrans	Customer packing slip transaction	LogisticsBasic
CustPackingSlipJour	Customer packing slip	LogisticsBasic

Table	Description	Configuration key
	header	
InventTable	Inventory master	LogisticsBasic
InventTrans	Inventory transactions	LogisticsBasic
InventDim	Inventory dimensions	LedgerBasic

Fact tables and measure groups

The Sales cube includes several measure groups. Each measure group is based on a fact table. Some fact tables are mapped to Microsoft Dynamics AX tables; others are based on named queries.

Measure group	Fact table (table/named query)	Description
Customer Invoice	CustInvoiceJour (table)	Contains a record for each sales order invoice that has been posted or for each summary of orders that has been invoiced. Each record represents an invoice header and contains summary information about the invoice.
Customer Invoice Transaction	CustInvoiceTrans (named query)	Contains a record for each sales order line that has been invoiced. If an order line is partially invoiced, and then later the remaining quantity is invoiced, this fact table contains two records for the order line.
Customer Packing Slip	CustPackingSlipJour (table)	Contains a record for each packing slip that has been posted for a sales order or for each summary of orders for which a packing slip is

Measure group	Fact table (table/named query)	Description
		posted. Each record represents a packing slip header and contains summary information about the packing slip.
Customer Packing Slip Transaction	CustPackingSlipTrans (named query)	Contains a record for each sales order line that has had a packing slip posted for it. If an order line is partially packing slip updated, and then later the remaining quantity is packing slip updated, this fact table contains two records for the order line.
Customers	CustTable (table)	Contains a record for each customer.
Items	InventTable (table)	Contains a record for each item.
Exchange rate	BIExchangeRates (table)	Contains a record for each exchange rate for each company.
Master company exchange rate	BIMasterCompanyExchangeRates (table)	Contains a record for each exchange rate for the company that is selected in the Setup Exchange Rates form.

Named queries

CustInvoiceTransNQ, based on CustInvoiceTrans

The named query for Customer Invoice Transaction is based on the CustInvoiceTrans table, with additional fields from other tables brought into the query.

Additional fields	Description
CustInvoiceJour.InvoiceAccount	Used to slice by customer invoice account.
CustInvoiceJour.OrderAccount	Used to slice by customer order account
InventDim.InventSiteID	Used to slice by inventory site.
InventDim.InventLocationID	Used to slice by inventory warehouse.
InventDim.InventSizeID	Used to slice by inventory size.
InventDim.InventColorID	Used to slice by inventory color.
InventDim.configID	Used to slice by item configuration.
CustInvoiceTransNQ.COGS	This is a measure created as: $\text{SUM}(\text{InventTrans.CostAmountPosted} + \text{InventTrans.CostAmountAdjusted})$ It is calculated from the InventTrans records. For each CustInvoiceTrans record there can be one or multiple InventTrans records; for each InventTrans record there is an Invoice ID that refers to the CustInvoiceTrans record. The CustInvoiceTransNQ.COGS field should be used to identify which InventTrans records that should be used for the measure. COGS= CostAmountPosted+CostAmountAdjustment for each set of InventTrans records that is related to the CustInvoiceTrans record. The COGS amount is multiplied by -1 because the sum CostAmountPosted+CostAmountAdjusted is negative in Sales.

CustPackingSlipTransNQ, based on CustPackingSlipTrans

The named query for Customer Packing Slip Transaction is based on the CustPackingSlipTrans with additional fields from other tables brought into the query.

Additional fields	Description
CustPackingSlipJour.InvoiceAccount	Used to slice measures by customer invoice account.

Additional fields	Description
CustPackingSlipJour.OrderAccount	Used to slice measures by customer order account.
InventDim.InventSiteID	Used to slice measures by inventory site.
InventDim.InventLocationID	Used to slice measures by inventory warehouse.
InventDim.InventSizeID	Used to slice measures by inventory size.
InventDim.InventColorID	Used to slice measures by inventory color.
InventDim.configID	Used to slice measures by item configuration.
CustpackingSlipTransNQ.DelayedReqDate	For measure and dimension: If CustPackingSlipTrans.DeliveryDate < InventTrans.ShippingDateRequested then set to "not delayed" (0) otherwise set to "delayed" (1).
CustpackingSlipTransNQ.DelayedConfirmedDate	For measure and dimension: If CustPackingSlipTrans.DeliveryDate < InventTrans.ShippingDateConfirmed then set to "not delayed" (0) otherwise set to "delayed" (1).
CustPackingSlipTransNQ.DaysDelayedReq	For measure: CustPackingSlipTrans.DeliveryDate - InventTrans.ShippingDateRequested) Number of days between the delivery date and the requested shipping date. The number of days delayed is a positive value if the packing slip is delayed and a negative value if it is not delayed.
CustPackingSlipTransNQ.DaysDelayedConfirmed	For measure: CustPackingSlipTrans.DeliveryDate - InventTrans.ShippingDateConfirmed) Number of days between the delivery date and the confirmed shipping date. The number of days delayed is a positive value if the packing slip is delayed and a negative value if it is not delayed.

Dimensions and attributes

The Sales cube includes the following dimensions and attributes.

* Indicates a shared dimension. For detailed information, see [Shared dimensions](#).

Dimension	Dimension ID	ID	Attribute
Color*			
Company*			
Configuration*			
CostCenter*			
Currency*			
Customer - Packing Slip Lines - Delayed	CUSTPACKINGSLIPTRANSDelayed	CUSTPACKINGSLIPTRANSDelayed	Customer - Packing slip lines - Delayed
		DELAYED_CONFIRMEDDATE	Delayed Confirmed Date
		DELAYED_REQUESTEDDATE	Delayed Requested Date
Customer invoice	CUSTINVOICEJOUR_DIM	BACKORDER	Backorder
		CUSTINVOICEJOUR_DIM	Customer invoice journal
		ONETIMECUSTOMER	One time customer
		SALESTYPE	Sales type
Customer Invoice Transaction	CUSTINVOICETRANS_DIM	CUSTINVOICETRANS_DIM	Customer invoice lines
		DELIVERYTYPE	Delivery type

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
		PARTDELIVERY	Part delivery
Customer Packing Slip Transaction	CUSTPACKINGSLIPTRANS_DIM	CUSTPACKINGSLIPTRANS_DIM	Customer - Packing slip lines
		DELIVERYTYPE	Delivery type
		PARTDELIVERY	Part delivery
Customers*			
Customers - Invoice Account	CUSTTABLE	DESCRIPTION	Chain
		CITY	City
		COMMISSIONSALESGROUP	Commission sales group
		SMMBUSRELCHAINGROUP	Company chains
		ADDRESSCOUNTRYREGION NAME	Country region
		CURRENCYCODE	Country region - Currency
		COUNTY	County
		CREATEDDATETIME	Created Date Time
		CREDITMAX	Credit limit
		CURRENCYCODE	Currency
		CUSTGROUP	Customer group
		CUSTGROUP NAME	Customer

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
			groups - Name
		NAME	Customer name
		CUSTTABLE	Customer s
		ADDRESSCOUNTRYREGION	Customer s Country region
		DESTINATIONCODE	Customer s Destination code
		LINEOFBUSINESS	Customer s Line of business
		INVENTSITE	Customer s Site
		DESTINATIONCODE DESCRIPTION	Destination code
		DIRPARTYTABLE	Global address book
		DIRPARTYTABLE NAME	Global address book - Name
		INVOICEACCOUNT	Invoice account
		LINEOFBUSINESS DESCRIPTION	Line of business
		PAYMTERMID	Payment Term ID
		COMMISSIONSALESGROUP NAME	Sales group

Dimension	Dimension ID	ID	Attribute
		SMMBUSRELSEGMENTGROUP DESCRIPTION	Segment
		SMMBUSRELSEGMENTGROUP	Segment table
		INVENTSITE NAME	Site
		STATE	State
		ZIPCODE	ZIP postal code
Department *			
Due*			
Employee*			
Item*			
Master Company Reporting Currency*			
Purpose*			
Reporting Currency*			
Size*			
Time*			
Units*			
Warehouse*			

Dimensions by measure group

The measure groups in the Sales cube can be sliced by the following dimensions and fields. For example, if the dimension is Time and you are slicing the measures in the

Microsoft Dynamics AX

CustomerInvoiceTransaction measure group, the Invoice Date field on the invoice transaction determines which time period the records fall into.

Indicates that the dimension table is the fact table; there is no specific reference field.

Dimension	Customer Invoice	Customer Invoice Transaction	Customer Packing Slip Transaction	Customers	Items
Color		ItemID+ InventDim_InventLocationID	ItemID+ InventDim_InventLocationID		
Company	DataAreaId	DataAreaId	DataAreaId	DataAreaId	DataAreaId
CostCenter	Dimension2	Dimension2	Dimension2	Dimension2	Dimension2
Customer - Packing Slip Lines - Delayed			Delayed_RequestedDate Delayed_ConfirmedDate		
Customer Invoice	BackOrder OneTimeCustomer SalesType				
Customer Invoice Lines		PartDelivery DeliveryType			
Customer Packing Slip Lines			PartDelivery DeliveryType		
Customers	OrderAccount	CustomerInvoiceJour_OrderAccount	CustPackingSlipJour_OrderAccount	#	
Customers -	InvoiceAccount	CustomerInvoiceJour_InvoiceAccount	CustPackingSlipJour_InvoiceAccount	#	

Dimension	Customer Invoice	Customer Invoice Transaction	Customer Packing Slip Transaction	Customers	Items
Invoice Account					
Department	Dimension	Dimension	Dimension	Dimension	Dimension
Employee	SalesAdministrator			MainContactId	
Item		ItemId	ItemId		
Item configuration		ItemId+ InventDim_ConfigId	ItemId+ InventDim_ConfigId	ItemId+ InventDim_ConfigId	
Purpose	Dimension3	Dimension3	Dimension3	Dimension3	Dimension3
Size			ItemId+ InventDim_InventSizeId	ItemId+ InventDim_InventSizeId	
Time (due)	DueDate				
Time	InvoiceDate	InvoiceDate	DeliveryDate		
Units		SalesUnit	SalesUnit		
Warehouse	InventLocationId	InventDim_InventLocationId	InventDim_InventLocationId	InventLocation	

Measures

The Sales cube includes the following measure groups and measures.

Measure group: Master company exchange rate

This measure group is based on the BIMasterCompanyExchangeRates table.

Measure	Measure field name	Aggregation	Description
Count	Not applicable	Count	Number of

Measure	Measure field name	Aggregation	Description
			exchange rate records.
Master end of day rate	BIMasterCompanyExchangeRates.EndOfDayRate	Max	Maximum exchange rate in the company that is specified as the master exchange rate company, as of the end of the specified day.

Measure group: Exchange rate

This measure group is based on the BIExchangeRates table.

Measure	Measure field name	Aggregation	Description
Exchange rate Count	Not applicable	Count	Number of exchange rate records.
End of day rate	BIExchangeRates.EndOfDayRate	Max	Maximum exchange rate as of the end of the specified day.

Measure group: Customer Invoice

This measure group is based on the CustInvoiceJour table.

Measure	Measure field name	Aggregation	Description
Customer Invoice - Count	Not applicable	Count	The number of invoices.
Invoiced Amount	CustInvoiceJour.InvoiceAmountMST	Sum	The invoiced amounts in company currency.
Misc Charges	CustInvoiceJour.SumMarkupMST	Sum	The miscellaneous charges, such as transportation fees, that are allocated to the order in company currency.

Measure	Measure field name	Aggregation	Description
Total Discount	CustInvoiceJour.EndDiscMST	Sum	The total discount in company currency that is given on the order. The line discount is not included.

Measure group: Customer Invoice Transaction

This measure group is based on the CustInvoiceTrans table.

Measure	Measure field name	Aggregation	Description
Amount	LineAmount	Sum	The invoiced amount, excluding sales tax, per sales order line – in the transaction currency.
Cogs	CustInvoiceTransNQ.COGS	Sum	The cost of goods sold for the particular invoiced items. The COGS value is based on the corresponding the invoice transaction.
Commission amount	CommissAmountMST	Sum	Commission allocated per invoiced sales line.
Customer Invoice transaction - Count	Not applicable	Count	Number of invoice transactions, also known as invoice lines.
Inventory Quantity - Customer Invoiced lines	InventQTY	Sum	Quantity invoiced per storage unit of measure.
Invoiced Sales per line (excluding total discount)	LineAmountMST	Sum	Invoiced amount per line in the company currency, excluding tax.
Quantity - Customer Invoiced Lines	QTY	Sum	Quantity invoiced per sold unit of measure.
Quantity physical	QTYPhysical	Sum	Quantity that is delivered with the invoice. This quantity is 0 (zero) if a packing slip has

Measure	Measure field name	Aggregation	Description
			been created for the item. If no packing slip has been created, this field contains the quantity sold in selling unit of measure.
Sales Tax Amount	TaxAmountMST	Sum	Invoiced tax amount per line.
Sales tax included in invoiced sales	LineAmountTaxMST	Sum	The value in this field is the same as the TaxAmountMST whenever the tax is included in the price on the invoice. The value in this field is 0 (zero) if the price on the invoice does not include tax.

Measure group: Customer Packing Slip Transaction

This measure group is based on the CustPackingSlipTrans table.

Measure	Measure field name	Aggregation	Description
Customer Packing Slip Transaction	Not applicable	Count	The number of packing slip lines.
Delayed Days confirmed	CustPackingSlipTransNQ.DaysDelayedConfirmed	SUM	The number of days that the customer packing slip line (delivery date set when posting the packing slip) is delayed in relation to the confirmed ship date that was stated on the sales order when packing slip posting took place. If the customer packing slip is not delayed, the measure contains a negative number. If the confirmed ship date is not entered on the sales order when posting, the cube interprets it as if the confirmed

Measure	Measure field name	Aggregation	Description
			ship date is January 1, 1900 and calculates delayed days accordingly.
Delayed Days requested	CustPackingSlipTransNQ.DaysDelayedReq	SUM	This field holds the number of days that the customer packing slip line (delivery date set when posting the packing slip) is delayed in relation to the requested ship date that was stated on the sales order when packing slip updating took place. If the customer packing slip is not delayed, the measure will contain a negative number.
Inventory Quantity - Customer Packing Slip Lines	InventQTY	Sum	Quantity of items per packing slip line in storage unit of measure.
Quantity - Customer packing Slip lines	QTY	Sum	Quantity of items per packing slip line in sold unit of measure.

Measure group: Customers

This measure group is based on the CustTable table.

Measure	Measure field name	Aggregation	Description
Customers – count	Not applicable	Count	The number of customer records.

Measure group: Items

This measure group is based on the InventTable table.

Measure	Measure field name	Aggregation	Description
Item – Count	Not applicable	Count	The number of item records.

Calculated measures

The Sales cube contains the following calculated measures.

Measure	Formula	Aggregation	Description
Average Delayed days confirmed	CustPackingSlipTransNQ.DaysDelayedConfirmed	AVG	The Delayed Days confirmed measure divided by the number of packing slip lines.  Note: To view the average of the delayed days for only delayed packing slips, slice by the Customer - Packing Slip Lines - Delayed dimension and look at the delayed packing slips.
Average Delayed days requested	CustPackingSlipTransNQ.DaysDelayedReq	AVG	The Delayed Days requested measure divided by the number of packing slip lines.  Note: To view the average of the delayed days for only delayed packing slips, slice by the Customer - Packing Slip Lines - Delayed dimension and look at the delayed packing slips.

Sales cube security by role

The following tables list the dimensions, measures, calculated measures, and key performance indicators (KPIs) that are associated with the Sales cube, and the roles that provide security access to them.

Yes indicates that security access is provided by default.

Dimensions

Dimensions	Purchasing manager	Purchasing agent	Order processor	Operations manager
All dimensions in the Sales cube	Yes	Yes	Yes	Yes

Measures

Measures	Purchasing manager	Purchasing agent	Order processor	Operations manager
All measures in the Sales cube	Yes	Yes	Yes	Yes

Purchase cube

Use the Purchase cube to report on purchase transactions.

The Purchase cube corresponds to the **PurchCube** perspective in Microsoft Dynamics AX.

Units of measure and reporting with the Purchase cube

When working with SQL Server Reporting Services reports that display a quantity of an item, the appropriate unit of measure must be incorporated into the report to ensure that the quantity is correct, rather than simply presenting a SUM value.

For example, the InventTrans.QTY field is expressed in the inventory unit of measure. The Inventory unit of measure is stored in the InventTableModule table in Microsoft Dynamics AX for each item number. Each Item number has three records with different values that represent the unit of measure (ModuleType): Sales, Inventory, and Purchase. For this purpose, use the UnitID where the ModuleType equals Inventory.

For the Quantity measure that uses the purchase order unit of measure, slicing on the Unit dimension separates the quantities by unit of measure.

Configuration keys and tables

The following configuration keys are required for the Purchase cube to work properly:

- LedgerBasic
- LogisticsBasic

 Note:

If a configuration key is not activated, the associated tables do not exist in the database. Therefore, references to those tables from the Purchase cube will not work.

The Purchase cube uses data from the following tables.

Table	Description	Configuration key
VendInvoiceJour	Vendor invoice	LedgerBasic
VendTable	Customer master	LedgerBasic
VendInvoiceTrans	Customer invoice transaction	LogisticsBasic
VendPackingSlipTrans	Customer packing slip transaction	LogisticsBasic
VendPackingSlipJour	Customer packing slip header	LogisticsBasic

Table	Description	Configuration key
InventTable	Inventory master	LogisticsBasic
InventTrans	Inventory transactions	LogisticsBasic
InventDim	Inventory dimensions	LedgerBasic

Fact tables and measure groups

The Purchase cube includes several measure groups. Each measure group is based on a fact table. Some fact tables are mapped to Microsoft Dynamics AX tables; others are based on named queries.

Measure group	Fact table (table/named query)	Description
Vendor Invoice	VendInvoiceJour (table)	Contains a record for each purchase order invoice that has been posted or for every summary of purchase orders that has been posted. A record represents the header for the invoice and contains summary information about the invoice.
Vendor Invoice Lines	VendInvoiceTrans (named query)	Contains a record for each purchase order line that has been invoiced. If an order line is partially invoiced and the remaining quantity is invoiced later, multiple records will appear in this fact table.
Vendor Packing Slip Transaction	VendPackingSlipTrans (named query)	Contains a record for each purchase order line that has been packing slip updated. If an order line is partially packing slip updated and the remaining quantity is packing slip updated later then multiple records will appear in this fact table.
Item	InventTable (table)	Contains a record for each

Measure group	Fact table (table/named query)	Description
		item.
Exchange rate	BIExchangeRates (table)	Contains a record for each exchange rate for each company.
Master company exchange rate	BIMasterCompanyExchangeRates (table)	Contains a record for each exchange rate for the company that is selected in the Setup Exchange Rates form.

Named queries

VendInvoiceTransNQ, based on VendInvoiceTrans

The named query for Vendor Invoice Transaction is based on the VendInvoiceTrans table, with additional fields from other tables brought into the query.

Additional fields	Description
VendInvoiceJour.InvoiceAccount	Used to slice by vendor invoice account.
VendInvoiceJour.OrderAccount	Used to slice by vendor order account.
VendInvoiceJour.InventBuyerGroupId	Used to slice by buyer group.
InventDim.InventSiteID	Used to slice by site.
InventDim.InventLocationID	Used to slice by warehouse.
InventDim.InventSizeId	Used to slice by size.
InventDim.InventColorId	Used to slice by color.
InventDim.configId	Used to slice by item configuration.
VendInvoiceTransNQ.PurchaseQty	VendInvoiceTrans.InventQty where VendInvoiceTrans.InventQty >= 0
VendInvoiceTransNQ.ReturnQty	VendInvoiceTrans.InventQty where VendInvoiceTrans.InventQty < 0
VendInvoiceTransNQ.PurchaseAmountMST	VendInvoiceTrans.LineAmountMST where VendInvoiceTrans.InventQty >= 0
VendInvoiceTransNQ.ReturnAmountMST	VendInvoiceTrans.LineAmountMST where VendInvoiceTrans.InventQty < 0

VendPackingSlipTransNQ, based on VendPackingSlipTrans

The named query for Vendor Packing Slip Transactions is based on the VendPackingSlipTrans table, with additional fields from other tables brought into the query.

Additional fields	Description
VendPackingSlipJour.InvoiceAccount	Used to slice by vendor invoice account.
VendPackingSlipJour.OrderAccount	Used to slice by vendor order account.
InventDim.InventSiteID	Used to slice by inventory site.
InventDim.InventLocationID	Used to slice by inventory location.
InventDim.InventSizeID	Used to slice by inventory size.
InventDim.InventColorID	Used to slice by inventory color.
InventDim.configID	Used to slice by item configuration.
VendPackingSlipTransNQ.DaysDelayed	SUM(InventTrans.DatePhysical - InventTrans.DateExpected) The formula applies to all corresponding records in InventTrans because all records have the same date. The number of days delayed is a positive value if the packing slip is delayed, and a negative value if the expected date is after the posting date.
VendPackingSlipTransNQ.Delayed	An indication of whether the record is delayed (1) or not delayed (0): $\text{InventTrans.DateExpected} < \text{InventTrans.Physical}$

Dimensions and attributes

The Purchase cube includes the following dimensions and attributes.

* Indicates a shared dimension. For detailed information, see [Shared dimensions](#).

Dimension	Dimension ID	ID	Attribute
Buyer group	INVENTBUYERGROUP	DESCRIPTION	Buyer group

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
		INVENTBUYERGROUP	Buyer groups
Color*			
Company*			
Configurati on*			
Cost center*			
Currency*			
Department *			
Due date	Time_DUEDATE	Days	Days
		FiscalDate	FiscalDate
		FiscalHalfYears	FiscalHalfYe ars
		FiscalMonths	FiscalMonths
		FiscalQuarters	FiscalQuarter s
		FiscalTrimesters	FiscalTrimest ers
		FiscalWeeks	FiscalWeeks
		FiscalYears	FiscalYears
		HalfYears	HalfYears
		Months	Months
		Quarters	Quarters
		TenDays	TenDays
		Trimesters	Trimesters
		Weeks	Weeks
		Years	Years

Dimension	Dimension ID	ID	Attribute
Employee*			
Item*			
Master Company Reporting Currency*			
Purpose*			
Reporting Currency*			
Size*			
Time*			
Unit*			
Vendor - Invoice Account	VENDTABLE	BLOCKED	Blocked Status
		DESCRIPTION	Chain
		CITY	City
		SMMBUSRELCHAINGROUP	Company chains
		ADDRESSCOUNTRYREGION NAME	Country region
		CURRENCYCODE	Country region - Currency
		COUNTY	County
		CREDITMAX	Credit limit
		CURRENCY	Currency
		DESTINATIONCODE DESCRIPTION	Destination code
		FEMALEOWNED	Female

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
			Owned
		DIRPARTYTABLE	Global address book
		DIRPARTYTABLE NAME	Global address book - name
		INVOICEACCOUNT	Invoice account
		LINEOFBUSINESS DESCRIPTION	Line of business
		MINORITYOWNED	Minority Owner
		ONETIMEVENDOR	One-time supplier
		SMMBUSRELSEGMENTGROUP DESCRIPTION	Segment
		SMMBUSRELSEGMENTGROUP	Segment table
		INVENTSITE NAME	Site
		STATE	State
		PAYMTERMID	Terms of payment
		NAME	Vendor
		VENDGROUP	Vendor group
		VENDGROUP NAME	Vendor groups - Name
		VENDTABLE	Vendors
		ADDRESSCOUNTRYREGION	Vendors Country region
		DESTINATIONCODE	Vendors Destination

Dimension	Dimension ID	ID	Attribute
			code
		LINEOFBUSINESS	Vendors Line of business
		INVENTSITE	Vendors site
		ZIPCODE	ZIP postal Code
Vendor - Packing slip lines - Delayed	VENDPACKINGSLIPTRANSDelayed	DELAYED	Delayed
		VENDPACKINGSLIPTRANSDelayed	Vendor - Packing slip lines - Delayed
Vendor Invoice	VENDINVOICEJOUR_DIM	PURCHASETYPE	Physical Type
		VENDINVOICEJOUR_DIM	Vendor invoice journal
Vendor Invoice Lines	VENDINVOICETRANS_DIM	PARTDELIVERY	Part delivery
Vendor Packing Slip Transactions		VENDINVOICETRANS_DIM	Vendor invoice lines
Vendor*			
Warehouse *			

Dimensions by measure group

The measure groups in the Purchase cube can be sliced by the following dimensions and fields.

Indicates that the dimension table is the fact table; there is no specific reference field.

Dimension	Item	Vendor Invoice	Vendor Invoice Lines	Vendor Packing Slip Transaction
Department	Dimension	Dimension	Dimension	Dimension
Cost Center	Dimension2_	Dimension2_	Dimension2_	Dimension2_
Purpose	Dimension3_	Dimension3_	Dimension3_	Dimension3_
Employee				Purchaser
Company	Dataareaid	Dataareaid	Dataareaid	Dataareaid
Warehouse			Inventdim_Inventlocationid	Inventdim_Inventlocationid
Item	#		Itemid	Itemid
Color	Itemid Standardinventcolorid		Itemid Inventdim_inventcolorid	Itemid Inventdim_inventcolorid
Size	Itemid Standardinventsizeid		Itemid Inventdim_inventsizeid	Itemid Inventdim_inventsizeid
Configuration	Itemid Standardconfigid		Itemid Inventdim_configid	Itemid Inventdim_configid
Vendors	PrimaryVendorID	Orderaccount	Vendorinvoicejour_orderaccount	Vendorpackingslipjour_orderaccount
Vendor Buyer group	Itembuyergroupid	Itembuyergroupid		
Vendor Invoice		Purchasetype		
Vendor Invoice Lines			Partdelivery	

Dimension	Item	Vendor Invoice	Vendor Invoice Lines	Vendor Packing Slip Transaction
Vendor Packing Slip				Partdelivery
Time		Invoicedate	Invoicedate	Deliverydate
Vendors (Vendor Invoice Account)		InvoiceAccount	Vendinvoicejour_invoic eaccount	Vendpackingslipjour_invoi ceaccount
Time (Due date)		Duedate		
Units (Unit)			Purchunit	Purchunit
Vendor - Packing Slip Lines - Delayed				Delayed

Measures

The Purchase cube includes the following measure groups and measures.

Measure group: Master company exchange rate

This measure group is based on the BIMasterCompanyExchangeRates table.

Measure	Measure field name	Aggregation	Description
Count	Not applicable	Count	Number of exchange rate records.
Master end of day rate	BIMasterCompanyExchangeRates.EndOfDayRate	Max	Maximum exchange rate in the company that is specified as the master exchange rate

Measure	Measure field name	Aggregation	Description
			company, as of the end of the specified day.

Measure group: Exchange rate

This measure group is based on the BIXchangeRates table.

Measure	Measure field name	Aggregation	Description
Exchange rate Count	Not applicable	Count	Number of exchange rate records.
End of day rate	BIXchangeRates.EndOfDayRate	Max	Maximum exchange rate as of the end of the specified day.

Measure group: Vendor Invoice

This measure group is based on the VendInvoiceJour table.

Measure	Measure field name	Aggregation	Description
Vendor Invoice - Count	Not applicable	Count	Number of invoices.
Invoice Amount	VendInvoiceJour.InvoiceAmountMST	Sum	The invoiced amounts, in the company currency.
Sum Markup	VendInvoiceJour.SumMarkupMST	Sum	The miscellaneous charges, such as transportation fees, that are allocated to the order, in the company currency.
Total Invoice Discount	VendInvoiceJour.EndDiscMST	Sum	The total discount, in the company currency, that is given on the order (line discount is not included).

Measure group: Vendor Invoice Lines

This measure group is based on the VendInvoiceTrans table.

Measure	Measure field name	Aggregation	Description
Vendor Invoiced lines count	Not applicable	Count	Number of invoiced purchase lines that has been posted.
Quantity of items	VendInvoiceTrans.Qty	Sum	Number of items that has been purchased or returned in a Unit of measure used on the purchase order. Use the Unit dimension to identify the unit of measure. A returned quantity appears as a negative number.
Amount	VendInvoiceTrans.LineAmount	Sum	Invoiced amount per line in currency of the order.
Invoiced purchase per line excl. total discount	VendInvoiceTrans.LineAmountMS T	Sum	Invoiced amount per line in the company currency.
Purchase quantity	VendInvoiceTrans.PurchaseQTY	Sum	Number of items that has been purchased, in an inventory unit of measure, where items appear as a positive value on the purchase order. Based on a named query.
Purchase Amount	VendInvoiceTrans.PurchaseAmountMST	Sum	Invoiced amount of the purchased items where items appear as a positive quantity on the purchase order. Based on a named query.
Return Quantity	VendInvoiceTrans.ReturnQTY	Sum	Number of items that has been returned to vendor in an inventory unit of

Measure	Measure field name	Aggregation	Description
			measure, (or appears as a negative quantity on the invoiced purchase order). Based on a named query.
Returns amount	VendInvoiceTrans.ReturnAmount MST	Sum	Invoiced amount of the returned items where items appear as a negative quantity on the purchase order. Based on a named query.

Measure group: Vendor Packing Slip Transaction

This measure group is based on the VendPackingSlipTrans table.

Measure	Measure field name	Aggregation	Description
Vendor Packing Slip Transaction	Not applicable	Count	The number of packing slip lines.
Value MST	VendPackingSlipTrans.ValueMST	Sum	Cost of the items, which appears only after the invoice is posted. For packing slips that have been posted, the value is 0 (zero) until the corresponding invoice is posted.
Inventory Quantity	VendPackingSlipTrans.InventoryQTY	Sum	Number of items purchased in an inventory unit of measure.
Days Delayed	VendPackingSlipTrans.DaysDelayed		Number of days that the packing slip is delayed seen as the difference between the packing slip date that is given when posting the packing slip (datephysical) and the

Measure	Measure field name	Aggregation	Description
			actual expected date. If the packing slip is posted before the expected date, Days Delayed displays a negative number. The expected date is the Confirmed delivery date that is given on the purchase order line.  Note: If the “confirmed date” on the purchase order line is blank, then the measure is calculated as if the date is January 1, 1900.

Measure group: Items

This measure group is based on the InventTable table.

Measure	Measure field name	Aggregation	Description
Item - Count	Not applicable	Count	Item records

Calculated measures

The Purchase cube contains the following calculated measures.

Measure	Formula	Aggregation	Description
Average days delayed	The delayed days measure divided by the number of packing slip lines.	Ave	The Delayed Days measure divided by the number of packing slip lines.  Note: To view the average of the delayed days for only

Measure	Formula	Aggregation	Description
			delayed packing slips, slice by the Vendor - Packing Slip Lines - Delayed dimension and look at the delayed packing slips.

Purchase cube security by role

The following tables list the dimensions, measures, calculated measures, and key performance indicators (KPIs) that are associated with the Purchase cube, and the roles that provide security access to them.

Yes indicates that security access is provided by default.

Dimensions

Dimensions	Operation manager	Purchasing Agent	Purchasing Manager
All dimensions in the Purchase cube	Yes	Yes	Yes

Measures

Measures	Operation manager	Purchasing Agent	Purchasing Manager
All measures in the Purchase cube	Yes	Yes	Yes

Production cube

Use the Production cube to report on sales transactions.

The Production cube corresponds to the **ProdCube** perspective in Microsoft Dynamics AX.

Configuration keys and tables

The following configuration keys are required for the Production cube to work properly:

- Prod
- ProdRouting



Note:

If a configuration key is not activated, the associated tables do not exist in the database.

Therefore, references to those tables from the Production cube will not work.

The Production cube uses data from the following tables.

Table	Description	Configuration key
ProdCalcTrans	Contains the complete set of estimates and costings of production orders.	Prod
ProdTrans	Contains production orders and various dates and quantities related to them.	Prod
ProdRoute	Contains the sequence of operations in the production route and all relevant data related to the scheduling and feedback on these operations.	ProdRouting
ProdRouteTrans	Contains all feedback on operations on operations and jobs, entered on journals for the production orders.	ProdRouting

Fact tables and measure groups

The Production cube includes several measure groups. Each measure group is based on a fact table. Some fact tables are mapped to Microsoft Dynamics AX tables; others are based on named queries.

Measure group	Fact table (table/named query)	Description
CostCalculation	ProdCalcTrans (table)	Contains the complete set of estimates and costings of production orders.
Production order	ProdTable (table)	Contains production orders and various dates and quantities related to them.
Production route	ProdRoute (table)	Contains the sequence of operations in the production route and all relevant data related to the scheduling and feedback on these operations.
Route transaction	ProdRouteTrans (table)	Contains all feedback on operations on operations and jobs, entered on journals for the production orders.
Item	InventTable (table)	Contains a record for each item.
Exchange Rate	BIExchangeRates (table)	Contains a record for each exchange rate for each company.
Master Company Exchange Rate	BIMasterCompanyExchangeRates (table)	Contains a record for each exchange rate for the company that is selected in the Setup Exchange Rates form.

Named queries

If the production cube is regenerated, the named queries must be added manually.

ProdTableNQ, based on ProdTable

The ProdTableNQ named query is based on the ProdTable table, with additional fields from other tables brought into the query. This named query is used for the On Time Production Rate report.

Additional fields	Description
InventDim.InventSiteID	Used to slice by inventory site.
InventDim.InventLocationID	Used to slice by inventory location.
InventDim.InventSizeID	Used to slice by size.
InventDim.InventColorID	Used to slice by color.
InventDim.configID	Used to slice by item configuration.
ProdTableNQ.OnTime	ProdTable.DlvDate >= ProdTable.FinishedDate AND (ProdTable.ProdStatus == ProdStatus::ReportedFinished OR ProdTable.ProdStatus == ProdStatus::Completed)
ProdTableNQ.DaysDelayed	ProdTable.FinishedDate - ProdTable.DlvDate

ProdRouteTableNQ, based on ProdRouteTable

The ProdRouteTableNQ named query is based on the ProdTable table, with additional fields from other tables brought into the query. This named query is used for the Product Efficiency and Production Lead Time report. The Production Efficiency is a calculated measure in the cube $(AVG(PlannedLeadTime) / AVG(LeadTime) * 100)$.

Additional fields	Description
ProdTable.InventDim.InventSiteID	Used to slice by inventory site.
ProdTable.InventDim.InventLocationID	Used to slice by inventory location.
ProdTable.InventDim.InventSizeID	Used to slice by size.
ProdTable.InventDim.InventColorID	Used to slice by color.
ProdTable.InventDim.configID	Used to slice by item configuration.
ProdTable.ItemID	Used to slice by item.
ProdRouteTransNQ.StartDateTime	MIN(ProdRouteTrans.DateWIP + ProdRouteTrans.FromTime)
ProdRouteTransNQ.EndDateTime	MAX(ProdRouteTrans.DateWIP + ProdRouteTrans.ToTime)
ProdRouteTransNQ.LeadTime	ProdRouteTransNQ.EndDateTime - ProdRouteTransNQ.StartDateTime

Additional fields	Description
ProdRouteTransNQ.PlannedStartDateTime	MIN(ProdRoute.FromDate + ProdRoute.FromTime)
ProdRouteTransNQ.PlannedEndDateTime	MAX(ProdRoute.ToDate + ProdRoute.ToTime)
ProdRouteTransNQ.PlannedLeadTime	ProdRouteTransNQ.PlannedEndDateTime - ProdRouteTransNQ.PlannedStartDateTime

Dimensions and attributes

The Production cube includes the following dimensions and attributes.

* Indicates a shared dimension. For detailed information, see [Shared dimensions](#).

Dimension	Dimension ID	ID	Attribute
CostCalculation	PRODCALTRANS_DIM	PRODCALTRANS_DIM	Calculation
		CALCTYPE	Calculation type
		CONSUMPTYPE	Consumption Type
Color*			
Company*			
Cost Center*			
Currency*			
Department*			
Configuration*			
Item*			
Master Company Reporting Currency*			
Production level	PRODCALCTrans LEVEL	PRODCALCTrans LEVEL	Level
Production order	PRODTABLE_DIM	PRODPOSTINGTYPE	Posting type

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
		PRODTABLE_DIM	Production order
		SCHEDSTATUS	Production Schedule Status
		PRODSTATUS	Production status
		PRODTYPE	Production type
Production order - Delayed	PRODTABLEDELAYED	DELAYED	Delayed
		PRODTABLEDELAYED	Production order - Delayed
Production route	PRODRROUTE_DIM	BACKORDERSTATUS	Back order status
		OPRFINISHED	Operation Finished
		JOBPAYTYPE	Pay type
		PRODRROUTE_DIM	Production route
		ROUTETYPE	Route type
		OPRSTARTEDUP	Started
Purpose*			
Route transaction	PRODRROUTETRANS_DIM	CANCELLED	Cancelled
		JOBFINISHED	Finished
		JOBTYPE	Job type
		OPRPRIORITY	Priority
		PRODRROUTETRANS_DIM	Route transactions
		TRANSTYPE	Transaction type
Size*			
Time*			
Time (Delivery)	Time	Days	Days

Dimension	Dimension ID	ID	Attribute
Time (End date)			
Time			
(Production end date)			
Time			
(Production order - End date)			
Time (Report as finished)			
Time (Start date)			
Time (Started)			
Time (WIP date)			
		FiscalDate	FiscalDate
		FiscalHalfYears	FiscalHalfYears
		FiscalMonths	FiscalMonths
		FiscalQuarters	FiscalQuarters
		FiscalTrimesters	FiscalTrimesters
		FiscalWeeks	FiscalWeeks
		FiscalYears	FiscalYears
		HalfYears	HalfYears
		Months	Months
		Quarters	Quarters
		TenDays	TenDays
		Trimesters	Trimesters
		Weeks	Weeks
		Years	Years
Warehouse*			
Work center	WRKCTRTABLE	CAPUNIT	Capacity Unit
		CATEGORYTABLE	Category Table
		ROUTECOSTCATEGORY	Cost categories

Dimension	Dimension ID	ID	Attribute
		CATEGORYNAME	Cost category
		PRODUNITTABLE NAME	Product Unit
		PRODUNITTABLE PRODUNITID	Production units
		INVENTSITE NAME	Site
		NAME	Work center
		WRKCTRGROUPID	Work center group
		WRKCTRTABLE	Work centers
		INVENTSITE	Work centers Site

Dimensions by measure group

The measure groups in the Production cube can be sliced by the following dimensions and fields.

Indicates that the dimension table is the fact table; there is no specific reference field.

Dimension	Cost calculation	Item	Production order	Production route	Route transaction
CostCalculation	#				
Color	Itemid Standardinven tsizeid	Itemid Standardinventsiz eid			Itemid Standardinventsiz eid
Company	Dataareaid	Dataareaid	Dataareaid	Dataareaid	Dataareaid
Cost Center		Dimension2_	Dimension2_	Dimension2_	Dimension2_
Currency		Currencycode	Currencycode		Currencycode
Department		Dimension	Dimension	Dimension	Dimension
Configuration	Itemid Standardinvet			Itemid Inventdim_inven	Itemid Inventdim_inven

Microsoft Dynamics AX

Dimension	Cost calculation	Item	Production order	Production route	Route transaction
	colorid			tcolorid	tcolorid
Item	Itemid Standardinvet colorid			Itemid Inventdim_inven tcolorid	Itemid Inventdim_inven tcolorid
Master Company Reporting Currency					
Production level	Prod	Collectreflevel			
Production order	Prod				
Production delayed	Prod			Delayed	
Production route	ProdRouting				#
Purpose			Dimensio n3_	Dimension3_	Dimension3_
Route transaction	ProdRouting			#	
Size	LogisticAdvan ced	Itemid Standardinvetcolo rid			Itemid Inventdim_inven tcolorid
Time		Transdate		Dlvdate	Fromdate
Time (Delivery)	Prod			Dlvdate	
Time (End date)	ProdRouting	Realdate			Todate
Time (Productio n end date)	Prod			Schedend	
Time	Prod			Finisheddate	

Dimension	Cost calculation	Item	Production order	Production route	Route transaction
(Report as finished)					
Time (Start date)	Prod			Schedstart	
Time (Started)	Prod			Stupdate	
Time (WIP date)	ProdRouting				
Warehouse	LogisticAdvanced	Inventdim_inventlocationid			
Work center	ProdRouting				Dataareaid_wrkctrld

Measures

The Production cube includes the following measure group and measures.

Measure group: Cost Calculation

This measure group is based on the ProductCalcTrans table.

Measure	Measure field name	Aggregation	Description
Actual cost amount	ProdCalcTrans.RealCostAmount	Sum	Actual cost of the production.
Cost amount	ProdCalcTrans.CostAmount	Sum	Estimated cost of production.
Cost Markup	ProdCalcTrans.CostMarkup	Sum	Estimated cost of miscellaneous charges.
Cost Calculation	VendInvoiceJour.EndDiscMST	Count	Number of calculations.
Real Cost Adjustment	ProdCalcTrans.RealCostAdjustment	Sum	Actual adjustment made by inventory closing.

Measure group: Production order

This measure group is based on the ProductTrans table.

Measure	Measure field name	Aggregation	Description
Days delayed	Days delayed	Calculation	Difference between the delivery date and scheduled end date.
Lead time	Lead time	Calculation	Difference between actual start and actual finish.
Planned lead time	Planned lead time	Sum	Difference between planned start and planned finish.
Production order	Production order	Count	Number of production orders.
Production order – count	Production order – count	Count	Number of production orders.

Measure group: Production route

This measure group is based on the ProdRoute table.

Measure	Measure field name	Aggregation	Description
Production route - Count	Not applicable	Count	Number of production routes.
Route - Count	Not applicable	Count	Number of production routes.

Measure group: Route transaction

This measure group is based on the ProdRouteTrans table.

Measure	Measure field name	Aggregation	Description
Amount posted to ledger	ProdRouteTrans.Amount	Sum	The amount that the transaction has been

Measure	Measure field name	Aggregation	Description
			posted to the ledger.
Error quantity	ProdRouteTrans.QtyError	Sum	Number of error items reported on the operation or job.
Good quantity	ProdRouteTrans.QtyGood	Sum	Number of good items reported on the operation or job.
Route trans – Count	Not applicable	Count	Number of route transactions.

Production cube KPI calculations

The following table lists the key performance indicators (KPIs) that are associated with the Production cube. You can use the information in the following table to help verify the information in your KPIs.

KPI name	Calculation
Production Cost	$\frac{[(\text{Actual cost amount where Level} = 1) + (\text{RealCostAdjustment where Level} = 1)]}{[(\text{Cost amount where Level} = 1) + (\text{Cost Markup where Level} = 1)]} * 100$
Production Efficiency	$(\text{Average Planned Lead Time} - \text{Average Lead Time}) * 100$

Production cube KPI source tables, configuration keys, and Role Centers

The following table lists the key performance indicators (KPIs) that are associated with the Production cube. The tables from which data is drawn, required configuration keys, and related role centers are included.

KPI name	Source tables	Configuration keys (Tables)	Role Centers
Production Cost	ProdCalcTrans, ProdTable, InventDim	Prod (ProdCalcTrans, ProdTable), LedgerBasic (InventDim)	Not applicable

KPI name	Source tables	Configuration keys (Tables)	Role Centers
Production Efficiency	ProdTable, ProdRouteTrans, ProdRoute, InventDim	Prod (ProdTable), ProdRouting (ProdRouteTrans, ProdRoute), LedgerBasic (InventDim)	Not applicable

Production cube security by role

The following tables list the dimensions, measures, calculated measures, and key performance indicators (KPIs) that are associated with the Production cube, and the roles that provide security access to them.

Yes indicates that security access is provided by default.

Dimensions

Dimensions	Production manager
All dimensions in the Production cube	Yes

Measures

Measures	Production manager
All measures in the Production cube	Yes

Customer relationship management cube

Use the Customer relationship management cube to report on sales transactions.

The Customer relationship management cube corresponds to the **smmCube** perspective in Microsoft Dynamics AX.

Configuration keys and tables

The following configuration keys are required for the Customer relationship management cube to work properly:

- Ledger
- Basic
- CRM series
- Marketing automation
- Leads
- Quotations
- Sales management
- Project



Note:

If a configuration key is not activated, the associated tables do not exist in the database. Therefore, references to those tables from the Customer relationship management cube will not work.

The Customer relationship management cube uses data from the following tables.

Table	Description	Configuration key
CustTable	Customer master	Ledger basic
BusRelTable	Business relation master	CRM series
smmCampaignTable	Campaigns	Marketing automation
smmOpportunityTable	Opportunities	CRM series
smmLeadTable	Leads	Leads
SalesQuotatonsTable	Sales and Project quotations	Quotations
smmActivities	Activities	Not applicable
smmQuotationCompetitorGroup	Competitors	CRM series
smmSalesTargetTrans	Sales targets	Sales management

Table	Description	Configuration key
ProjInvoiceJour	Project invoice header	Project
CustInvoiceJour	Customer invoice header	Ledger basic
smmSalesUnit	Sales units	Sales management
smmQuotationPrognosisGroup	Opportunity prognosis	CRM series
smmQuotationProbabilityGroup	Opportunity probability	CRM series
smmQuotationReasonGroup	Opportunity and Lead reason	CRM series
smmSourceTypeTable	Source types for Opportunities and Leads	CRM series
smmLeadPriorityTable	Lead priority	Leads
smmLeadRatingTable	Lead rating	Leads
smmLeadTypeTable	Lead types	Leads
smmCampaignTypeGroup	Campaign types	Marketing automation
smmCampaignTargetTable	Campaign targets	Marketing automation
smmCampaignGroup	Campaign groups	Marketing automation
smmActivityPhaseGroup	Activity phases	
smmActivityTypeGroup	Activity types	
smmActivityPlanGroup	Activity plans	
smmResponsibilityGroup	Activity responsibilities	CRM series

Fact tables and measure groups

The Customer relationship management cube includes several measure groups. Each measure group is based on a fact table. Some fact tables are mapped to Microsoft Dynamics AX tables; others are based on named queries.

Measure group	Fact table (table/named query)	Description
Sales target transaction	SMMSALESTARGETTRANS (named query)	Information about sales target transactions.
Lead	SMMLEADTABLE (named query)	Information about lead records.

Measure group	Fact table (table/named query)	Description
Opportunity	SMMOPPORTUNITYTABLE (named query)	Information about opportunity records.
Activity	SMMACTIVITIES (table)	Information about activity records.
Competitors	SMMQUOTATIONCOMPETITORS (named query)	Information about competitor records.
Campaign	SMMCAMPAIGNGROUP (named query)	Information about campaign records.
Customer - Business relation	CUSTBUSREL (named query)	Information about customer and business relation information. If a record exists for both, the customer information will be used.
Leads by campaign	LEAD_CAMPAIGN (named query)	Information about leads associated with campaigns.
Opportunities by campaign	OPPORTUNITY_CAMPAIGN (named query)	Information about opportunities associated with campaigns.
Sales	PROJECT_SALES (named query)	Information about combined invoice information from both sales and project.
Opportunities by competitor	OPPORTUNITY_COMPETITOR GROUP (named query)	Information about competitors who have won opportunities.

Named queries

smmLeadTable

The names query for `smmLeadTable` is based on the `smmLead` table with the following additional fields brought into the query.

Additional fields	Description
LeadID	The unique identifier for the ID.
Owner ID	The employee who is responsible for the lead record.
OpenedBy	The employee who created the lead record.
ClosedBy	The employee who closed the lead record.
ReasonID	The reason that the lead was qualified or disqualified.
Priority	The priority of the lead record.
ProcessName	The process of the lead record.
Rating	The rating of the lead record.
Subject	The subject on the lead record.
PartyID	The name on the lead record.
DaysToClose	The number of days to close the lead record.
SourceTypeID	The source of the lead record.
SalesUnitID	The sales unit that the lead record is assigned to.
Status	The status of the lead record.
TypeID	The lead record type.
SourceDescription	The source description for the lead record.
ModifiedBy	The employee who last modified the lead record.
CreatedBy	The employee who created the lead record.
DateOpen	The date that the lead record was opened.
DateClose	The date that the lead record was closed.
ModifiedDateTime	The last modified date and time of the lead record.
CreatedDateTime	The created date and time of the lead record.
DaysOpened	The number of days the lead record has been open.
City	The primary city on the address record.

Additional fields	Description
ZIPCode	The primary ZIP Code on the address record.
County	The primary county on the address record.
State	The primary state on the address record.
CountryRegionID	The primary region on the address record.
Segment	The segment that is associated with the lead record's name.
Subsegment	The subsegment that is associated with the lead record's name.

smmOpportunityTable

The named query for smmOpportunityTable is based on the smmOpportunity table with the following additional fields brought into the query.

Additional fields	Description
OpportunityID	The unique identifier for the opportunity record.
OwnerID	The employee who is responsible for the opportunity record.
OpenedBy	The employee who created the opportunity record.
ClosedBy	The employee who closed the opportunity record.
Reason	The reason the opportunity was won, closed, or postponed.
ProcessName	The process for the opportunity record.
Subject	The subject on the opportunity record.
PartyID	The name on the opportunity record.
DaysToClose	The number of days to close the opportunity record.
SourceTypeID	The source of the opportunity record.
SalesUnitID	The sales unit that the opportunity is assigned to.

Additional fields	Description
Status	The status of the opportunity record.
PrognosisID	The prognosis of the opportunity record.
ProbabilityID	The probability of the opportunity record.
SourceDescription	The source description for the opportunity record.
ModifiedBy	The employee who last modified the opportunity record.
CreatedDateTime	The created date and time of the opportunity record.
DaysOpened	The number of days that the opportunity record has been open.
City	The primary city on the address record.
ZIPCode	The primary ZIP Code on the address record.
County	The primary county on the address record.
State	The primary state on the address record.
CountryRegionID	The primary region on the address record.
Segment	The segment that is associated with the opportunity record's name.
Subsegment	The subsegment that is associated with the opportunity record's name.
Estimated revenue	The estimated revenue that is entered on the opportunity.
Actual revenue	The actual revenue from the associated invoice.

smmCampaignTable

The named query for `smmCampaignTable` is based on the `smmCampaign` table with the following additional fields brought into the query.

Additional fields	Description
CampaignID	The unique identifier for the campaign record.

Additional fields	Description
CampaignName	The name of the campaign record.
CampaignParentID	The unique identifier for the parent campaign record.
CampaignGroupID	The group ID on the campaign record.
CampaignTypeID	The type ID on the campaign record.
ProcessName	The process used for the campaign.
EmplID	The employee who is responsible for the campaign.
ProjID	The project that is associated with the campaign.
CampaignTargetID	The target ID on the campaign record.
CampaignReasonID	The reason that the campaign is canceled.
CampaignStatus	The status of the campaign.
TMCallListID	The call list that is associated with the campaign record.
ModifiedBy	The employee who last modified the campaign record.
CreatedBy	The employee who created the campaign record.
ModifiedDateTime	The last modified date and time of the campaign record.
CreatedDateTime	The creation date and time of the campaign record.
CampaignDate	The start date of the campaign.
CampaignEndDate	The scheduled end date for the campaign.
CampaignFollowupDate	The scheduled date to follow-up on the campaign.

CustBusRel

The named query for CustBusRel is based on the smmBusinessRelation table and the CustTable table with the following additional fields brought into the query.

Additional fields	Description
PartyID	The unique identifier of the party record.
AccountNum	The account number of the customer or business relation record.
Name	The name of the customer of business relation.
City	The primary city on the address record.
CountryRegion	The primary region of the address record.
CreatedDateTime	The creation date and time of the customer or business relation record.
Currency	The default currency for the customer or business relation record.
MainContact	The employee who is responsible for the customer or business relation record.
Segment	The segment ID for the customer or business relation record.
Subsegment	The segment ID for the customer or business relation record.
State	The primary state on the address.
ZIPCode	The primary ZIP Code on the address.
DirPartyTable_Type	The party type, either person or organization, of the customer or business relation record.
Segment_Description	The segment description for the customer or business relation record.
Subsegment_Description	The subsegment description for the customer or business relation record.
CountryRegion_Name	The name of the region on the address record.

Lead_Campaign

The named query for Lead_Campaign is based on the smmLead table and the smmCampaign table with the following additional fields brought into the query.

Additional fields	Description
LeadID	The unique identifier of the lead record.
CampaignID	The unique identifier of the campaign record.

Opportunity_Campaign

The named query for Opportunity_Campaign is based on the smmOpportunity table and the smmCampaign table with the following additional fields brought into the query.

Additional fields	Description
OpportunityID	The unique identifier of the opportunity record.
CampaignID	The unique identifier of the campaign record.

Opportunity_CompetitorGroup

The named query for Opportunity_CompetitorGroup is based on the smmOpportunity table and the smmCompetitor table with the following additional fields brought into the query.

Additional fields	Description
OpportunityID	The unique identifier of the opportunity record.
EstimatedRevenue	The estimated revenue for the opportunity record.
PartyID	The unique identifier of the party.
OpenedDate	The date the opportunity record was opened.

Dimensions and attributes

The Customer relationship management cube includes the following dimensions and attributes.

Dimension	Dimension ID	ID	Attribute
Activity	smmActivities_DIM	Category	Category
		Closed	Closed
		TaskPriority	Task priority
Activity	SMMACTIVITYPLANGR	PlanID	Activity plan

Dimension	Dimension ID	ID	Attribute
plan	OUP		
		Description	Description
Activity type	SMMACTIVITYPERGROUP	TypeID	Activity type
		Description	Description
Campaign	SMMCAMPAIGNTABLE	CAMPAIGNID	Campaign
		CAMPAIGNNAME	Campaign name
		CAMPAIGNDATE	Campaign date
		CAMPAIGNTARGETID	Campaign target
		TargetDescription	Campaign target description
		GroupDescription	Campaign group description
		PROCESSNAME	Campaign process
		CAMPAIGNREASONID	Campaign reason
		ReasonDescription	Campaign reason description
		CAMPAIGNTYPEID	Campaign type
		TypeDescription	Campaign type description
		CampaignEndDate	End date
		CampaignFollowUpDate	Follow up date
		CampaignResponsible	Owner
		CAMPAIGNSTATUS	Parent campaign stages
Competitor	SMMQUOTATIONCOMPETITORS	QuotationWinner	Quotation winner
Competitor group	SMMQUOTATIONCOMPETITORS	PARTYID	Party ID
		Description	Competitor name

Dimension	Dimension ID	ID	Attribute
Customer/ Business relation	CUSTBUSREL	ACCOUNTNUM	Account
		CITY	City
		COUNTRYREGION	Country region
		ADDRESSCOUNTRYREGION_CURRENCYCODE	Country region - Currency
		ADDRESSCOUNTRYREGION_NAME	Country region - Name
		CREATEDDATETIME	Created date time
		CURRENCY	Currency
		PARTYID	Customer/Business relation
		DIRPARTYTABLE_NAME	Directory name
		DIRPARTYTABLE_TYPE	Directory type
		NAME	Name
		MAINCONTACT	Sales person
		SEGMENT	Segment
		SMMBUSRELSEGMENTGROUP_DESCRIPTION	Segment description
		SUBSEGMENT	Subsegment
		SMMBUSRELSUBSEGMENTGROUP_SUBSEGMENTDESCRIPTION	Subsegment description
		ZIPCODE	ZIP code
Lead	SMMLEADTABLE	STATUS	Lead status
Lead priority	SMMLEADPRIORITYTABLE	PRIORITY	Lead priority
		DESCRIPTION	Description
Lead rating	SMMLEADRATINGTAB	RATING	Lead rating

Dimension	Dimension ID	ID	Attribute
	LE		
		DESCRIPTION	Description
Lead type	SMMLEADTYPETABLE	TYPEID	Lead type
		DESCRIPTION	Type description
Opportunity	SMMOPPORTUNITYTABLE	STATUS	Opportunity status
Phase for quotation	SMMACTIVITYPHASEGROUP	PHASEID	Phase for quotation
		DESCRIPTION	Description
Process stage	HIERARCHY_PROCESSTAGE	ELEMENTNUMBER	Process
		HIERARCHY_NAME	Hierarchy name
		HIERARCHYTREETABLE_NAME	Hierarchy tree name
		HIERARCHYTYPE	Hierarchy type
		HIERARCHYID	Process stage
Quotation	QUOTATION	DELIVERYDATECONTROLTYPE	Delivery date
		QUOTATIONSTATUS	Status
		QUOTATIONTYPE	Type of quotation
Quotation probability	SMMQUOTATIONPROBABILITYGROUP	PROBABILITYID	Quotation probability
		DESCRIPTION	Description
Quotation prognosis	SMMQUOTATIONPROGNOSISGROUP	PROGNOSISID	Quotation prognosis
		DESCRIPTION	Description
Quotation reason	SMMQUOTATIONREASONGROUP	REASONID	Quotation reason
		DESCRIPTION	Description

Dimension	Dimension ID	ID	Attribute
Responsibility	SMMRESPONSIBILITYGROUP	RESPONSIBILITYID	Responsibility
		DESCRIPTION	Description
Sales unit	SMMSALESUNIT	ACTIVE	Active
		SALESUNITMANAGERID	Sales management units
		SALESUNITID	Sales unit
		PARENTID	Sales unit parent ID
		UNITTYPE	Unit type
Source type	SMMSOURCECTYPETABLE	TYPEID	Source type
		DESCRIPTION	Description

Dimensions by measure group

Dimension	Master company exchange rate	Exchange rate	Lead	Sales targets transactions	Activity	Competitor	Opportunity	Campaign	Customers/Business relations	Leads by campaign	Opportunities by campaign	Sales	Opportunities by competitor group
Purpose													
Employee			Employee	Employee	Employee		Employee	Employee				Employee	
Currency													
Cost center													

Dimension	Master company exchange rate	Exchange rate	Lead	Sales targets transactions	Activity	Competitor	Opportunity	Campaign	Customers/Business relations	Leads by campaign	Opportunities by campaign	Sales	Opportunities by competitor group
Company	Company accounts	Company accounts	Company accounts	Company accounts	Company accounts	Company accounts	Company accounts	Company accounts	Company accounts	Company accounts	Company accounts	Company accounts	Company accounts
Department													
Activity plan table					Activity plan table								
Quotation reason			Quotation				Quotation						
Quotation probability							Quotation						
Responsibility table					Responsibility table								
Source type			Source type				Source type						
Competitor													Competitor

Dimension	Master company exchange rate	Exchange rate	Lead	Sales targets transactions	Activity	Competitor	Opportunity	Campaign	Customers/Business relations	Leads by campaign	Opportunities by campaign	Sales	Opportunities by competitor group
Activity type						Activity type							
Lead rating			Lead rating										
Lead type			Lead type										
Quotation prognosis							Quotation prognosis						
Lead priority			Lead priority										
Phase for quotation					Phase for quotation								
Sales management units (sales units)			Sales management units	Sales management units			Sales management units					Sales management units	
Campaigns								Campaigns		Campaigns	Campaigns		
Quotation													

Dimension	Master company exchange rate	Exchange rate	Lead	Sales targets transactions	Activity	Competitor	Opportunity	Campaign	Customers/Business relations	Leads by campaign	Opportunities by campaign	Sales	Opportunities by competitor group
Lead s			Lead s										
Activit ies					Activi ties								
Comp etitor s						Com petit ors							
Oppo rtunit y							Oppo rtunit y						
Time	Day s	Day s	Days	Days	Days		Days	Day s			Day s	Days	Day s
Time (Expir y date)													
Time (Confi rmati on)													
Empl oyee (Empl oyee close d by)					Empl oyee		Empl oyee						
Time (End date time)					Days								
Time					Days								

Dimension	Master company exchange rate	Exchange rate	Lead	Sales targets transactions	Activity	Competitor	Opportunity	Campaign	Customers/Business relations	Leads by campaign	Opportunities by campaign	Sales	Opportunities by competitor group
(Start date time)													
Time (Original start date)					Days								
Time (Opportunity- Date closed)							Days						
Employee (Employee- Owner)								Employee					
Time (End date)								Days					
Time (Follow-up date)								Days					
Customers / Business			Customers / Business				Customers / Business		Customers / Business			Customers / Business	

Dimension	Master company exchange rate	Exchange rate	Lead	Sales targets transactions	Activity	Competitor	Opportunity	Campaign	Customers/Business relations	Leads by campaign	Opportunities by campaign	Sales	Opportunities by competitor group
Business relations			Business relations				Business relations		Business relations			Business relations	
Process stage			Process stage				Process stage	Process stage					
Employee (Employee- Unit managers)				Employee									
Customers / Business relations - Business relation accounts									Customers / Business relations				
Employee (Employee -)					Employee								

Dimension	Master company exchange rate	Exchange rate	Lead	Sales targets transactions	Activity	Competitor	Opportunity	Campaign	Customers/Business relations	Leads by campaign	Opportunities by campaign	Sales	Opportunities by competitor group
Recipient)													
Master company reporting currency													

Hierarchies for organizing attributes

Some attributes can be organized in hierarchies. You can use the following hierarchies to organize dimension attributes.

Dimension	Hierarchies	Attributes in hierarchical order
Sales units	By parent	Sales unit parent ID
		Sales management units
Campaigns	Campaign group - Campaigns	Campaign group
		Campaigns
Campaigns	Campaign reason - Campaigns	Campaign reason
		Campaigns
Campaigns	Campaign target - Campaigns	Campaign target
		Campaigns
Customer / Business relations	Subsegment - Customers - Business relations	Subsegment
		Customers - Business relations

Dimension	Hierarchies	Attributes in hierarchical order
Customers / Business relations	Segment - Customers - Business relations	Segment
		Customers - Business relations
Customers / Business relations	Segment - Subsegments - Customers - Business relations	Segment
		Subsegment
Customers / Business relations	Hierarchy	Country region
		State
		City
		Zipcode
		Customers - Business relations
Process stage	Process	Hierarchy name
		Hierarchy tree name

Measures

The Customer relationship management cube includes the following measure groups and measures.

Measure group: Master company exchange rate

This measure group is based on the BIMasterCompanyExchangeRates table.

Measure	Measure field name	Aggregation	Description
Count	Not applicable	Count	The number of exchange rate records.
Master end of day rate	BIMasterCompanyExchangeRates.EndOfDayRate	Max	The maximum exchange rate in the company that is specified as the master

Measure	Measure field name	Aggregation	Description
			exchange rate company, as of the end of the specified day.

Measure group: Exchange rate

This measure group is based on the BIExchangeRates table.

Measure	Measure field name	Aggregation	Description
Exchange rate Count	Not applicable	Count	The number of exchange rate records.
End of day rate	BIExchangeRates.EndOfDayRate	Max	The maximum exchange rate as of the end of the specified day.

Measure group: Sales targets transactions

This measure group is based on the SMMSalesTargetTrans table.

Measure	Measure field name	Aggregation	Description
Sales targets transactions Count	Not applicable	Count	The number of sales target transactions.
Sales targets transactions Amount	SMMSalesTargetTrans.AmountMst	Sum	The amount of sales target transactions.

Measure group: Lead

This measure group is based on the SMMLeadTable table.

Measure	Measure field name	Aggregation	Description
Lead Count	Not applicable	Count	The number of lead records.

Measure	Measure field name	Aggregation	Description
Lead ID	SMMLeadTable.LeadId	Count	The number of lead records.
Days to Close Lead	SMMLeadTable.DaysToClose	Sum	The number of days to close a lead record.
Days Opened Lead	SMMLeadTable.DaysOpened	Sum	The number of days a lead record has been open.

Measure group: Opportunity

This measure group is based on the SMMOpportunityTable table.

Measure	Measure field name	Aggregation	Description
Opportunity Count	Not applicable	Count	The number of opportunity records.
Opportunity ID	SMMOpportunityTable.OpportunityId	Count	The number of opportunity records.
Days to Close Opportunity	SMMOpportunityTable.DaysToClose	Sum	The number of days to close an opportunity record.
Days Opened Opportunity	SMMOpportunityTable.DaysOpened	Sum	The number of days that an opportunity record has been open.
Estimated Revenue	SMMOpportunityTable.Estimated_Revenue	Sum	The total opportunity estimated revenue.
Actual Revenue	SMMOpportunityTable.ActualRevenue	Sum	The total invoiced revenue for the opportunity.

Measure group: Activity

This measure group is based on the SMMActivities table.

Measure	Measure field name	Aggregation	Description
Activity Count	Not applicable	Count	The number of activities.
Activity number	SMMActivities.ActivityNumber	Count	The number of activities.

Measure group: Competitor

This measure group is based on the SMMQuotationCompetitors table.

Measure	Measure field name	Aggregation	Description
Competitor Count	Not applicable	Count	The number of competitors.
Organization	SMMQuotationCompetitors.PartyId	Count	The name of the competitor.

Measure group: Campaign

This measure group is based on the SMMCampaignTable table.

Measure	Measure field name	Aggregation	Description
Campaign Count	Not applicable	Count	The number of campaigns.
Campaign Campaign Count	SMMCampaignTable.CampaignId	Count	The number of campaigns.

Measure group: Customers - Business relations

This measure group is based on the CustBusRel table.

Measure	Measure field name	Aggregation	Description
Customers - Business relations Count	Not applicable	Count	The number of customer business relations.

Measure group: Leads by Campaign

This measure group is based on the Lead_Campaign table.

Measure	Measure field name	Aggregation	Description
Leads by Campaigns Count	Not applicable	Count	The number of leads by campaign.
Lead ID Count	Lead_Campaign.LeadId	DistinctCount	The number of distinct leads across the enterprise.

Measure group: Opportunities by Campaign

This measure group is based on the Opportunity_Campaign table.

Measure	Measure field name	Aggregation	Description
Opportunities by Campaigns Count	Not applicable	Count	The number of opportunities by campaign.
Opportunity ID Count	Opportunity_Campaign.OpportunityId	DistinctCount	The number of distinct opportunities across the enterprise.
Opportunities by Campaigns Estimated Revenue	Opportunity_Campaign.EstimatedRevenue	Sum	The estimated revenue on opportunities from campaigns.

Measure group: Sales

This measure group is based on the Project_Sales table.

Measure	Measure field name	Aggregation	Description
Sales Count	Not applicable	Count	The number of sales.
Invoice revenue	Project_Sales.InvoiceRevenue	Sum	The total invoiced revenue.

Measure group: Opportunities by Competitor group

This measure group is based on the Opportunity_CompetitorGroup table.

Measure	Measure field name	Aggregation	Description
Opportunities by Competitor group Count	Not applicable	Count	The number of opportunities by competitor group.
Opportunity ID Competitor group Count	Opportunity_CompetitorGroup.OpportunityId	DistinctCount	The number of distinct opportunities across the enterprise by competitor group.
Opportunities by Competitor group Estimated Revenue	Opportunity_CompetitorGroup.EstimatedRevenue	Sum	The estimated revenue on opportunities by competitor group.

Calculated measures

The Customer relationship management cube contains the following calculated measures.

Measure	Formula	Aggregation	Description
Average days to close opportunity	[measure].[Days to Close Opportunity] / [measure].[Opportunity Count]	Average	The average number of days that it takes to close an opportunity record.
Average days to close lead	[measure].[Days to Close Lead] / [measure].[Lead Count]	Average	The average number of days that it takes to close a lead record.
Average opportunity days open	[measure].[Opportunity Days Open] / [measure].[Opportunity Count]	Average	The average numbers of days that opportunity records are open.
Average lead days open	[measure].[Lead Days Open] / [measure].[Lead Count]	Average	The average number of days that a lead record is open.
Win / Loss percentage	([measure].[Opportunity Won Count] / ([measure].[Opportunity Won Count] +	Sum	The percentage of won opportunities.

Measure	Formula	Aggregation	Description
	[measure].[Opportunity Lost Count])) *100		

Customer relationship management cube KPI calculations

The following table lists the key performance indicators (KPIs) that are associated with the Customer relationship management cube. You can use the information in the following table to help verify the information in your KPIs.

KPI name	Calculation
Active Leads	Lead count where Lead Status = 0 (Open)
Active Opportunities	Opportunity count where Opportunity Status = 1 (None)
New Leads	Lead count in the past 7 days
New Opportunities	Opportunity count in the past 7 days
Sales	Project and customer invoice sales total

Customer relationship management cube KPI source tables, configuration keys, and Role Centers

The following table lists the key performance indicators (KPIs) that are associated with the Customer relationship management cube. The tables from which data is drawn, required configuration keys, and related role centers are included.

KPI name	Source tables	Configuration keys (Tables)	Role Centers
Active Leads	SMMLeadTable	SMMLead (SMMLeadTable)	Dedicated Sales Representative, Marketing Manager, Marketing Staffer, Sales and Marketing Executive, Sales Manager, Super Sales Representative
Active	SMMOpportunityTable	SMMCRM	Account Manager,

KPI name	Source tables	Configuration keys (Tables)	Role Centers
Opportunities		(SMMOpportunityTable)	Dedicated Sales Representative, Sales and Marketing Executive, Sales Manager, Super Sales Representative
New Leads	SMMLeadTable	SMMLead (SMMLeadTable)	Dedicated Sales Representative, Marketing Manager, Marketing Staffer, Sales and Marketing Executive, Sales Manager, Super Sales Representative
New Opportunities	SMMOpportunityTable	SMMCRM (SMMOpportunityTable)	Account Manager, Dedicated Sales Representative, Sales and Marketing Executive, Sales Manager, Super Sales Representative
Sales	ProjTransPosting, CustInvoiceJour	ProjTables (ProjTransPosting), CustTables (CustInvoiceJour)	Marketing Manager, Sales and Marketing Executive, Sales Manager

Customer relationship management cube security by role

The following tables list the dimensions, measures, calculated measures, and key performance indicators (KPIs) that are associated with the Customer relationship management cube, and the roles that provide security access to them.

Yes indicates that security access is provided by default.

Dimensions

The Customer relationship management cube dimensions are not related to security.

Dimension	Table/named query	Column	Attribute
Activity	smmActivities_DIM	Category	Category
		Closed	Closed
		TaskPriority	Task priority
Activity Plan	SMMACTIVITYPLANGROUP	PlanID	Activity plan
		Description	Description
Activity type	SMMACTIVITYTYPEGROUP	TypeID	Activity type
		Description	Description
Campaign	SMMCAMPAGNTABLE	CAMPAIGNID	Campaign
		CAMPAIGNNAME	Campaign name
		CAMPAIGNDATE	Campaign date
		CAMPAIGNTARGETID	Campaign target
		TargetDescription	Campaign target description
		CAMPAINGGROUPID	Campaign group
		GroupDescription	Campaign group description
		PROCESSNAME	Campaign process

Dimension	Table/named query	Column	Attribute
		CAMPAIGNREASONID	Campaign reason
		ReasonDescription	Campaign reason description
		CAMPAIGNTYPEID	Campaign type
		TypeDescription	Campaign type description
		CampaignEndDate	End date
		CampaignFollowUpDate	Follow-up date
		CAMPAIGNRESPONSIBLE	Owner
		CAMPAIGNSTATUS	Stages
Competitor	SMMQUOTATIONCOMPETITORS	PARTYID	Party ID
		Description	Competitor name
Customer/Business relation	CUSTBUSREL	ACCOUNTNUM	Account
		CITY	City
		COUNTRYREGION	Country region
		ADDRESSCOUNTRYREGION_CURRENCYCODE	Country Region-Currency
		ADDRESSCOUNTRYREGION_NAME	Country Region-Name
		CREATEDDATETIME	Created date time

Microsoft Dynamics AX

Dimension	Table/named query	Column	Attribute
		CURRENCY	Currency
		PARTYID	Customer/ Business relation
		DIRPARTYTABLE_NAME	Directory type
		NAME	Name
		MAINCONTACT	Sales person
		SEGMENT	Segment
		SMMBUSRELSEGMENTGROUP_DES CRPTION	Segment description state
		SUBSEGMENT	Subsegme nt
		SMMBUSRELSUBSEGMENTGROUP_ SUBSEGMENTDESCRIPTION	Subsegme nt description
		ZIPCODE	Zip code
Lead	SMMLEADTABLE	STATUS	Lead status
Lead priority	SMMLEADPRIORITYT ABLE	PRIORITY	Lead priority
		DESCRIPTION	Priority description
Lead rating	SMMLEADRATINGT ABLE	RATING	Lead rating
		DESCRIPTION	Rating description
Lead type	SMMLEADTYPETABL E	TYPEID	Lead type
		DESCRIPTION	Type

Dimension	Table/named query	Column	Attribute
			description
Opportunity	SMMOPPORTUNITYTABLE	STATUS	Opportunity status
Phase for quotation	SMMACTIVITYPHASEGROUP	PHASEID	Phase for quotation
		DESCRIPTION	Description
Process stage	HIERARCHY_PROCESSTAGE	ELEMENTNUMBER	Process
		HIERARCHY_NAME	Hierarchy name
		HIERARCYTREETABLE_NAME	Hierarchy tree name
		HIERARCHYTYPE	Hierarchy type
		HIERARCHYID	Process stage
Quotation	QUOTATION	DELIVERYDATECONTROLTYPE	Delivery date
		QUOTATIONSTATUS	Status
		QUOTATIONTYPE	Type of quotation
Quotation probability	SMMQUOTATIONPROBABILITYGROUP	PROBABILITYTYPEID	Quotation probability
		DESCRIPTION	Description
QUOTATIONPROGNOSIS	SMMQUOTATIONPROGNOSISGROUP	PROGNOSISID	Quotation prognosis
		DESCRIPTION	Description
Quotation	SMMQUOTATIONREASON	REASONID	Quotation

Dimension	Table/named query	Column	Attribute
reason	SONGROUP		reason
		DESCRIPTION	Description
Responsibility	SMMRESPONSIBILITYGROUP	RESPONSIBILITYID	Responsibility
		DESCRIPTION	Description
Sales unit	SMMSALESUNIT	ACTIVE	Active
		SALESUNITMANAGERID	Sales management units
		SALESUNITID	Sales unit
		PARENTID	Sales unit parent ID
		UNITYPE	Unit type
Source type	SMMSOURCETYPETABLE	TYPEID	Source type
		DESCRIPTION	Description

Measures

The Customer relationship management measures are not related to security.

Measures	Sales	Marketing
Opportunity count	Yes	Yes
Days to close opportunity	Yes	No
Days to close lead	Yes	Yes
Opportunity estimated revenue	Yes	No
Actual revenue	Yes	No
Competitors count	Yes	No

Measures	Sales	Marketing
Lead count	Yes	Yes
Quotation amount	Yes	No
Total quote discounts amount	Yes	No
Total quote miscellaneous charges amount	Yes	No
Total quote sales tax amount	Yes	No
Total quote round-off amount	Yes	No
Activity count	Yes	Yes
Campaign count	Yes	Yes
Days opened opportunity	Yes	No
Days opened lead	Yes	Yes
Sales target transaction amount	Yes	Yes
Sales target transaction count	Yes	Yes
Customers / Business relations count	Yes	No
Invoice revenue	Yes	No
Sales count	Yes	No
Leads by campaign count	Yes	Yes
Lead ID count (Campaign)	Yes	Yes
Opportunity by campaign count	Yes	Yes
Opportunity by campaign estimated revenue	Yes	Yes
Opportunity ID count (Campaign)	Yes	Yes
Opportunity by competitor group count	Yes	Yes
Opportunity by competitor group estimated revenue	Yes	Yes
Opportunity ID competitor group count	Yes	Yes

Calculated measures

The Customer relationship management cube calculated measures are not related to security.

Average days to close an opportunity records	Average	Calculated measure
Average days to close a lead record	Average	Calculated measure
Average days open for an opportunity record	Average	Calculated measure
Average days open for a lead record	Average	Calculated measure
Win/Loss percentage	Sum	Calculated measure

Key performance indicators

The Customer relationship management cube KPIs are not related to security.

New Opportunities

Value:

```
IIF(ISEMPTY(SUM(
(STRTOMEMBER("[Time].[Years Quarters Months Weeks Days].[Days].&[" + FORMAT(NOW(),
"yyyy-MM-dd" + "T00:00:00]")).LAG(7) : STRTOMEMBER("[Time].[Years Quarters Months
Weeks Days].[Days].&[" + FORMAT(NOW(), "yyyy-MM-dd" +
"T00:00:00]"))),[Measures].[Opportunity Count])),0,SUM(
(STRTOMEMBER("[Time].[Years Quarters Months Weeks Days].[Days].&[" + FORMAT(NOW(),
"yyyy-MM-dd" + "T00:00:00]")).LAG(7) : STRTOMEMBER("[Time].[Years Quarters Months
Weeks Days].[Days].&[" + FORMAT(NOW(), "yyyy-MM-dd" +
"T00:00:00]"))),[Measures].[Opportunity Count]))
```

Goal:

```
-INT(-(0.1*([Measures].[Opportunity Count], [Opportunity].[Status].&[1])))
```

Status:

Case

```
When KpiValue("New Opportunities") / KpiGoal("New Opportunities") >= .85
```

```
Then 1
```

```
When KpiValue("New Opportunities") / KpiGoal("New Opportunities") < .85
```

```
And
```

```
KpiValue("New Opportunities") / KpiGoal("New Opportunities") >= .75
```

```

    Then 0
    Else -1
End
Trend:
Case
When
KpiValue("New Opportunities") <
SUM(
(STRTOMEMBER("[Time].[Years Quarters Months Weeks Days].[Days].&[" + FORMAT(NOW(),
"yyyy-MM-dd" + "T00:00:00]")).LAG(14) : STRTOMEMBER("[Time].[Years Quarters Months
Weeks Days].[Days].&[" + FORMAT(NOW(), "yyyy-MM-dd" + "T00:00:00]")).LAG(8)),
[Measures].[Opportunity Count]
)
    Then -1
    When
KpiValue("New Opportunities") >=
1.05 * SUM(
(STRTOMEMBER("[Time].[Years Quarters Months Weeks Days].[Days].&[" + FORMAT(NOW(),
"yyyy-MM-dd" + "T00:00:00]")).LAG(14) : STRTOMEMBER("[Time].[Years Quarters Months
Weeks Days].[Days].&[" + FORMAT(NOW(), "yyyy-MM-dd" + "T00:00:00]")).LAG(8)),
[Measures].[Opportunity Count]
)
    Then 1
    Else 0
End

```

Active opportunities

Value:

([Measures].[Opportunity Count], [Opportunity].[Status].&[1])

Goal:

10

Status:

Case

When KpiValue("Active Opportunities") / KpiGoal("Active Opportunities") >= .90

Then 1

When KpiValue("Active Opportunities") / KpiGoal("Active Opportunities") < .90

And

```

        KpiValue("Active Opportunities") / KpiGoal("Active Opportunities") >= .80
    Then 0
    Else -1
End
Trend:
Case
    When KpiValue( "Active Opportunities" ) < (KpiValue( "Active Opportunities" ),[Time].[Years
Quarters Months Weeks Days].PREVMEMBER)
        Then -1
        When KpiValue( "Active Opportunities" )>= 1.05 *(KpiValue( "Active Opportunities"
),[Time].[Years Quarters Months Weeks Days].PREVMEMBER)
            Then 1
        Else 0
    End
End

```

Active Leads

Value:

([Measures].[Lead Count], [Lead].[Lead Status].&[0])

Goal:

20

Status:

```

Case
    When KpiValue( "Active Leads" ) / KpiGoal( "Active Leads" ) >= .90
        Then 1
    When KpiValue( "Active Leads" ) / KpiGoal( "Active Leads" ) < .90
        And
            KpiValue( "Active Leads" ) / KpiGoal( "Active Leads" ) >= .80
        Then 0
    Else -1
End

```

Trend:

```

Case
    When KpiValue( "Active Leads" ) < (KpiValue( "Active Leads" ),[Time].[Years Quarters Months
Weeks Days].PREVMEMBER)
        Then -1
    When KpiValue( "Active Leads" ) >= 1.05 *(KpiValue( "Active Leads" ),[Time].[Years Quarters
Months Weeks Days].PREVMEMBER)

```

```

    Then 1
    Else 0
End

```

New Leads**Value:**

```

IIF(ISEMPTY(SUM(
(STRTOMEMBER("[Time].[Years Quarters Months Weeks Days].[Days].&[" + FORMAT(NOW(),
"yyyy-MM-dd" + "T00:00:00"])).LAG(7) : STRTOMEMBER("[Time].[Years Quarters Months
Weeks Days].[Days].&[" + FORMAT(NOW(), "yyyy-MM-dd" + "T00:00:00"]))),[Measures].[Lead
Count])),0,SUM(
(STRTOMEMBER("[Time].[Years Quarters Months Weeks Days].[Days].&[" + FORMAT(NOW(),
"yyyy-MM-dd" + "T00:00:00"])).LAG(7) : STRTOMEMBER("[Time].[Years Quarters Months
Weeks Days].[Days].&[" + FORMAT(NOW(), "yyyy-MM-dd" + "T00:00:00"]))),[Measures].[Lead
Count]))

```

Goal:

```

-INT(-(0.1*([Measures].[Lead Count], [Lead].[Lead Status].&[0])))

```

Status:**Case**

```

    When KpiValue( "New Leads" ) / KpiGoal( "New Leads" ) >= .90

```

```

    Then 1

```

```

    When KpiValue( "New Leads" ) / KpiGoal( "New Leads" ) < .90

```

```

        And

```

```

        KpiValue( "New Leads" ) / KpiGoal( "New Leads" ) >= .80

```

```

    Then 0

```

```

    Else -1

```

```

End

```

Trend:**Case****When**

```

KpiValue("New Leads") <

```

```

SUM(

```

```

(STRTOMEMBER("[Time].[Years Quarters Months Weeks Days].[Days].&[" + FORMAT(NOW(),
"yyyy-MM-dd" + "T00:00:00"])).LAG(14) : STRTOMEMBER("[Time].[Years Quarters Months
Weeks Days].[Days].&[" + FORMAT(NOW(), "yyyy-MM-dd" + "T00:00:00"])).LAG(8)),
[Measures].[Lead Count]
)

```

```

    Then -1
    When
    KpiValue("New Leads") >=
    1.05 * SUM(
    (STRTOMEMBER("[Time].[Years Quarters Months Weeks Days].[Days].&[" + FORMAT(NOW(),
    "yyyy-MM-dd" + "T00:00:00]")).LAG(14) : STRTOMEMBER("[Time].[Years Quarters Months
    Weeks Days].[Days].&[" + FORMAT(NOW(), "yyyy-MM-dd" + "T00:00:00]")).LAG(8)),
    [Measures].[Lead Count]
    )
    Then 1
    Else 0
End

```

Sales

Value:

[Measures].[Invoice revenue]

Goal:

[Measures].[Sales targets transactions Amount]

Status:

Case

```

    When KpiValue("Sales") / KpiGoal("Sales") >= .90
    Then 1
    When KpiValue("Sales") / KpiGoal("Sales") < .90
    And
    KpiValue("Sales") / KpiGoal("Sales") >= .80
    Then 0
    Else -1
End

```

Trend:

Case

```

    When KpiValue("Sales") < (KpiValue("Sales"),[Time].[Years Quarters Months Weeks
    Days].PREVMEMBER)
    Then -1
    When KpiValue("Sales") >= 1.05 *(KpiValue("Sales"),[Time].[Years Quarters Months Weeks
    Days].PREVMEMBER)
    Then 1

```



```
Else 0  
End
```

Human resource management cube

Use the Human resource management cube to report on sales transactions.

The Human resource management cube corresponds to the **HRMCube** perspective in Microsoft Dynamics AX.

Configuration keys and tables

The following configuration keys are required for the Human resource management cube to work properly:

- HRMAdministration
- HRMCollaborative
- HRMCollaborativeCourse
- HRMManagementAbsence
- HRMManagementRecruiting
- KMBPM
- KMBPMGameplan



Note:

If a configuration key is not activated, the associated tables do not exist in the database. Therefore, references to those tables from the Human resource management cube will not work.

The Human resource management cube uses data from the following tables.

Table	Description	Configuration key
EmplTable	The EmplTable table contains records for employees that are used with Human resource management (HRM) and Payroll tables. The fields in this table are dedicated to employee details.	Not applicable
HRMVirtualNetworkTable	The HRMVirtualNetworkTable table contains a record for every employees, contact persons, and applicants.	Not applicable
HRPPartyPositionTableRelationship	The HRPPartyPositionTableRelationship table contains records for position information that is used	Not applicable

Table	Description	Configuration key
	with Main, HRM, and Payroll tables.	
HRMPartyEmployeeRelationship	The HRMPartyEmployeeRelationship table contains the date effectiveness registrations regarding HRM for employees.	Not applicable
DirPartyTable	The DirPartyTable table contains all the entries in the Global address book. The Global address book stores all persons and organizations that are used in the system.	Not applicable
DirPartyInternalOrganizationTable	DirPartyInternalOrganizationTable table contains records for organization units that are used with Main, HRM, and Payroll tables.	Not applicable
DirPartyRelationship	The DirPartyRelationship table contains relationships among entries in the Address book.	Not applicable
HRPPartyJobTableRelationship	The HRPPartyJobTableRelationship table contains records for jobs that are used with Main, HRM, and Payroll tables.	Not applicable
HRMInterviewTable	The HRMInterviewTable contains scheduled employee interviews.	HRMCollaborative
HRMGoal	The HRMGoal table contains the individual goals for employees.	HRMCollaborative
HRMAbsenceTrans	The HRMAbsenceTrans table contains all of the registered absence transactions.	HRMManagementAbsence
HRMAbsenceCode	The HRMAbsenceCode table contains records with codes that are used to indicate the reason for an absence and to apply	Not applicable

Table	Description	Configuration key
	registration validations to these reasons.	
HRMAbsenceCodeGroup	The HRMAbsenceCodeGroup table contains groups to categorize absence codes into logical groups.	Not applicable
HRMCourseTable	The HRMCourseTable table contains the framework in which you can plan and administer internal courses, as well as manage employee participation in external courses.	HRMCollaborativeCourse
HRMCourseAttendee	The HRMCourseAttendee table contains participants for courses. Participants must exist in the network as employees, applicants, or contact persons.	HRMCollaborativeCourse
KMGameplanType	The KMGameplanType table contains different types of strategic plans. These help classify plans.	KMBPMGameplan
KMGameplan	The KMGameplan table contains strategic plans.	KMBPMGameplan
KMActionType	The KMActionType table contains records to classify actions according to type.	KMBPM
KMAction	The KMAction table contains all actions, regardless of their statuses.	KMBPM
HRMRecruitingTable	The HRMRecruiting table contains the tasks, information, and documents that are involved in the recruitment process.	HRMManagementRecruiting
HRMApplication	The HRMApplication table contains a record for each application. Applicants must be registered in the virtual network,	HRMManagementRecruiting

Table	Description	Configuration key
	either as employees or through contact persons.	
HRMApplicantTable	The HRMApplicant table contains the data for applicants. One record is registered for each applicant.	HRMManagementRecruiting
ContactPerson	The table ContactPerson contains the contact persons for all organizations.	Not applicable
HRMMedia	The HRMMedia table contains the advertising media that you use in recruitment projects to attract potential new employees.	HRMManagementRecruiting
HRMVirtualNetworkSkill	The HRMVirtualNetworkSkill table contains skills that appear on the applicant's resume.	HRMAdministration

Fact tables and measure groups

The Human resource management cube includes several measure groups. Each measure group is based on a fact table. Some fact tables are mapped to Microsoft Dynamics AX tables; others are based on named queries.

Measure group	Fact table (table/named query)	Description
Employee	EmplTable (table)	Contains a record with detailed information for each employee.
Master company exchange rate	BIMasterCompanyExchangeRate (table)	Contains a record for each exchange rate for the company that is selected in the Setup Exchange Rates form.
Position	HRPPartyPositionTableRelationship (table)	Contains records for positions that are used with Main, HRM, and Payroll tables.

Microsoft Dynamics AX

Measure group	Fact table (table/named query)	Description
Goals	HRMGoal (table)	Contains individual goals for employees.
Exchange rate	BIExchangeRates (table)	Contains a record for each exchange rate for each company.
Application	HRMApplication (table)	Contains a record for each application. Applicants must be registered in the virtual network, either as employees or through contact persons.
Course	HRMCourseTable (table)	Contains the framework in which you can plan and administer internal courses, as well as manage employee participation in external courses.
Recruitment project	HRMRecruitingTable (table)	Contains the tasks, information, and documents that are involved in the recruitment process.
Actions	KMAction (table)	Contains all actions, regardless of their statuses.
Strategic plans	KMGamePlan (table)	Contains strategic plans.
Appraisal interview	HRMInterviewTable (table)	Contains scheduled employee interviews.
Course participants	HRMCourseAttendee (table)	Contains participants for courses. Participants must exist in the network as employees, applicants, or contact persons.
Skills	HRMVirtualNetworkSkill (table)	Contains skills that appear on the applicant's resume.

Measure group	Fact table (table/named query)	Description
Absence	HRMAbsenceTrans (table)	Contains all of the registered absence transactions.

Named queries

This cube contains no named queries.

Dimensions and attributes

The Human resource management cube includes the following dimensions and attributes.

* Indicates a shared dimension. For detailed information, see [Shared dimensions](#).

Dimension	Dimension ID	ID	Attribute
Absence	HRMABSENCECODE	HRMABSENCECODE	Absence codes
		HRMABSENCECODEGROUP	Absence groups
		HRMABSENCECODEGROUP DESCRIPTION	Absence groups - Description
		DESCRIPTION	Description
Actions	KMACTION	KMACTIONTYPE	Action types
		KMACTIONTYPE DESCRIPTION	Action types - Description
		KMACTION	Actions
		CONTACTPERSON	Contact persons
		NAME	Contact persons - Name
		DESCRIPTION	Description
		ENDDATE	End date

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
		PRIORITY	Priority
		STARTDATE	Start date
		STATUS	Status
		KMACTIONTYPEID	Type
Active date	Time_FROMDATETIME	Days	Days
		FiscalDate	FiscalDate
		FiscalHalfYears	FiscalHalfYears
		FiscalMonths	FiscalMonths
		FiscalQuarters	FiscalQuarters
		FiscalTrimesters	FiscalTrimesters
		FiscalWeeks	FiscalWeeks
		FiscalYears	FiscalYears
		HalfYears	HalfYears
		Months	Months
		Quarters	Quarters
		TenDays	TenDays
		Trimesters	Trimesters
		Weeks	Weeks
		Years	Years
Applicants	HRMAPPLICANTTABLE	HRMAPPLICANTTABLE	Applicants
		NAME	Applicants - Name
Applications	HRMAPPLICATION	HRMAPPLICATION	Applications

Dimension	Dimension ID	ID	Attribute
n			
		DATEOFRECEPTION	Date of Reception
		HRMVIRTUALNETWORKTABLE	People in the network
		REASONCODE	Reason code
		REFERENCETYPE	Reference type
		STATUS	Status
Appraisal interview	HRMINTERVIEWTABLE	HRMINTERVIEWTABLE	Appraisal interviews
		DESCRIPTION	Appraisal interviews - Name
		RESPONSIBLE	Responsible
		STATUS	Status
		HRMINTERVIEWTYPEID	Type
Company *			
Cost center*			
Course	HRMCOURSETABLE	HRMCOURSETABLE	Courses
		DESCRIPTION	Description
		HRMVIRTUALNETWORKTABLE	People in the network
		REFERENCETYPE	Reference type
		STATUS	Status
Course	HRMCOURSEATTENDEE	HRMCOURSEATTENDEE	Course

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
participants			participants
		HRMVIRTUALNETWORKTABLE	People in the network
		REFERENCETYPE	Reference type
		REGISTRATIONDATE	Registration Date
		STATUS	Status
Currency*			
Department*			
Employee - Alternative contact person	EMPLTABLE	ACCOUNTTYPE	Account type
		DAYSOFFWITHSALARY	Additional paid vacation days
		BIRTHDATE	Birthdate
		EMPLTABLE	Employee
		INVENTSITE	Employee Site
		TODATETIME	End date
		DIRPARTYTABLE FIRSTNAME	First name
		EMPLGENDER	Gender
		DIRPARTYTABLE	Global address book

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
		NAME	Global address book - Name
		DIRPARTYTABLE LASTNAME	Last name
		MARITAL STATUS	Marital status
		DIRPARTYTABLE MIDDLENAME	Middle name
		VACATIONWITHSALARY	Paid vacation
		PROJPERIODID	Period code
		CAREWITHSALARY	Personal days
		SENIORITYDATE	Seniority date
		INVENTSITE NAME	Site
		FROMDATETIME	Start date
		STATUS	Status
		EMPLOYEE TYPE	Type
		SALARYTYPE	Wage type
Employee - Closed by employee	EMPLTABLE	ACCOUNTTYPE	Account type
		DAYSOFFWITHSALARY	Additional paid vacation days
		BIRTHDATE	Birthdate
		EMPLTABLE	Employee
		INVENTSITE	Employee

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
			Site
		TODATETIME	End date
		DIRPARTYTABLE FIRSTNAME	First name
		EMPLGENDER	Gender
		DIRPARTYTABLE	Global address book
		NAME	Global address book - Name
		DIRPARTYTABLE LASTNAME	Last name
		MARITAL STATUS	Marital status
		DIRPARTYTABLE MIDDLENAME	Middle name
		VACATIONWITHSALARY	Paid vacation
		PROJPERIODID	Period code
		CAREWITHSALARY	Personal days
		SENIORITYDATE	Seniority date
		INVENTSITE NAME	Site
		FROMDATETIME	Start date
		STATUS	Status
		EMPLOYEE TYPE	Type
		SALARYTYPE	Wage type
Employee - Closed by manager	EMPLTABLE	ACCOUNTTYPE	Account type

Dimension	Dimension ID	ID	Attribute
		DAYSOFFWITHSALARY	Additional paid vacation days
		BIRTHDATE	Birthdate
		EMPLTABLE	Employee
		INVENTSITE	Employee Site
		TODATETIME	End date
		DIRPARTYTABLE FIRSTNAME	First name
		EMPLGENDER	Gender
		DIRPARTYTABLE	Global address book
		NAME	Global address book - Name
		DIRPARTYTABLE LASTNAME	Last name
		MARITAL STATUS	Marital status
		DIRPARTYTABLE MIDDLENAME	Middle name
		VACATIONWITHSALARY	Paid vacation
		PROJPERIODID	Period code
		CAREWITHSALARY	Personal days
		SENIORITYDATE	Seniority date
		INVENTSITE NAME	Site
		FROMDATETIME	Start date

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
		STATUS	Status
		EMPLOYEE TYPE	Type
		SALARY TYPE	Wage type
Employee - Contact person	EMPLTABLE	ACCOUNTTYPE	Account type
		DAYS OFF WITH SALARY	Additional paid vacation days
		BIRTHDATE	Birthdate
		EMPLTABLE	Employee
		INVENT SITE	Employee Site
		TODATETIME	End date
		DIRPARTYTABLE FIRSTNAME	First name
		EMPLGENDER	Gender
		DIRPARTYTABLE	Global address book
		NAME	Global address book - Name
		DIRPARTYTABLE LASTNAME	Last name
		MARITAL STATUS	Marital status
		DIRPARTYTABLE MIDDLENAME	Middle name
		VACATION WITH SALARY	Paid vacation
		PROJPERIODID	Period code

Dimension	Dimension ID	ID	Attribute
		CAREWITHSALARY	Personal days
		SENIORITYDATE	Seniority date
		INVENTSITE NAME	Site
		FROMDATETIME	Start date
		STATUS	Status
		EMPLOYEE TYPE	Type
		SALARYTYPE	Wage type
Employee - Responsible	EMPLTABLE	ACCOUNTTYPE	Account type
		DAYSOFFWITHSALARY	Additional paid vacation days
		BIRTHDATE	Birthdate
		EMPLTABLE	Employee
		INVENTSITE	Employee Site
		TODATETIME	End date
		DIRPARTYTABLE FIRSTNAME	First name
		EMPLGENDER	Gender
		DIRPARTYTABLE	Global address book
		NAME	Global address book - Name
		DIRPARTYTABLE LASTNAME	Last name

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
		MARITAL STATUS	Marital status
		DIRPARTYTABLE MIDDLENAME	Middle name
		VACATIONWITHSALARY	Paid vacation
		PROJPERIODID	Period code
		CAREWITHSALARY	Personal days
		SENIORITYDATE	Seniority date
		INVENTSITE NAME	Site
		FROMDATETIME	Start date
		STATUS	Status
		EMPLOYEE TYPE	Type
		SALARYTYPE	Wage type
Employee *			
End date	Time_ENDDATE	Days	Days
		FiscalDate	FiscalDate
		FiscalHalfYears	FiscalHalfYears
		FiscalMonths	FiscalMonths
		FiscalQuarters	FiscalQuarters
		FiscalTrimesters	FiscalTrimesters
		FiscalWeeks	FiscalWeeks
		FiscalYears	FiscalYears

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
		HalfYears	HalfYears
		Months	Months
		Quarters	Quarters
		TenDays	TenDays
		Trimesters	Trimesters
		Weeks	Weeks
		Years	Years
Expiry date	Time_TODATETIME	Days	Days
		FiscalDate	FiscalDate
		FiscalHalfYears	FiscalHalfYears
		FiscalMonths	FiscalMonths
		FiscalQuarters	FiscalQuarters
		FiscalTrimesters	FiscalTrimesters
		FiscalWeeks	FiscalWeeks
		FiscalYears	FiscalYears
		HalfYears	HalfYears
		Months	Months
		Quarters	Quarters
		TenDays	TenDays
		Trimesters	Trimesters
		Weeks	Weeks
		Years	Years
Goals	HRMGOAL	DESCRIPTION	Goal name

Microsoft Dynamics AX

Dimension	Dimension ID	ID	Attribute
		STATUS	Goal status
		GOALTYPEID	Goal type
		HRMGOAL	Goals
Job	HRPPARTYJOBTABLERELATIONSHIP	HRPPARTYJOBTABLERELATIONSHIP	Jobs
		DESCRIPTION	Jobs - Name
		JOBTYPE	Type
Media	HRMMEDIA	HRMMEDIA	Media
		DESCRIPTION	Media - Name
Organization	DIRPARTYINTERNALORGANIZATIONI2216	DIRPARTYTABLE	Global address book
		NAME	Global address book - Name
		ORGANIZATIONUNITID	Organization
		DIRPARTYINTERNALORGANIZATIONI2216	Organization Units
		DESCRIPTION	Organization Units - Name
		UNITTYPE	Type
Position	HRPPARTYPOSITIONTABLERELATIONLAT2226	FROMDATETIME	Active date
		DESCRIPTION	Description
		TODATETIME	Expiry date
		HRMVIRTUALNETWORKTABLE	People in the network
		POSITIONID	Position

Dimension	Dimension ID	ID	Attribute
		HRPPARTYPOSITIONTABLERELAT2226	Positions
		REFERENCETYPE	Reference type
Purpose*			
Recruitment project	HRMRECRUITINGTABLE	DESCRIPTION	Description
		ENDDATE	End date
		RESPONSIBLE	Person in charge
		HRMRECRUITINGTABLE	Recruitment projects
		STARTDATE	Start date
		STATUS	Status
Skills	HRMVIRTUALNETWORKTABLE	HRMVIRTUALNETWORKTABLE	People in the network
		REFERENCETYPE	Reference type
		HRMVIRTUALNETWORKSKILL	Skills
		LEVELTYPE	Type
Strategic plans	KMGAMEPLAN	DESCRIPTION	Description
		ENDDATE	End date
		STARTDATE	Start date
		STATUS	Status
		KMGAMEPLANTYPE	Strategic plan types
		KMGAMEPLANTYPE DESCRIPTION	Strategic plan types -

Dimension	Dimension ID	ID	Attribute
			Description
		KMGAMEPLAN	Strategic plans
		KMGAMEPLANTYPEID	Type
Time*			

Hierarchies for organizing attributes

Some attributes can be organized in hierarchies. You can use the following hierarchies to organize dimension attributes.

Dimension	Hierarchies	Attributes in hierarchical order
Organization	Global address book	Global address book
		Organizational Units
Employee	Global address book	Global address book
		Employee
	Site – Employee	Employee Site
		Employee
Position	People in the network – Positions	People in network
		Positions
Application	People in the network – Applications	People in network
		Applications
Course Participants	People in the network – Course Participants	People in network
		Participants
Course	People in the network – Course	People in network

Dimension	Hierarchies	Attributes in hierarchical order
		Courses
Skills	People in the network – Skills	People in network
		Skills
Actions	Contact persons – Actions	Contact persons
		Actions
	Action types – Actions	Action types
		Actions
Strategic plans	Strategic plan types	Strategic plan types
		Strategic plans
Absence	Absence groups – Absence codes	Absence groups
		Absence codes
Time	Years Quarters Months Weeks Days	Years
		Quarters
		Months
		Weeks
		Days
Active Date	Years Quarters Months Weeks Days	Years
		Quarters
		Months
		Weeks
		Days
Expiry Date	Years Quarters Months Weeks Days	Years
		Quarters
		Months

Dimension	Hierarchies	Attributes in hierarchical order
		Weeks
		Days
Employee – Closed by employee	Global address book – Employee	Global address book
		Employee
	Site – Employee	Employee Site
		Employee
Employee – Closed by manager	Global address book – Employee	Global address book
		Employee
	Site – Employee	Employee Site
		Employee
Employee – Contact person	Global address book – Employee	Global address book Employee
		Employee
	Site – Employee	Employee Site
		Employee
Employee – Alternate contact person	Global address book – Employee	Global address book
		Employee
	Site – Employee	Employee Site
		Employee
End Date	Years Quarters Months Weeks Days	Years
		Quarters
		Months
		Weeks
		Days

Dimension	Hierarchies	Attributes in hierarchical order
Employee – Responsible	Global address book – Employee	Global address book
		Employee
	Site – Employee	Employee Site
		Employee

Dimensions by measure group

The measure groups in the Human resources cube can be sliced by the following dimensions and fields.

Dimension	Employee	Master company exchange rate	Position	Goals	Exchange rate	Application	Course
Department	Department		Department				Department
Cost center	Cost center		Cost center				Cost center
Purpose	Purpose		Purpose				Purpose
Employee	Employee			Employee		Employee	
Organization units (Organization)			Organization				
Jobs (Job)							
Positions (Position)			Positions				
Goals				Goals			
Currency		Currency			Currency		

Microsoft Dynamics AX

Dimension	Employee	Master company exchange rate	Position	Goals	Exchange rate	Application	Course
Company	Company accounts	Company accounts	Company accounts	Company accounts	Company accounts	Company accounts	Company accounts
Applicants							
Applications (Application)						Applications	
Course participants							
Courses (Course)							Courses
Media						Media	
Recruitment projects (Recruitment project)						Recruitment projects	
Skills							
Actions							
Strategic plans							
Absence codes (Absence)							
Appraisal interviews (Appraisal interview)							
Time	Days	Days	Days		Days	Days	
Time (Active date)			Days				

Dimension	Employee	Master compan y exchang e rate	Position	Goals	Exchang e rate	Application	Course
Time (Expiry date)			Days				
Employee (Employee - Closed by employee)	Employee			Employee			
Employee (Employee - Closed by manager)	Employee			Employee			
Employee (Employee - Contact person)	Employee						
Employee (Employee - Alternative contact)	Employee						
Time (End date)							
Employee (Employee - Responsible)	Employee						

Dimensions by measure group, continued

The measure groups in the Human resources cube can be sliced by the following dimensions and fields.

Dimension	Recruitme nt project	Actions	Strategic plans	Appraisa l interview	Course participant s	Skills	Absence
Department		Departme nt	Departmen t				
Cost center		Cost center	Cost center				
Purpose		Purpose	Purpose				
Employee	Employee	Employee	Employee	Employe e		Employe e	
Organization units (Organizatio n)			Organizatio n				
Jobs (Job)							
Positions (Position)							
Goals				Goals			
Currency							
Company	Company accounts	Company accounts	Company accounts	Compan y accounts	Company accounts	Compan y accounts	Compan y account s
Applicants							
Applications (Application)							
Course participants					Course participant s		
Courses (Course)					Courses		
Media							
Recruitment projects (Recruitment	Recruitme nt projects						

Microsoft Dynamics AX

Dimension	Recruitment project	Actions	Strategic plans	Appraisal interview	Course participants	Skills	Absence
project)							
Skills							
Actions		Actions					
Strategic plans		Strategic plans	Strategic plans				
Absence codes (Absence)							Absence codes
Appraisal interviews (Appraisal interview)				Appraisal interviews			
Time	Days	Days	Days		Days		
Time (Active date)							
Time (Expiry date)							
Employee (Employee - Closed by employee)							
Employee (Employee - Closed by manager)							
Employee (Employee - Contact person)	Employee						
Employee (Employee - Alternative contact)	Employee						

Dimension	Recruitment project	Actions	Strategic plans	Appraisal interview	Course participants	Skills	Absence
Time (End date)	Days						
Employee (Employee - Responsible)				Employee			

Measures

The Human resource management cube includes the following measure groups and measures.

Measure group: Master company exchange rate

This measure group is based on the BIMasterCompanyExchangeRates table.

Measure	Measure field name	Aggregation	Description
Count	Not applicable	Count	Number of exchange rate records.
Master end of day rate	BIMasterCompanyExchangeRates.EndOfDayRate	Max	Maximum exchange rate in the company that is specified as the master exchange rate company, as of the end of the specified day.

Measure group: Exchange rate

This measure group is based on the BIXchangeRates table.

Measure	Measure field name	Aggregation	Description
Exchange rate Count	Not applicable	Count	Number of exchange rate records.
End of day rate	BIExchangeRates.EndOfDayRate	Max	Maximum exchange rate as of the end of the specified day.

Measure group: Employee

This measure group is based on the EmpITable table.

Measure	Measure field name	Aggregation	Description
Count	Not applicable	Count	Number of employees.
Employee	EmpITable.EmpId	Count	Identification of an employee.

Measure group: Position

This measure group is based on the HRPPartyPositionTableRelat2226 table.

Measure	Measure field name	Aggregation	Description
Position Count	Not applicable	Count	Number of positions.
Expiry date	HRPPartyPositionTableRelat2226.ValidToDate	Max	
Active date	HRPPartyPositionTableRelat2226.ValidFromDate	Min	

Measure group: Goals

This measure group is based on the HRMGoal table.

Measure	Measure field name	Aggregation	Description
Goals	HRMGoal.GoalId	Count	Number of goals.

Measure group: Application

This measure group is based on the HRMCourseTable table.

Measure	Measure field name	Aggregation	Description
Course Count	Not applicable	Count	Number of courses.
Course	HRMCourseTable.HRMCourseId	Count	Identification of the course.

Measure group: Application

This measure group is based on the HRMApplication table.

Measure	Measure field name	Aggregation	Description
Application Count	Not applicable	Count	Number of applications.
Application Start date	HRMApplication.StartDateTime	Min	Start time of the employment.
Application	HRMApplication.HRMApplicationId	Count	Identification of the application.
Number of trained employees	HRMApplication.VirtualNetworkId	Count	Number of trained employees.

Measure group: Recruitment project

This measure group is based on the HRMRecruitingTable table.

Measure	Measure field name	Aggregation	Description
Recruitment project Count	Not applicable	Count	Number of recruitment projects.
RequisitionApprovalDate	HRMRecruitingTable.HRMRequisitionApprovalDate	Min	The date on which the requisition was

Measure	Measure field name	Aggregation	Description
			approved.
Recruitment project	HRMRecruitingTable.HRMRecruitingId	Count	Identification of the recruitment project.

Measure group: Actions

This measure group is based on the KMAction table.

Measure	Measure field name	Aggregation	Description
Recruitment project Count	Not applicable	Count	Number of actions.
Actions	KMAction.KMActionId	Count	Identification of actions.

Measure group: Strategic plans

This measure group is based on the KMGamePlan table.

Measure	Measure field name	Aggregation	Description
Strategic plans Count	Not applicable	Count	Number of strategic plans.
Plan	KMGamePlan.KMGamePlanId	Count	Identification of the strategic plan.

Measure group: Appraisal interview

This measure group is based on the HRMInterviewTable table.

Measure	Measure field name	Aggregation	Description
Appraisal interview Count	Not applicable	Count	Number of appraisal interviews.
Appraisal	HRMInterviewTable.HRMInterviewId	Count	Identification of

Measure	Measure field name	Aggregation	Description
interview			the appraisal interview.

Measure group: Course participants

This measure group is based on the HRMCourseAttendee table.

Measure	Measure field name	Aggregation	Description
Course participants Count	Not applicable	Count	Number of course participants.
Person	HRMCourseAttendee.HRMVirtualNetworkId	Count	Identification of the person.
Attendees	HRMCourseAttendee.RecId	Count	Number of registered attendees.

Measure group: Skills

This measure group is based on the HRMVirtualNetworkSkill table.

Measure	Measure field name	Aggregation	Description
Skills Count	Not applicable	Count	Number of skills.
Number of employees with a skill	HRMVirtualNetworkSkill.HRMVirtualNetworkID	Count	Number of employees with a skill.

Measure group: Absence

This measure group is based on the HRMAbsenceTrans table.

Measure	Measure field name	Aggregation	Description
Absence Count	Not applicable	Count	Number of absences.
Absence code	HRMAbsenceTrans.HRMAbsenceCodeId	Count	Identification of

Measure	Measure field name	Aggregation	Description
			the absence code.

Human resource management cube KPI calculations

The following table lists the key performance indicators (KPIs) that are associated with the Human resources management cube. You can use the information in the following table to help verify the information in your KPIs.

KPI name	Calculation
Applications per closed recruitment project	Number of applications that are associated with a closed recruitment project / Number of closed recruitment projects
Average days to fill positions	Days to fill / Number of applications where Status = 5 (Hired)
Female gender ratio	Number of employees where Gender = 2 (Female) / Number of employees
Male gender ratio	Number of employees where Gender = 1 (Male) / Number of employees
Open recruitment projects per recruiter	Recruitment projects where Status = 1 (Started) / Number of recruitment projects where Status = 1 (Started) with distinct recruiters (field responsible)
Percentage of actions completed	Number of actions where Status = 3 (Finished) / Number of actions where End date <= System date
Percentage of applicants hired	Number of application where Status = 5 (Hired) / Number of applications
Percentage of applicants interviewed	Number of applications with applicant interview / Number of applications
Percentage of applications with media	Number of applications with media (field hrnMediaId) / Number of applications
Percentage of employees trained	Number of distinct course participants where the virtual network Reference Type = 0 (Employee) and Employment Status = 1

KPI name	Calculation
	(Employed) and Employee Type = 0 (Employee) / Number of employees
Percentage of employees with goals	Number of goals with distinct employees where Employment Status = 1 (Employed) and Employee Type = 0 (Employee) / Number of distinct employees where Employment Status = 1 (Employed) and Employee Type = 0 (Employee)
Percentage of employees with skill profile	Number of employees with a skill / Number of employees
Percentage of goals completed	Number of goals where Status = 3 (Completed) / Number of goals
Percentage of strategic plans completed	Number of strategic plans where Status = 'Finished' / Number of strategic plans with 'End date' <= System date

Human resource management cube KPI source tables, configuration keys, and Role Centers

The following table lists the key performance indicators (KPIs) that are associated with the Human resources management cube. The tables from which data is drawn, required configuration keys, and related role centers are included.

KPI name	Source tables	Configuration keys (Tables)	Role Centers
Applications per closed recruitment project	HRMRecruitingTable, HRMApplication	HRMManagementRecruiting (HRMRecruitingTable, HRMApplication)	Not applicable
Average days to fill positions	HRMApplicantTable, HRMApplication	HRMManagementRecruiting (HRMApplicantTable, HRMApplication)	Not applicable
Female gender ratio	EmplTable	Not applicable	Not applicable
Male gender ratio	EmplTable	Not applicable	Not applicable

KPI name	Source tables	Configuration keys (Tables)	Role Centers
Open recruitment projects per recruiter	HRMRecruitingTable	HRMManagementRecruiting (HRMRecruitingTable)	Not applicable
Percentage of actions completed	KMAction	KMBPM (KMAction)	Not applicable
Percentage of applicants hired	HRMApplicantTable	HRMManagementRecruiting (HRMApplicantTable)	Not applicable
Percentage of applicants interviewed	HRMApplicantInterview, HRMApplicantTable, HRMApplication	HRMManagementRecruiting (HRMApplicantTable, HRMApplication, HRMApplicantInterview)	Not applicable
Percentage of applications with media	HRMMedia, HRMApplication	HRMManagementRecruiting (HRMMedia, HRMApplication)	Not applicable
Percentage of employees trained	HRMVirtualNetworkTable, HRMCourseAttendee	Not applicable (HRMVirtualNetworkTable), HRMCollaborativeCourse (HRMCourseAttendee)	Not applicable
Percentage of employees with goals	EmplTable, HRMPartyEmployeeRelationship, HRMGoal	Not applicable (EmplTable, HRMPartyEmployeeRelationship), HRMCollaborative (HRMGoal)	Not applicable
Percentage of employees with skill profile	HRMVirtualNetworkSkill	HRMAdministration (HRMVirtualNetworkSkill)	Not applicable
Percentage of goals completed	HRMGoal	HRMCollaborative (HRMGoal)	Not applicable
Percentage	KMGameplan	KMBPMGameplan	Not

KPI name	Source tables	Configuration keys (Tables)	Role Centers
of strategic plans completed		(KMGameplan)	applicable

Human resource management cube security by role

The following tables list the dimensions, measures, calculated measures, and key performance indicators (KPIs) that are associated with the Human resource management cube, and the roles that provide security access to them.

Yes indicates that security access is provided by default.

Dimensions

Dimensions	HR Manager/Generalist	Staffing Recruitment Manager	Development/Training Specialist
Employee	Yes	No	No
Organization	Yes	No	No
Job	Yes	No	No
Appraisal interview	Yes	No	No
Goals	No	No	Yes
Absence	Yes	No	No
Course	No	No	Yes
Course attendees	No	No	Yes
Strategic plans	Yes	No	No
Actions	Yes	No	No
Recruitment project	No	Yes	No
Applicants	No	Yes	No
Application	No	Yes	No
Media	No	Yes	No
Skills	Yes	No	No

Measures

Measures	HR Manager/Generalist	Staffing Recruitment Manager	Development/Training Specialist
Employees	Yes	No	No
Appraisal interviews	Yes	No	No
Goals	No	No	Yes
Absences	Yes	No	No
Courses	No	No	Yes
Attendees	No	No	Yes
Strategic plans	Yes	No	No
Actions	Yes	No	No
Recruitment projects	No	Yes	No
Applications	No	Yes	No
Position start date	Yes	No	No
Position end date	Yes	No	No
Requisition approval date	No	Yes	No
Employee start date	Yes	No	No
Number of employees with a skill	Yes	No	No
Number of trained employees	No	No	Yes
Employees	Yes	No	No
Appraisal interviews	Yes	No	No
Goals	No	No	Yes