IBM Predictive Customer Intelligence
Version 1.x

IBM Predictive Customer Intelligence Usage Report 1.0

IBM

Product Information

This document applies to IBM Predictive Customer Intelligence Version 1.0.1 and may also apply to subsequent releases.

Contents

Introduction

IBM® Predictive Customer Intelligence gives you the information and insight that you need to provide proactive service to your customers. The information can help you to develop a consistent customer contact strategy and improve your relationship with your customers.

IBM Predictive Customer Intelligence brings together, in a single solution, the ability to do the following tasks:

- Determine the best offer for a customer.
- Retain customers that are likely to churn.
- Segment your customers, for example, by family status and salary.
- Identify the most appropriate channel to deliver an offer, for example, by email, telephone call, or application.

This solution ensures that all interactions with customers are coordinated and optimized. IBM Predictive Customer Intelligence gives you the ability to sift quickly through millions of customers and know who to contact, when, and with what action.

The following steps define the process:

1. Understand the customer. Predictive modeling helps you to understand what market segments each customer falls into, what products they are interested in, and what offers they are most likely to respond to.
2. Define possible actions and the rules and models that determine which customers are eligible for which offers.
3. After the best action is identified, deliver the recommendation to the customer.

Audience

This guide is intended to provide users with an understanding of how the IBM Predictive Customer Intelligence solution works. It is designed to help people who are planning to implement IBM Predictive Customer Intelligence know what tasks are involved.

Finding information

To find product documentation on the web, including all translated documentation, access IBM Knowledge Center (www.ibm.com/support/knowledgecenter/SSCJHT_1.1.0).

PDF versions of the documents are available from the Predictive Customer Intelligence version 1.1 product documentation page (www.ibm.com/support/docview.wss?uid=swg27046802).

Accessibility features

Accessibility features help users who have a physical disability, such as restricted mobility or limited vision, to use information technology products. Some of the components included in the IBM Predictive Customer Intelligence have accessibility features.

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IBM Predictive Customer Intelligence HTML documentation has accessibility features. PDF documents are supplemental and, as such, include no added accessibility features.

Forward-looking statements

This documentation describes the current functionality of the product. References to items that are not currently available may be included. No implication of any future availability should be inferred. Any such references are not a commitment, promise, or legal obligation to deliver any material, code, or functionality. The development, release, and timing of features or functionality remain at the sole discretion of IBM.

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Chapter 1. Extend your solutions with the IBM Predictive Customer Intelligence Usage Report

Use the IBM Predictive Customer Intelligence Usage Report to monitor the effectiveness of your IBM Predictive Customer Intelligence solution.

The IBM Predictive Customer Intelligence Usage Report displays the number of offers that are presented to customers and can be configured to show the number of offers that are accepted and rejected.

Functional accelerator artifacts

The IBM Predictive Customer Intelligence Usage Report functional accelerator includes the following artifacts.

IBM Cognos® Business Intelligence reports

PCI_PCIReports_Usage_CognosContent.zip

PCI_PCIReports_Usage_FMProject.zip

PCI_Images.zip

The report is described in Chapter 3, "IBM Predictive Customer Intelligence Usage Report," on page 9.

IBM DB2® database
PCI_PCIReports_Usage_Data.zip

Chapter 2. Functional accelerator installation

The IBM Predictive Customer Intelligence Usage Report functional accelerator is for use with IBM Predictive Customer Intelligence.

The functional accelerator package contains the following parts:
- IBM DB2 databases.
- IBM Cognos Business Intelligence reports and Framework Manager models and packages.

To install the functional accelerator, you must perform the following steps:
1. Download the functional accelerator from IBM AnalyticsZone (www.ibm.com/analyticszone).
2. Create the sample databases on the data node computer.
3. Install the IBM Cognos Content on the Business Intelligence node.

Functional accelerator prerequisites

Before you install the functional accelerator, you must have a fully configured environment.

You must have administration rights and have the ability to copy files between computers.

Download the functional accelerator

You must download the IBM Predictive Customer Intelligence accelerators from IBM AnalyticsZone.

Procedure
1. Go to IBM AnalyticsZone (www.ibm.com/analyticszone).
2. Click **Downloads**, and under **Predictive Customer Intelligence Accelerators**, click **View all PCI downloads**.
3. Click **More details** for the accelerator that you want to download.
4. If you are not signed in, click **Sign In to Download**.

   You must enter your IBM ID. If you do not have an IBM ID, you must register to create one.
5. Click **Download**.
6. Go to the directory where you downloaded the functional accelerator.
7. Decompress the file.

Creating the database

To use the IBM Predictive Customer Intelligence functional accelerator, you must create a database.

You run one script to create the database, and then run another script to populate the database.

Procedure

1. Copy the functional accelerator database content file from the computer where you downloaded them to the data node computer:

   The IBM Predictive Customer Intelligence Usage Report functional accelerator database file is `PCI_1.0_PCIReports_Usage\Database\PCI_PCIReports_Usage_Data.zip`. A database that is named PCI is created.

2. On the data node computer, decompress the file.

3. On Microsoft Windows operating systems, do the following steps:

   a. Log on to the data node computer as the DB2 instance owner user.

   b. Go to the folder where you decompressed the functional accelerator content files.

   c. In the uncompressed folder, double-click `Install_DB.bat`.

   d. Double-click `Load_Data.bat`.

4. On Linux operating systems, do the following steps:

   a. Log on to the data node computer as **root** user.

   b. Open a terminal window, and go to the directory where you decompressed the functional accelerator content files.

      Note: If you copied the content files to the home directory for the **root** user, you might have to move the files to another directory that is not in the **root** home directory so that you can run the scripts.

   c. Type the following command to change the permissions for the files:

      `chmod -R 755 *sh`

   d. Change to the database instance owner. For example, `su db2inst1`

   e. In the uncompressed folder, run `sh ./Install_DB.sh`.

   f. Run `sh ./Load_Data.sh`.

What to do next

Verify that the tables are created and the data is successfully loaded into the input tables by checking the `out.log` file.

On Microsoft Windows operating systems, the log file is in the functional accelerator name folder. On Linux operating systems, the log file is in the `db2inst1` home folder.

Search for "rows were rejected" in the log file. The value should be zero, if it is not, there are data load issues.

Deploy the IBM Cognos content

For IBM Cognos Business Intelligence, you must catalog the database, create a data source connection, and then deploy the content files for the IBM Predictive Customer Intelligence functional accelerator.

Moving the IBM Cognos content

You must copy the IBM Cognos content for the IBM Predictive Customer Intelligence functional accelerator to the appropriate locations in your IBM Cognos installation to be able to deploy the content.

Procedure

1. Copy the IBM Cognos content from the computer where you downloaded the functional accelerator to the *Cognos_Install_location*\Deployment folder on the Business Intelligence node computer.

   The IBM Predictive Customer Intelligence Usage Report functional accelerator IBM Cognos content file is PCI_1.0_PCIReports_Usage\BI\ PCI_PCIReports_Usage_CognosContent.zip.

2. Decompress the IBM Cognos report image file where you downloaded the functional accelerator.

   The report images file is PCI_1.0_PCIReports_Usage\BI\PCI_Images.zip.

   Note: If you are installing more than one accelerator, you do not have to replace the images. The PCI_Images.zip files contains all of the images that are used in all of the accelerator reports.

3. Copy the PCI_Images folder to the *Cognos_Install_location*\webcontent folder on the Business Intelligence node computer.

   You should have *Cognos_Install_location*\webcontent\PCI_Images folder that contains report image files.

4. Copy the IBM Cognos Framework Manager model files from the computer where you downloaded thefunctional accelerator to the computer where you installed IBM Cognos Framework Manager, and decompress the file.

5. If you want to edit the Framework Manager models, you must catalog the functional accelerator database on the computer where you installed Framework Manager.

   a. Click **Start** > **IBM DB2** > **DB2COPY1 (Default)** > **DB2 Command Window - Administrator**.

   b. Enter the following command to catalog the database node:

      db2 catalog tcpip node *NODE_NAME* remote *data_node_name* server *PORT_NUMBER*

      NODE_NAME can be any value. *PORT_NUMBER* is 50000 by default.

   c. Enter the following command to catalog the PCI database:

      db2 catalog database PCI at node *NODE_NAME* authentication server

      You must use the same *node_name* that you used in the **db2 catalog database** command.

Creating a data source connection to the functional accelerator database

You must create a data source connection to the IBM Predictive Customer Intelligence functional accelerator database.

Procedure

1. Open a web browser.

2. Go to the IBM Cognos BI portal URL. For example, go to http://*bi_node_name*/ibmcognos/.

3. On the **Welcome** page, click **Administer IBM Cognos Content**.

4. Click the **Configuration** tab, and click **Data Source Connections**.

5. Click the **New Data Source** button [icon].

6. In the **Name** box, type PCI, and then click **Next**.

7. In the connection page, select **IBM DB2**, ensure that **Configure JDBC connection** is selected, and click **Next**.

8. In the **DB2 database name** field, type `PCI`.

9. Leave **DB2 connect string** blank.

10. Under **Signons**, select both **Password** and **Create a signon that the Everyone group can use**, and then type the user ID and password for the DB2 instance owner user that you used to create the database, and click **Next**.

    Tip: To test whether the parameters are correct, click **Test the connection**. After you test the connection, click **OK** to return to the connection page.

11. In the **Server name** box, enter the name or IP address of your data node computer.

12. In the **Port number** box, enter the DB2 port number. The default is 50000.

13. In **Database name**, type `PCI`.

    Tip: To test whether the parameters are correct, click **Test the connection**. After you test the connection, click **OK** to return to the connection page.

14. Click **Finish**.

Deploy the IBM Cognos reports

You must deploy the IBM Predictive Customer Intelligence functional accelerator reports using IBM Cognos Administration.

Procedure

1. Open a web browser.

2. Go to the IBM Cognos BI portal URL. For example, go to `http://bi_node_name/ibmcognos/`.

3. On the **Welcome** page, click **Administer IBM Cognos Content**.

4. On the **Configuration** tab, click **Content Administration**.

5. On the toolbar, click the **New Import** button.

6. In the **Deployment Archive** pane, select deployment archive, and click **Next**.

   The deployment archive is named `PCI_PCIReports_Usage_CognosContent`.

7. In the **Specify a name and description** pane, accept the default or enter a new name, and click **Next**.

8. In the **Select the public folders and directory dontent** pane, select all of the packages in the table, leave the **Options** as default, and click **Next**.

   Note: Ensure that the **Disable after import** option is cleared.

9. In the **Specify the general options** pane, accept the defaults, and click **Next**.

10. On the **Review the summary** page, click **Next**.

11. On the **Select an action** page, select **Save and run once**, and click **Finish**.

12. On the **Run with options** page, accept the defaults, and click **Run**, and then click **OK**.

13. Select **View the details of this import after closing this dialog** and click **OK**.

14. In IBM Cognos Administration, click the **Home** button.

    The content is available in **Public Folders** > **PCI Industry Accelerators 1.0**.

Copying the functional accelerator license files to each computer

After you install the functional accelerator, you must copy the `license` folder to each computer on which you use the IBM Predictive Customer Intelligence functional accelerator.

Important: Do not rename the folders or files.

Procedure

Copy the `license` folder from the folder where you decompressed the functional accelerator to each computer on which an IBM Predictive Customer Intelligence component is installed. For example, copy the folder and contents so that you have a `C:\IBM\PCI_IndustryAccelerators\1.0\license` folder on Microsoft Windows operating systems or an `/opt/IBM/PCI_IndustryAccelerators/1.0/license` folder on Linux operating systems on each node computer.
The folder contains the license files. The folder should exist on each server and client node computer.

Chapter 3. IBM Predictive Customer Intelligence Usage Report

The IBM Predictive Customer Intelligence Usage Report monitors the number of offers or recommendations that are provided. The report also records the response rates that are broken down by type of response.

The number of offers that are presented, accepted, and rejected are shown by channel (for example, website, mobile application) and by month. The numbers of offers that are purchased are shown by month.

If you use IBM Enterprise Marketing Management (EMM) as the recommendation generator, the data comes from the system tables that are used for logging offers. If you use IBM Analytical Decision Management as the recommendation generator, only the number of offers that are presented is found in the log tables. In this case, if you want to capture acceptance and rejection, you can build custom extensions to your call center or web application.

For information about populating the database for the IBM Predictive Customer Intelligence Usage Report, see Chapter 4, "Configure your environment for the IBM Predictive Customer Intelligence Usage Report," on page 11.

You can customize the report using IBM Cognos Report Studio. Cognos Report Studio is a report design and authoring tool. Report authors can use Report Studio to create, edit, and distribute a wide range of professional reports. For more information about how to use Report Studio, see the *IBM Cognos Report Studio User Guide*. You can obtain this user guide from IBM Knowledge Center, (www.ibm.com/support/knowledgecenter/SSEP7J_10.2.1/ com.ibm.swg.ba.cognos.ug_cr_rptstd.10.2.1.doc/c_rs_introduction.html).

The meta data that the report displays comes from the package that is created in IBM Cognos Framework Manager. The example Framework Manager project folder contains the compiled project file (.cpf). When you open the .cpf file, Framework Manager displays the modeled relationships of the data and the package definitions, which are made available to the reporting studios when published. You can modify the meta data for the report by using Framework Manager. For more information, see Modify the data model.

Running the IBM Predictive Customer Intelligence Usage Report

You can run the IBM Predictive Customer Intelligence Usage Report from within IBM Cognos Connection. You can also filter the data that is displayed in the report. By default, the report is not filtered.

Procedure

1. Open IBM Cognos Connection, and navigate to the location of the report. By default, this is **Public Folders** > **PCI Industry Accelerators 1.0** △ > **PCI Usage**.
2. Click the IBM Predictive Customer Intelligence Usage Report link. By default, the report is rendered in IBM Cognos Viewer in HTML format.
3. You can filter the data that is displayed in the **Recommendations by Channel** crosstab by making selections in the prompt controls and then clicking **Refresh** to update the report. You can filter by Date, Response type, or by Channel.

To hide the prompt controls click **Filters**. The prompt values selected are displayed when the controls are hidden, to ensure that the report context is maintained.

4. You can print the report in PDF format. On the Cognos Viewer toolbar, click the **Output** icon and select **View in PDF format** (the icon displays the current output format, such as HTML).

Accessibility for the IBM Predictive Customer Intelligence Usage Report

The IBM Predictive Customer Intelligence Usage Report has been designed to be accessible for those users who require the use of such technologies.

To enable accessibility options, do the following steps:

1. In IBM Cognos Connection, click **Run with options** ▶ adjacent to the report.
2. Select **Enable accessibility support**, and click **Run**.

The report is rendered with the accessibility support enabled. This results in adjustments to the report layout to accommodate this support.

Chapter 4. Configure your environment for the IBM Predictive Customer Intelligence Usage Report

The IBM Predictive Customer Intelligence Usage Report monitors the number of offers or recommendations that are provided.

If you use IBM Enterprise Marketing Management as the recommendation generator, the data comes from the system tables that are used for logging offers. If you use IBM Analytical Decision Management as the recommendation generator, only the number of offers that are presented is found in the log tables. In this case, if you want to capture acceptance and rejection, build custom extensions to your call center or web application.

To configure your environment for the IBM Predictive Customer Intelligence Usage Report, you must first configure the logging of events, and then you must populate the IBM Predictive Customer Intelligence database. The steps to do this differ depending on whether you are using IBM Enterprise Marketing Management or IBM Analytical Decision Management as the recommendation generator.

Database tables used by the IBM Predictive Customer Intelligence Usage Report

The following database tables and attributes are used by the IBM Predictive Customer Intelligence Usage Report.

CAMPAIGN

The CAMPAIGN master data table contains the campaigns that an offer belongs to.

Table 1. CAMPAIGN

Colun	Data Type
CAMPAIGN_ID	INTEGER(4)
LANGUAGE_ID	INTEGER(4)
CAMPAIGN_CD	VARGRAPHIC(50)
CAMPAIGN_NAME	VARGRAPHIC(200)
CAMPAIGN_DESCRIPTION	VARGRAPHIC(500)
START_DATE	DATE(4)
END_DATE	DATE(4)

CHANNEL

The CHANNEL master data table contains the communication channels that interact with customers.

Table 2. CHANNEL

Column	Data Type
CHANNEL_ID	INTEGER(4)

Table 2. CHANNEL (continued)

Column	Data Type
LANGUAGE_ID	INTEGER(4)
CHANNEL_CD	VARGRAPHIC(50)
CHANNEL_NAME	VARGRAPHIC(200)

KEY_LOOKUP

The KEY_LOOKUP master data table contains the foreign keys.

Table 3. KEY_LOOKUP

Column	Data Type
KEY_LOOKUP_ID	BIGINT(8)
TABLE_NAME	VARGRAPHIC(50)
KEY_LOOKUP_CD	VARGRAPHIC(50)

PCI_CALENDAR

The PCI_CALENDAR master data table contains the calendar.

Table 4. PCI_CALENDAR

Column	Data Type
PCI_DATE	DATE(4)
LANGUAGE_ID	INTEGER(4)
YEAR_NO	INTEGER(4)
MONTH_NO	INTEGER(4)
QUARTER_NO	INTEGER(4)
MONTH_NAME	VARGRAPHIC(20)
QUARTER_NAME	VARGRAPHIC(20)
WEEKDAY_NO	INTEGER(4)
WEEKDAY_NAME	VARGRAPHIC(10)
YEAR_CAPTION	VARGRAPHIC(10)
PERIOD_NO	INTEGER(4)
PERIOD_NAME	VARGRAPHIC(25)
WEEK_IN_PERIOD	INTEGER(4)
WEEK_IN_PERIOD_CAPTION	VARGRAPHIC(25)

PCI_LANGUAGE

The PCI_LANGUAGE master data table contains the language codes that are used for globalization.

Table 5. PCI_LANGUAGE

Column	Data Type
LANGUAGE_ID	INTEGER(4)

Table 5. PCI_LANGUAGE (continued)

Column	Data Type
LANGUAGE_CD	VARGRAPHIC(50)
LANGUAGE_NAME	VARGRAPHIC(50)

PCI_TIME

This master data table contains the time, down to the second.

Table 6. PCI_TIME

Column	Data Type
TIME_OF_DAY	TIME(3)
HOUR_NO	INTEGER(4)
HOUR_CAPTION	VARCHAR(5)
AM_OR_PM	VARGRAPHIC(25)
TIME_OF_DAY_TEXT	VARCHAR(50)

OFFER_MADE

The OFFER_MADE fact table records the number of offers that are made by date and time.

Table 7. OFFER_MADE

Column	Data Type
CAMPAIGN_ID	INTEGER(4)
CHANNEL_ID	INTEGER(4)
LOG_DATETIME	TIMESTAMP(10)
LOG_DATE	DATE(4)
LOG_TIME	TIME(3)
OFFER_COUNT	INTEGER(4)

OFFER_RESPONSE

The OFFER_RESPONSE fact table records the number of responses that are received by type, date, and time.

Table 8. OFFER_RESPONSE

Column	Data Type
CAMPAIGN_ID	INTEGER(4)
CHANNEL_ID	INTEGER(4)
RESPONSE_TYPE_ID	INTEGER(4)
LOG_DATETIME	TIMESTAMP(10)
LOG_DATE	DATE(4)
LOG_TIME	TIME(3)
OFFER_COUNT	INTEGER(4)

OFFER_TARGET_MONTH

The OFFER_TARGET_MONTH fact table contains a record of how many recommendations were purchased by month in a given year. It is populated during installation if required.

Usually each row in OFFER_TARGET_MONTH has one twelfth of the recommendations in OFFER_TARGET_YEAR for the same year, but that value can be overridden.

Table 9. OFFER_TARGET_MONTH

Column	Data Type
PURCHASE_YEAR	INTEGER(4)
PURCHASE_MONTH	INTEGER(4)
RECOMMENDATION_COUNT	INTEGER(4)

OFFER_TARGET_YEAR

The OFFER_TARGET_YEAR fact table contains a record of how many recommendations were purchased by year. It is populated during installation if required.

Table 10. OFFER_TARGET_YEAR

Column	Data Type
PURCHASE_YEAR	INTEGER(4)
RECOMMENDATION_COUNT	INTEGER(4)

RESPONSE_TYPE

The RESPONSE_TYPE master data table contains the range of response types to an offer.

Table 11. RESPONSE_TYPE

Column	Data Type
RESPONSE_TYPE_ID	INTEGER(4)
LANGUAGE_ID	INTEGER(4)
RESPONSE_TYPE_CD	VARGRAPHIC(50)
RESPONSE_TYPE_NAME	VARGRAPHIC(200)

The Framework Manager model for the IBM Predictive Customer Intelligence Usage Report

The IBM Cognos Framework Manager model contains the metadata for the IBM Predictive Customer Intelligence Usage Report

A view of the database layer in the IBM Cognos Framework Manager Content Explorer shows the relationships between the database tables.
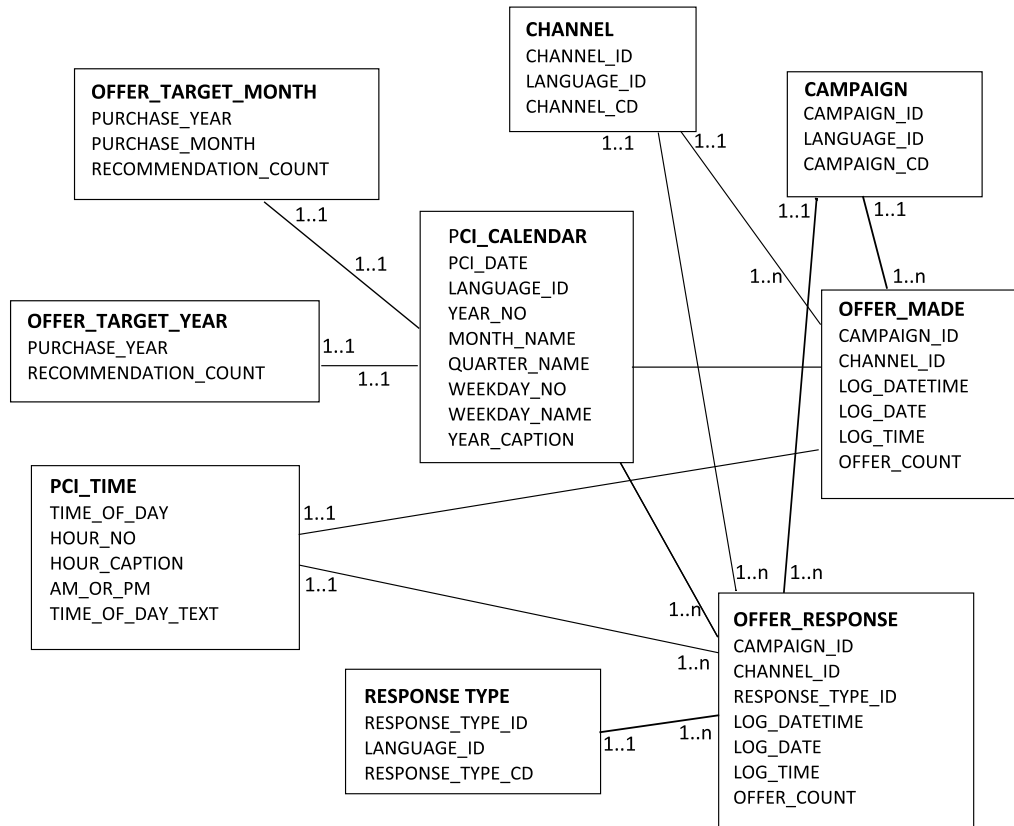
Figure 1. Database layer in the IBM Predictive Customer Intelligence model

A view of Offers Made that shows the relationships between the tables responsible for the Offers Made report is shown in the following figure.

CHANNEL
CHANNEL_ID
LANGUAGE_ID
CHANNEL_CD
CHANNEL_NAME

PCI_CALENDAR
PCI_DATE
LANGUAGE_ID
YEAR_NO
MONTH_NAME
QUARTER_NAME
WEEKDAY_NO
WEEKDAY_NAME
YEAR_CAPTION
PERIOD_NO
PERIOD_NAME
WEEK_IN_PERIOD
WEEK_IN_PERIOD_CAPTION

1..1

OFFER_MADE
CAMPAIGN_ID
CHANNEL_ID
LOG_DATETIME
LOG_DATE
LOG_TIME
OFFER_COUNT

1..n

CAMPAIGN
CAMPAIGN_ID
LANGUAGE_ID
CAMPAIGN_CD
CAMPAIGN_NAME
CAMPAIGN_DESCRIPTION
START_DATE
END_DATE

1..1   1..n

1..n   1..1

1..n

1..1

PCI_TIME
TIME_OF_DAY
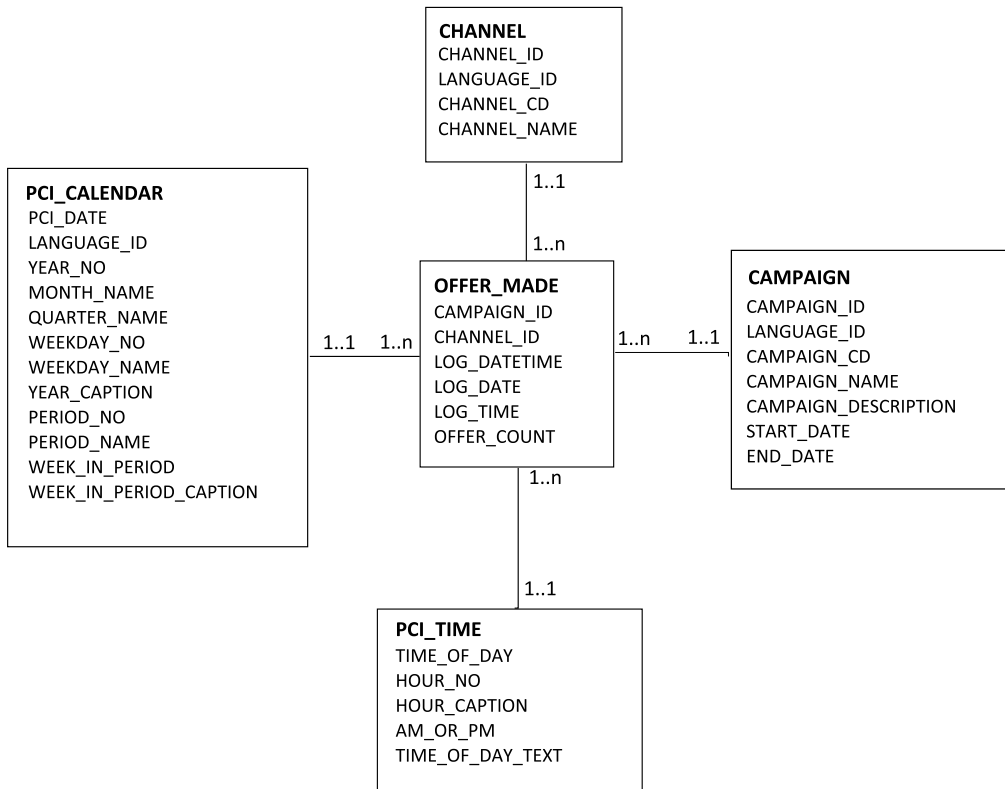HOUR_NO
HOUR_CAPTION
AM_OR_PM
TIME_OF_DAY_TEXT

Figure 2. A view of the Offer Made tables

A view of Offer Responses that shows the relationships between the tables responsible for the Offer Responses that are shown in the IBM Predictive Customer Intelligence Usage Report is shown in the following figure.
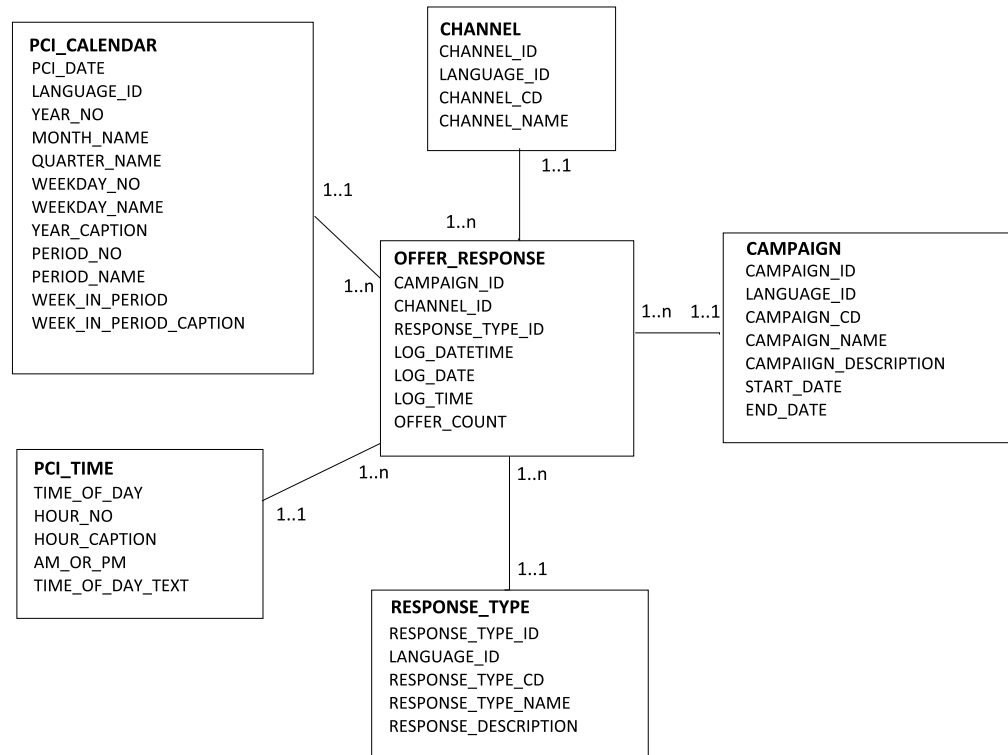
Figure 3. A view of the Offer Response tables

Configuring logging in IBM Enterprise Marketing Management

If you use IBM Enterprise Marketing Management as the recommendation generator, you must configure the logging of events for different categories for the IBM Predictive Customer Intelligence Usage Report.

Communication channels are configurable in IBM Enterprise Marketing Management. Part of the configuration includes setting up logging of events for different categories. The default category of **Get Offer** must be logged for acceptance and rejection. If there are user-defined categories for acceptance and rejection, they must also be set to log for acceptance or rejection.

Procedure

1. Log in as administrator to the **IBM Campaign Manager** console.
2. Select **Campaign**, and then **Interactive Channels**.
3. Select and edit each interactive channel:
   a. Click the **Events** tab.
   b. Select the event **Get Offer**, or any other user-defined event for accepting or rejecting an offer.
   c. Select **Log Offer Made**, **Log Acceptance**, and **Log Rejection**.

Populate the IBM Predictive Customer Intelligence database from IBM Enterprise Marketing Management

If you use IBM Enterprise Marketing Management as the recommendation generator, the data for the IBM Predictive Customer Intelligence Usage Report comes from the system tables that are used for logging offers.

The following tables show how the data must be mapped between the IBM Predictive Customer Intelligence database and the IBM Enterprise Marketing Management database.

Table 12. Map the UA_CAMPAIGN table to the CAMPAIGN table

Predictive Customer Intelligence Column: CAMPAIGN	Enterprise Marketing Management Column: UA_CAMPAIGN	Transformations
CAMPAIGN_ID	<Assigned by system>	
CAMPAIGN_CD	CAMPAIGNID	Convert number to vargraphic
CAMPAIGN_NAME	NAME	
CAMPAIGN_DESCRIPTION	DESCRIPTION	
START_DATE	STARTDATE	
END_DATE	ENDDATE	

Table 13. Map the UACI_INTCHANNEL table to the CHANNEL table

Predictive Customer Intelligence Column: CHANNEL	Enterprise Marketing Management Column: UACI_INTCHANNEL	Transformations
CHANNEL_ID	ICID	
CHANNEL_CD	ICID	Convert number to vargraphic
CHANNEL_NAME	NAME	

Table 14. Map the UACI_EVENTACTIVITY table to the OFFER_MADE table

Predictive Customer Intelligence Column: OFFER_MADE	Enterprise Marketing Management Column: UACI_EVENTACTIVITY table	Transformations
CHANNEL_ID	ICID	
CAMPAIGN_ID	N/A	
OFFER_COUNT	OCCURRENCES	Sum
LOG_DATETIME	DATEID + TIMEID	Concatenate and convert to datetime

Filters:
- EVENTNAME = 'Get Offer'
- Group by ICID, DATEID, TIMEID

Table 15. Map the UACI_EVENTACTIVITY table to the OFFER_RESPONSE table

Predictive Customer Intelligence Column: OFFER_RESPONSE table	Enterprise Marketing Management Column: UACI_EVENTACTIVITY	Transformations
CHANNEL_ID	ICID	
CAMPAIGN_ID	N/A	
RESPONSE_TYPE_ID	EVENTID	
OFFER_COUNT	OCCURRENCES	Sum
LOG_DATETIME	DATEID + TIMEID	Concatenate and convert to datetime

Filters:
- CATEGORYNAME = 'Response'
- Group by ICID, DATEID, TIMEID

Table 16. Map the UACI_EVENTACTIVITY table to the RESPONSE_TYPE table

Predictive Customer Intelligence Column: RESPONSE_TYPE	IBM Enterprise Marketing Management Column: UACI_EVENTACTIVITY	Transformations
RESPONSE_TYPE_ID	EVENTID	
RESPONSE_TYPE_CODE	EVENTID	Convert number to vargraphic
RESPONSE_TYPE_NAME	EVENTNAME	

Filters:
- distinct EVENTID
- CATEGORYNAME= 'Response'

Configure logging in IBM SPSS Collaboration and Deployment

If you use IBM Analytical Decision Management as the recommendation generator, you cannot get the campaign, channel, customer, offer, or response from the IBM SPSS® database tables for the IBM Predictive Customer Intelligence Usage Report. This information must be obtained from another application, and then used as inputs to the decision model to be available for logging.

The following views are available in IBM SPSS Collaboration and Deployment Services when logging is configured:

```
┌─────────────────────────────┐        ┌─────────────────────────────┐
│ SPSSSCORE_V_LOG_INPUT       │        │ SPSSSCORE_V_LOG_OUTPUT      │
│ SERIAL                      │        │ SERIAL                      │
│ INPUT_TABLE                 │        │ OUTPUT_NAME                 │
│ INPUT_NAME                  │        │ OUTPUT_VALUE                │
│ INPUT_VALUE                 │        │ ...                         │
│ INPUT_TYPE                  │        │                             │
└─────────────────────────────┘        └─────────────────────────────┘
                                                        1.N
              1.N
                                  ┌──────────────────────────────┐
                     1.1          │ SPSS_V_LOG_HEADER            │  1.1
                                  │ SERIAL                       │
                                  │ CONFIGURATION_NAME           │
                                  │ ...                          │
                                  └──────────────────────────────┘
```
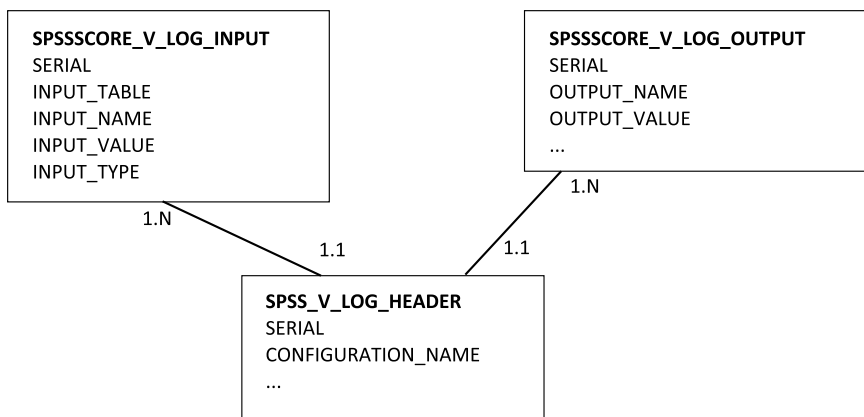
SPSSSCORE_V_LOG_HEADER contains the scoring models that are configured for real-time decisions.

SPSSSCORE_V_LOG_INPUT contains the attributes that are used in assessing the scenario and rendering a recommendation.

SPSSSCORE_V_LOG_OUTPUT contains the attributes that are returned from the decision model, which can include some of the inputs and the recommendation.

Configure logging in IBM SPSS

You can configure logging in IBM SPSS down to the attribute level. Consider the following points:
- The channel must be an input field to the model and must be set up for logging.
- The campaign must be an input field to the model and must be set up for logging.
- Any other dimensions that are required by the dashboard, such as campaign, must be both inputs and logged outputs of the model.

Configure a model for scoring by using IBM SPSS Deployment Manager. During scoring configuration, you can select any input or output field for logging. The customer data determines what is available for logging.

For more information, see IBM SPSS Deployment Manager User's Guide (www.ibm.com/support/knowledgecenter/SS69YH_6.0.0/com.spss.mgmt.content.help/model_management/thick/idh_dlg_scoring_configuration_logging.html).

Populate the IBM Predictive Customer Intelligence database from IBM SPSS

If you use IBM Analytical Decision Management as the recommendation generator for the IBM Predictive Customer Intelligence Usage Report, only the number of offers that are presented is found in the log tables.

In IBM SPSS, there are no dedicated system tables for channel, response type, and offers. Custom database tables must be used for the channel, response type, and offers.

The following tables show how the data must be mapped between the IBM Predictive Customer Intelligence database, and IBM SPSS database tables.

Table 17. CAMPAIGN table for IBM Predictive Customer Intelligence mapped to the custom database tables from IBM SPSS

IBM Predictive Customer Intelligence Column	SPSS Column	Filters
CAMPAIGN_ID	Sequentially generated number	These are distinct rows because Campaigns do not repeat.
CAMPAIGN_CD	I.INPUT_VALUE	H.CONFIGURATION_NAME = 'name of model';
		I.INPUT_NAME = 'campaign cd';
CAMPAIGN_NAME	I.INPUT_VALUE	H.CONFIGURATION_NAME = 'name of model';
		I.INPUT_NAME = 'campaign name';

Replace the filters in quotation marks with the names for the database attributes.

SPSS view:

```
SPSSSCORE_V_LOG_HEADER AS H
Join
SPSSSCORE_V_LOG_INPUT AS I on H.SERIAL = I.SERIAL
```

Table 18. CHANNEL table for IBM Predictive Customer Intelligence mapped to the custom database tables from IBM SPSS

IBM Predictive Customer Intelligence Column	SPSS Column	Filters
CHANNEL_ID	Sequentially generated number	Distinct rows so channels do not repeat
CHANNEL_CD	I.INPUT_VALUE	H.CONFIGURATION_NAME = 'name of model';
		I.INPUT_NAME = 'channel cd';
CHANNEL_NAME	I.INPUT_VALUE	H.CONFIGURATION_NAME = 'name of model';
		I.INPUT_NAME = 'channel name';

Replace the filters in quotation marks with the names for the database attributes.

SPSS view:

```
SPSSSCORE_V_LOG_HEADER AS H
Join
SPSSSCORE_V_LOG_INPUT AS I on H.SERIAL = I.SERIAL
```

Table 19. OFFER_MADE table for IBM Predictive Customer Intelligence mapped to the custom database tables from IBM SPSS

IBM Predictive Customer Intelligence Column	SPSS Column	Filters
CHANNEL_ID *	I.INPUT_VALUE	H.CONFIGURATION_NAME = 'name of model';
		I.INPUT_NAME = 'channel cd';

Table 19. OFFER_MADE table for IBM Predictive Customer Intelligence mapped to the custom database tables from IBM SPSS (continued)

IBM Predictive Customer Intelligence Column	SPSS Column	Filters
CAMPAIGN_ID *	I.INPUT_VALUE	H.CONFIGURATION_NAME = *'name of model'*;
		I.INPUT_NAME = *'campaign cd'*;
OFFER_COUNT	Count (distinct H.STAMP)	H.CONFIGURATION_NAME = *'name of model'*;
		I.INPUT_NAME = *'channel cd'*;
LOG_DATETIME	H.STAMP	H.CONFIGURATION_NAME = *'name of model'*;
		I.INPUT_NAME = *'channel cd'*;

IBM Predictive Customer Intelligence columns that are marked with * contain transformations using Lookup ID from CD.

Replace the filters in quotation marks with the names for the database attributes.

SPSS View:

```
SPSSSCORE_V_LOG_HEADER AS h
join SPSSSCORE_V_LOG_OUTPUT on h.SERIAL = o.SERIAL
left outer join dbo.SPSSSCORE_V_LOG_INPUT li
on h.SERIAL = li.serial
```

Table 20. OFFER_RESPONSE table for IBM Predictive Customer Intelligence

IBM Predictive Customer Intelligence Column
CHANNEL_ID
CAMPAIGN_ID
RESPONSE_ID
OFFER_COUNT
LOG_DATETIME

You cannot get the customer response from IBM Analytical Decision Management. The customer response must be loaded from the channel application by using custom code.

Table 21. RESPONSE_TYPE table for IBM Predictive Customer Intelligence mapped to the custom database tables from IBM SPSS

IBM Predictive Customer Intelligence Column	SPSS Column	Filters
RESPONSE_TYPE_ID	Sequentially generated number	Distinct rows so Response Types do not repeat
RESPONSE_TYPE_CD	I.INPUT_VALUE	H.CONFIGURATION_NAME = *'name of model'*;
		I.INPUT_NAME = *'response type cd'*;

Table 21. RESPONSE_TYPE table for IBM Predictive Customer Intelligence mapped to the custom database tables from IBM SPSS (continued)

IBM Predictive Customer Intelligence Column	SPSS Column	Filters
RESPONSE_TYPE_NAME	I.INPUT_VALUE	H.CONFIGURATION_NAME = *'name of model'*;
		I.INPUT_NAME = *'response type name'*;

IBM SPSS view:

```
SPSSSCORE_V_LOG_HEADER AS H
join SPSSSCORE_V_LOG_INPUT AS I on H.SERIAL = I.SERIAL
```

Appendix. Troubleshooting a problem

Troubleshooting is a systematic approach to solving a problem. The goal of troubleshooting is to determine why something does not work as expected and how to resolve the problem.

Review the following table to help you or customer support resolve a problem.

Table 22. Troubleshooting actions and descriptions

Actions	Description
A product fix might be available to resolve your problem.	Apply all known fix packs, or service levels, or program temporary fixes (PTF).
Look up error messages by selecting the product from the IBM Support Portal, and then typing the error message code into the **Search support** box (http://www.ibm.com/support/entry/portal/).	Error messages give important information to help you identify the component that is causing the problem.
Reproduce the problem to ensure that it is not just a simple error.	If samples are available with the product, you might try to reproduce the problem by using the sample data.
Ensure that the installation successfully finished.	The installation location must contain the appropriate file structure and the file permissions. For example, if the product requires write access to log files, ensure that the directory has the correct permission.
Review all relevant documentation, including release notes, technotes, and proven practices documentation.	Search the IBM Knowledge Center to determine whether your problem is known, has a workaround, or if it is already resolved and documented.
Review recent changes in your computing environment.	Sometimes installing new software might cause compatibility issues.

If the items in the table did not guide you to a resolution, you might need to collect diagnostic data. This data is necessary for an IBM technical-support representative to effectively troubleshoot and assist you in resolving the problem. You can also collect diagnostic data and analyze it yourself.

Troubleshooting resources

Troubleshooting resources are sources of information that can help you resolve a problem that you are having with an IBM product.

Support Portal

The IBM Support Portal is a unified, centralized view of all technical support tools and information for all IBM systems, software, and services.

The IBM Support Portal lets you access all the IBM support resources from one place. You can tailor the pages to focus on the information and resources that you need for problem prevention and faster problem resolution. Familiarize yourself

with the IBM Support Portal by viewing the demo videos (https://www.ibm.com/blogs/SPNA/entry/the_ibm_support_portal_videos).

Find the content that you need by selecting your products from the IBM Support Portal (http://www.ibm.com/support/entry/portal).

Before contacting IBM Support, you will need to collect diagnostic data (system information, symptoms, log files, traces, and so on) that is required to resolve a problem. Gathering this information will help to familiarize you with the troubleshooting process and save you time.

Service request

Service requests are also known as Problem Management Reports (PMRs). Several methods exist to submit diagnostic information to IBM Software Technical Support.

To open a PMR or to exchange information with technical support, view the IBM Software Support Exchanging information with Technical Support page (http://www.ibm.com/software/support/exchangeinfo.html).

Fix Central

Fix Central provides fixes and updates for your system's software, hardware, and operating system.

Use the pull-down menu to navigate to your product fixes on Fix Central (http://www.ibm.com/systems/support/fixes/en/fixcentral/help/getstarted.html). You may also want to view Fix Central help.

IBM developerWorks

IBM developerWorks® provides verified technical information in specific technology environments.

As a troubleshooting resource, developerWorks provides easy access to the most popular practices, in addition to videos and other information: developerWorks (http://www.ibm.com/developerworks).

IBM Redbooks

IBM Redbooks® are developed and published by the IBM International Technical Support Organization, the ITSO.

IBM Redbooks (http://www.redbooks.ibm.com) provide in-depth guidance about such topics as installation and configuration and solution implementation.

Software support and RSS feeds

IBM Software Support RSS feeds are a quick, easy, and lightweight format for monitoring new content added to websites.

After you download an RSS reader or browser plug-in, you can subscribe to IBM product feeds at IBM Software Support RSS feeds (https://www.ibm.com/software/support/rss).

Log files

Log files can help you troubleshoot problems by recording the activities that take place when you work with a product.

Error messages

The first indication of a problem is often an error message. Error messages contain information that can be helpful in determining the cause of a problem.

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