

Marketing segmentation

Entersoft Business Suite® | Entersoft CRM®

Daily processes and use cases

Contents

1. Segmentation studio	4
Segmentation overview	5
Segmentation models	5
Attributes and the attribute palette	8
Person & Customer attributes	8
Business address attributes	9
Item attributes	9
Contacts	9
Segment modeling	10
Drag & drop a single attribute	11
Drag & drop advanced filters	13
Using drag & drop on segments	14
Attribute distribution	15
Sales and Profitability distribution	16
Compare recent period	17
Sales statistics	17
Cross sales analytics	18
Segment context functions	19
Target group	20
Post processing functions	20
List Management	21
Segmentation basis	23
Examples	24
Segmentation basis creation: 12 month rolling period retained customers	24
Segmentation basis use: 12 month rolling period retained customers who responded to a specific campaign	25
Cross-sell / Up-sell scenario	26
2. RFM analysis	27

RFM Model & Response Prediction	28
RFM Response Prediction Model	31
Response model analysis	31
Compare response models	32

1.Segmentation studio

Segmentation overview

This area in Entersoft CRM enables you to classify your customers and prospects into various target groups based on different attributes. CRM Marketing provides a **Segmentation Studio** that can be used to perform the following:

- Classification of business accounts
- Ad hoc analysis based on different attribute filters that can affect decision making

Segmentation studio empowers marketing professionals to perform **selective marketing**.

In Entersoft CRM, Segmentation is available in the form of a dynamic and comprehensive tree structure that enables the definition and presentation of:

- the **broad target market** of the particular company (or group of companies)
- the **criteria** that are **progressively** applied on that broad target market in order to determine segments (subsets) of customers that have common characteristics and needs
- the **segments** per se, including some quick info (e.g. number of records in segment etc.)

The Entersoft CRM segmentation model is a **powerful analysis** tool that allows you to get substantial, in-depth insights into your customers. This means that the model per se is particularly valuable in addition to the derived segments. The final goal is to design and implement specialized strategies for reaching them effectively, in a measurable and, ultimately, profitable way.

Segmentation is **integrated** to the following **systems**:

- List management
- Campaign management

The following **topics** are discussed:

- Attributes
- Segmentation basis
- Segmentation studio & model
- Target groups
- List Management

Segmentation models


A segmentation process starts with the creation of a segmentation model using the segmentation studio. This studio is a graphical modeling tool that is used to create segments using a step by step process.

To create or edit a segmentation model use the **view (scroller) 'Segmentation models'**. The view provides the following parameters:

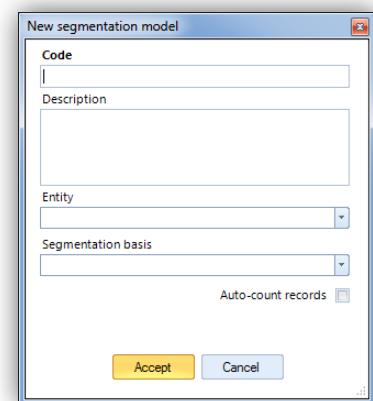
- Created on (date)
- Created by (user)
- Model Code
- Model Description

Segmentation models				
Created on 01/01/2014 - 31/01/2014		Code	Description	Created by
	Code	Description	Created on	Created by
Entity: Person				
9	Person	Person	16/10/2013	ESDEV
10	Persons (Branches, Divisions, Products)	Persons (Branches, Divisions, Produ...	01/12/2013	ESDEV
11	Person segmentation - Leads	Person segmentation - Leads	10/01/2014	ESDEV
	Code	Description	List type	Number of entries
1	New Leads	NewLeads (target group)	Dynamic	139

The **second level** presents the lists (see section: List Management on page 21) that have been defined in the context of the specific segmentation model.

A new model can be created using the button  at the right hand side toolbar of the page. The "New" dialogue is then displayed. A segmentation process starts always with the creation of a segmentation model.

The dialogue for creating a "New" segmentation model will guide you to also define a **Code** and a **Description** for the new model and whether the **auto-counting of records** is, by default, desired. The source of a segmentation model can be:



The dialog box titled "New segmentation model" contains the following fields and controls:

- Code**: A text input field.
- Description**: A text input field.
- Entity**: A dropdown menu.
- Segmentation basis**: A dropdown menu.
- Auto-count records**: A checkbox.
- Buttons**: "Accept" and "Cancel" buttons at the bottom.

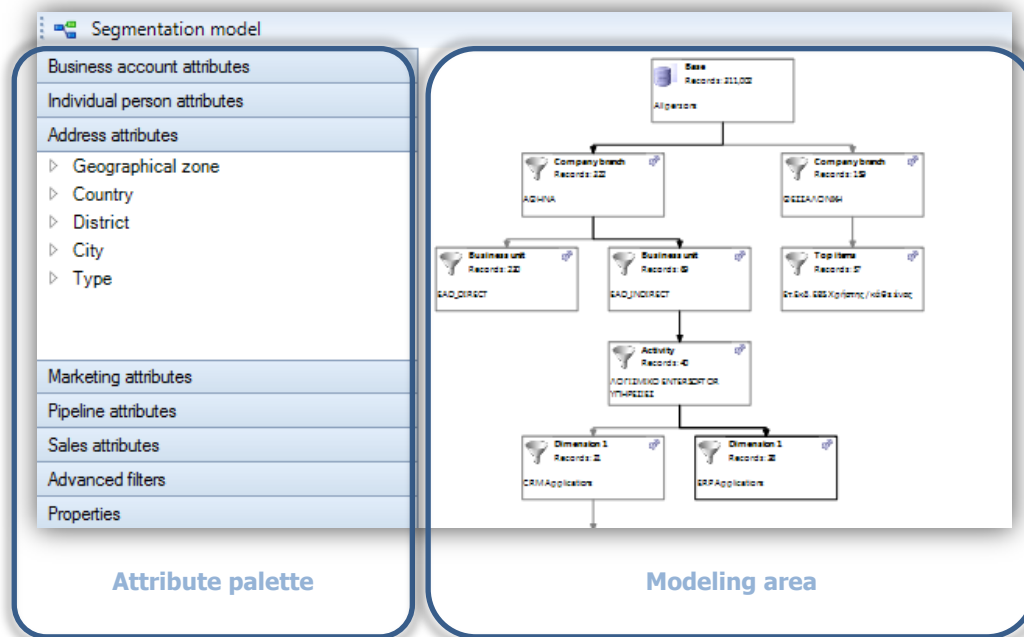
- All the records of the selected object (**entity**)
- A segmentation basis. Note that you may optionally select a **segmentation basis** related to an Entity. A segmentation basis is a high level segment (e.g. Retained Customers) previously prepared, that can be repetitively used for further segmentation and analysis. Later on we will see how a segmentation basis can be constructed and reused.

A segmentation model is a tree structure that includes one or more branches.

- A segment is one branch of the segmentation model tree.
- The process of a model is always top → down.
- A segmentation model defines one or more segments and target groups. A segment is a combination of selected filters.
- For a business account to be a part of a segment must meet all the selection criteria.

The segmentation studio page is separated in the following areas:

- **Attribute** palette. The available attribute palette depends on the selected Entity.
- **Modeling** area.



At this point, segmentation can be performed on the following Entersoft CRM Entities:

- **Person.** In Entersoft CRM, a Person is defined as a Company or an Individual that we have some kind of a business relationship with.
- **Customer.**
- **Business addresses** (Point of Sales, POS).
- Products (i.e. Inventory **items and Services**) are also available for segmentation.
- **B2B Contacts**, after having converted a Person/Customer segment to their contacts (see section: Segment context functions on page: 19)

When creating a new segmentation model, **one of the above** entities must be **initially selected**.

A model can be deleted only if no related lists have been created.

Attributes and the attribute palette

The attribute palette is a grouped list of the attributes that can be used for the purposes of the segmentation process.

An attribute describes some aspect of a customer or a prospect. Using the segmentation studio you can use attributes as different filters-criteria. Two types of attribute filters are provided:

- Single attribute filter (classified object master data or derived transactional data)
- Hierarchical attribute filter (e.g. the 'Country hierarchy' attribute)
- Multiple attribute filter (advanced filter)

Attributes originate from the following:

- Prospect/Customer **master data**; for example: profession, age, habits, region, gender
- **Customer derived data**, for example purchase behaviors or sales figures. These data are originated from advanced filters that include multiple filter criteria or even, in the case of single attribute filters, custom attributes (e.g. sales product categories).
- Prospect/Customer standard customizing **property set**
- Master data **attributes related to user definable tables** (UD tables) are displayed only if the table is configured appropriately.
- Survey attributes (e.g. campaign survey business scenario).



Attribute configuration using the "Segmentation management tool"

You can use segmentation management tool to define which attributes are available to the marketing user during segmentation. This way, you can hide attributes that have no meaning to your segmentation process. Moreover, you can rename a specific attribute or a group of attributes.

Person & Customer attributes





As regards the entities Person and Customer, the attributes are grouped (infosets) in the attribute palette as follows:

- **Person master attributes**, such as Person kind (i.e. Individual or Company), Industry etc.
- **Individual attributes**, such as Gender, Family status, Age group etc.
- **Address attributes**, such as Country, City etc.
- **Marketing attributes**, such as RFM analysis, marketing Surveys etc.
- **Pipeline attributes**, such as Lead status, Sales stage etc.
- **Sales attributes**, such as Use of card, Churn or retained customers etc.



Ready to use scenarios

Under the Sales group of attributes, the following ready to use scenarios are provided: Churn customers, retained customers, associated transaction

Churn customers 
 Retained customers 
 Associated transaction items 
 Transaction value 

items, transaction value. These common and of particular importance scenarios have been implemented and provided by default.

- **Advanced filters**, such as RFM response rate, purchases of specific products etc.
- **Property set attributes**. Note that, in Entersoft CRM, **property sets** are sets of **custom** attributes that can be defined at Entity level in order to describe exceptional or uncommon attributed of the involved Entities.

Business address attributes

In this case, the available attributes are grouped as follows:

- **Address attributes**, such as Country, City etc.
- **Merchandise attributes**, such as Competitors, Competition threat etc.
- **Sales attributes**, such as Business and Item Dimensions.

Item attributes

In this case, the available attributes are grouped as follows:

- **Item attributes**, such as Item Group, Category etc.
- **Sales attributes**, such as the day of the transaction, the Country hierarchy etc.

Contacts

In this case, the available attributes are grouped as follows:

- **Contact attributes**, such as Position, Department etc.

Segment modeling

Segment modeling is performed as follows:

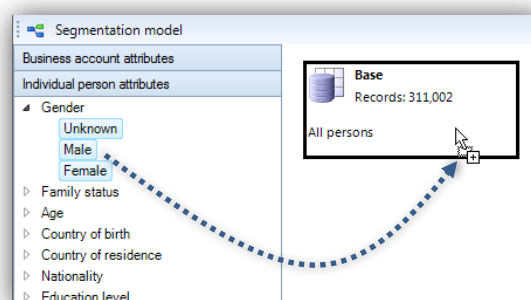
- Using the **drag and drop** function **from the attribute palette** to the modeling area
- Using the **'Add filter'** action provided by the graphical attribute distribution interactive dialogue
- Using the **drag and drop** function from one segment filter of the modeling area to another segment filter of the modeling area.

As mentioned above, segmentation modeling is a step by step process. When a new model is created **the top item represents the initial base of the model**. If a **segmentation basis** is used, then the segment is delimited to the records of the selected basis, otherwise the initial item includes all the records, for example all persons. In this context, the top item of the tree displays 'All persons' if no segmentation basis is used, otherwise displays the list that is used as a segmentation basis. For each item in the modeling area you can have **auto counting function** of the records that meet the selective criteria. As aforementioned the auto counting function is enabled by the relative option during the creation of a new segmentation model. The counting process is asynchronous.

The various modeling area items are represented as boxes. Depending on the associated icons the user can quickly understand whether the box is:



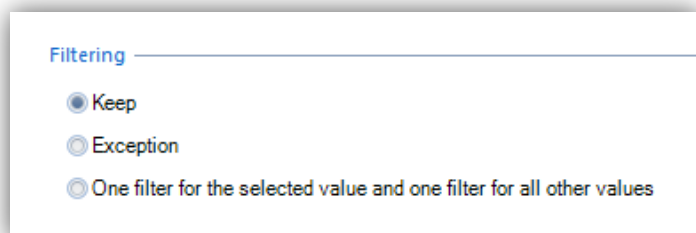
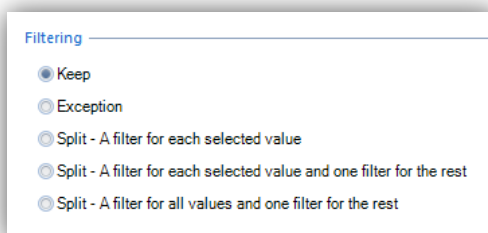
Modeling using drag and drop function from the attribute palette to the modeling area requires selection of the attribute values using shift or control. When values are selected then, using drag and drop, you select the item on the modeling area where the selected criteria will be added. When you drag and drop specific attributes to a specific item on the modeling area the standard operation is intersection.



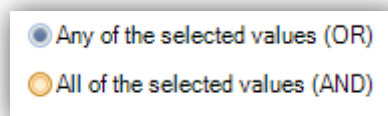
Drag & drop a single attribute

Releasing the mouse button when you drag and drop a **single attribute** on a specific item – segment the following actions are available:

- Keep
- Exclude
- Split 1 – One filter per selected value
- Split 2 – One filter per selected value and one for the rest
- Split 3 – One filter for the selected values and one for rest



As shown in the images above, when only one value has been selected the filtering options are correspondingly restricted. Additionally, as shown in the following image, if more than one single attribute values have been selected, the segmentation tool allows you to define how these are interconnected, i.e. to define the logical operator that is to be applied: OR (any of the selected values) / AND (all of the selected values).



Example

In order to understand the above functions it is required to consider this example.

We assume that in the staging area there is only the **initial segment includes all the persons** (no segmentation basis is defined). If auto counting function is enabled then the initial segment box will show the number of all persons.

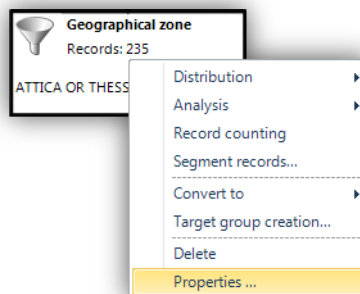
We suppose that we need to add selective criteria based on the **person professional industry**. Assume that we select the values 'South' and 'North' and that any of the selected values can exist for a record to be included (i.e. logical operator 'OR').

- The **'Keep'** action will create a new filter with the selected attribute values. This filter will **intersect** with the starting segment which is the initial segment in this example. The **result** of the new filter will be all persons with **Region='South' or Region='North'**.
- The **'exclude'** action will create a new filter that will **return** all the persons with **Region<>'South' or Region<>'North'**.
- The **'Split 1'** action will create **two different segments** one **resulting** to all persons with Region='South' and one segment that includes all persons with Region = 'North'.

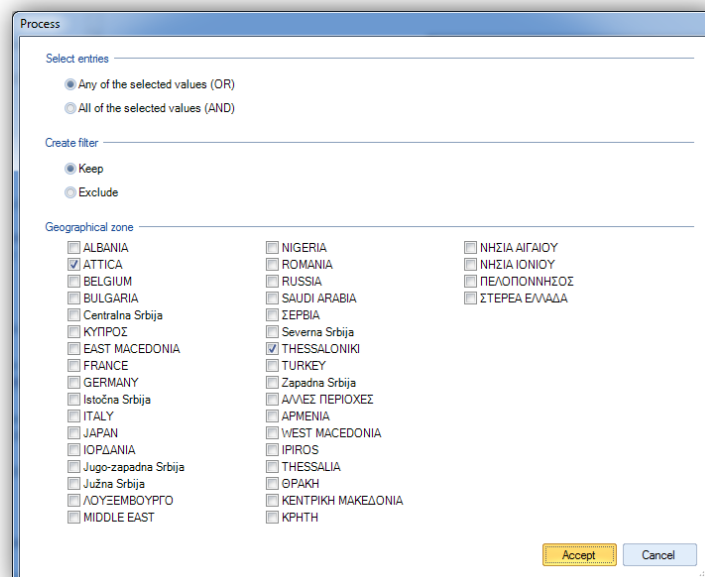
- Using the '**Split 2**' action will lead to the creation of **three different segments**. The first one includes all persons where their region is in South, the second segment includes all persons where their region is in North and the third segment includes all persons where their region is not in 'South' or 'North'.
- The '**Split 3**' action will create **two different segments**. The first segment includes all the persons with Region='South' or Region='North' and the second one includes all the persons with Region<>'South' or Region<>'North'.

Note that after having created a new segment, the tool allows you to view its properties (use the corresponding right click menu), review the selected operations and attribute values, and even modify them.

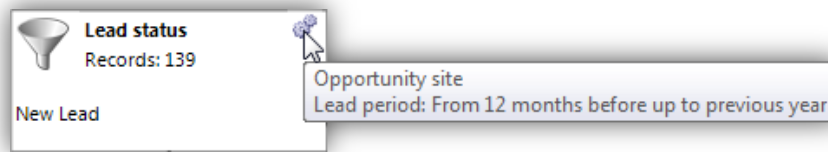
For example, the right click menu on a segment based on the single attribute 'Geographical zone' and, specifically, the values 'Attica' and 'Thessaloniki':



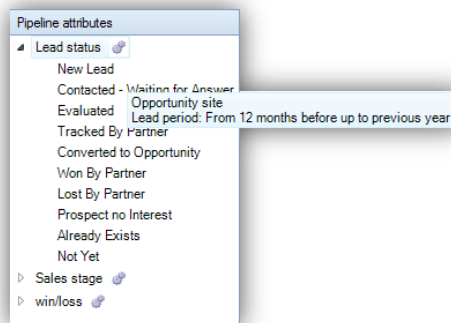
...will display the following dialogue:



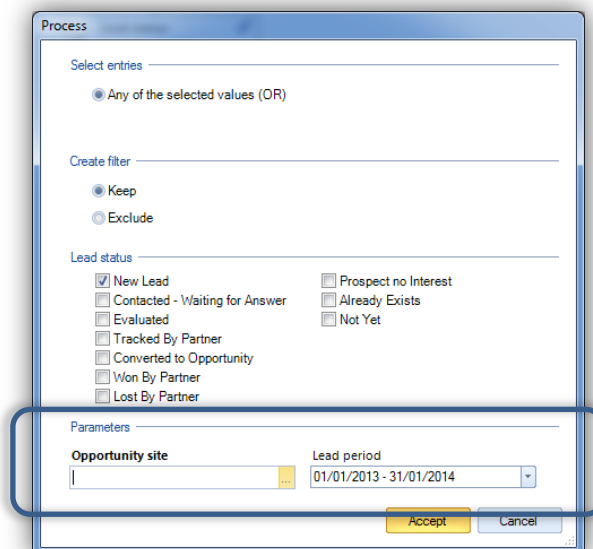
When a segment is based on a **parametrical attribute**, then an **icon** is displayed on the top right of the segment box. The **tooltip** on the particular icon displays the related parameter info as set by the user in order to define the segment.



The same icon is available on the **attribute's title, at the attribute palette**. Here the tooltip displays initially the default related parameter values. This can be of course modified by the user and until the segmentation studio is restarted, the values set by the user will be displayed and used.



The Segment properties dialogue is, in this case, enriched by the related parameters:



Drag & drop advanced filters

As aforementioned, you can use advanced filters during segmentation to **select business accounts based on derived data**. An advanced filter provides one or more parameters that can be used to select business accounts.

The following standard advanced filters are provided on the Person and on the Customer entity.

- **Customers who purchased products/services** (Transaction date, Item code, Item description, Item family, Item group, Item category, Item sub-category)
- **Marketing responses** (Response date, Marketing activity, Response)

- **RFM segmentation** (RFM Model, RFM Segment)
- **RFM Response rate** (RFM Response Model, Response Rate)

Using drag and drop function on **advanced filters** the operation is always '**Keep**'.

When you drag and drop an advanced filter on a specific segment then the release of the mouse button will lead to the **display** of **the defined parameters** of the advanced filter.



Some information on the configuration of the advanced filters

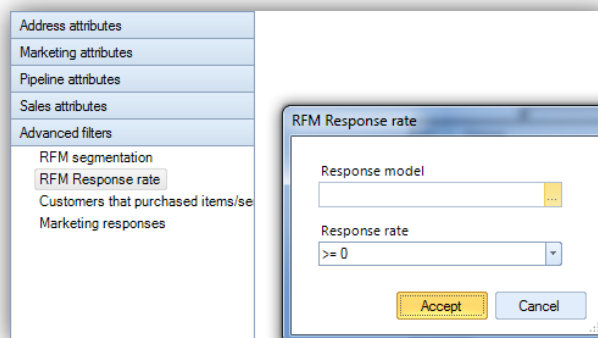
(A) Segmentation modeling uses a standard area per object where different advanced filters can be located. These areas are the following:

- Person – Person Segment Filter
- Customer – Customer Segment Filter
- B2B Contacts - Contact Segment Filter
- Business addresses – Address Segment Filter

(B) The construction of an advanced filter must meet the following specification: The advanced filter must return one column named GID. This GID represents the global unique identifier of the classified object (GUID). Moreover, the query of the advanced filter must always return distinct values.

(C) You can customize the standard filters or create new advanced filters using the Entersoft query builder.

The following image is an example of having dragged and dropped onto a segment the '**RFM Response rate**' advanced filter.

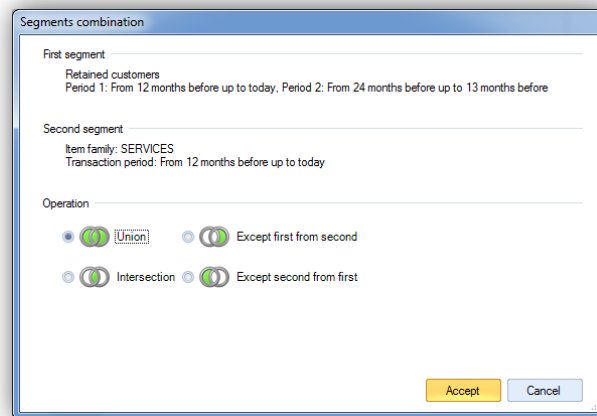


Using drag & drop on segments

As mentioned above, you can use **drag and drop function between two segments** in the modeling area in order to combine them. Drag and drop between segments provides the following operations:

- Intersect
- Merge
- 1st segment except 2nd segment
- 2nd segment except 1st segment

An example is presented in the following image. Note that **icons** have also been incorporated for **demonstrating the effect** of the various operations in order to facilitate the selection of the most suitable per case.



The following table shows the availability of the drag and drop function in the modeling area:

Dragged object	Drop Target	Availability	Function
Segment	Segment	Yes, only if the dragged and target segment are not in the same branch	Intersect, Merge, Remove
Segment	Target group	No	
Segment	List	No	
Target group	Segment	No	
Target group	List	No	
Target group	Target Group	No However, you can combine two target groups but only using the options of the target group, as shown next <div> Combination with list Operation ▼ <ul style="list-style-type: none"> Union Intersection Exception </div>	Intersect, Merge, Except

For further info on Target Groups and Lists, see related sections on pages: 19, 21.

Attribute distribution

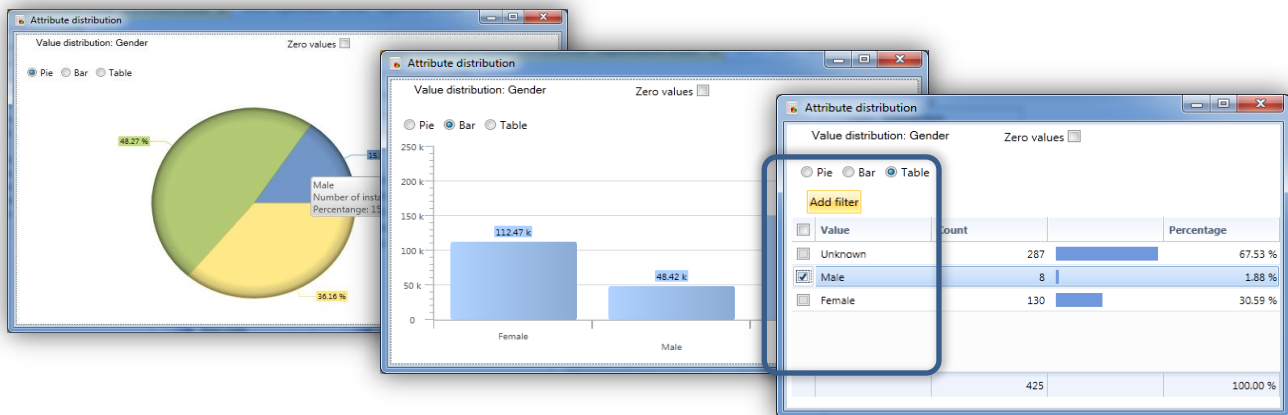
The segmentation studio provides also a graphical distribution of the values of an attribute. You can select this function for the following segment items:

- Segmentation basis – Initial segment
- Segment
- Target group

The graphical distribution page provides the following items:

- **Pie chart:** Shows the number of members per value and the percentage (%) as tooltip

- **Bar chart:** Shows the number of members per value and the percentage (%) as tooltip
- **Grid with embedded bar chart:** Shows the number of values and the percentage (%) of the distribution.



When the number of the attribute values is big, the dashboard allows you to focus on the top N attributes values through the provided slider that becomes automatically available.

Top

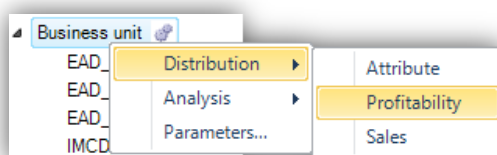


Create new filter from the attribute distribution dashboard

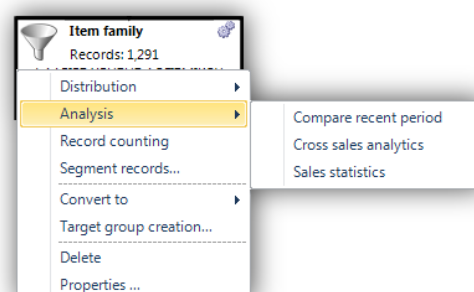
Using the grid you can select one or more attribute values to create a new filter segment under the selected segment in the modeling area. When you select a specific attribute value then you can press the button 'Add' to create the new segment. The modal dialogue of graphical distribution will be closed and then the new segment will be created in the modeling area.

Further analysis can be performed on several attributes (such as: on business/item dimensions, the geo zone). The availability of the dashboards described next on the various attributes, depends upon the nature of the attribute. It must be clear that not all of the following are available on all attributes. Having selected a segment on the Segmentation model you can select a dashboard under the **distribution** or the **analysis right click menu** of:

an attribute



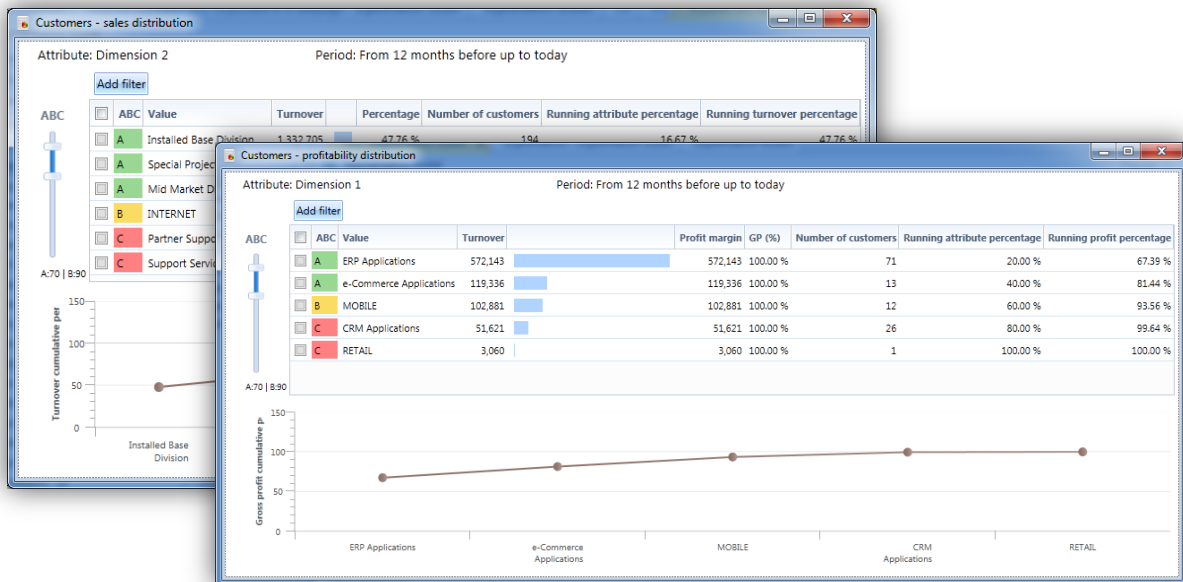
the segment



Sales and Profitability distribution

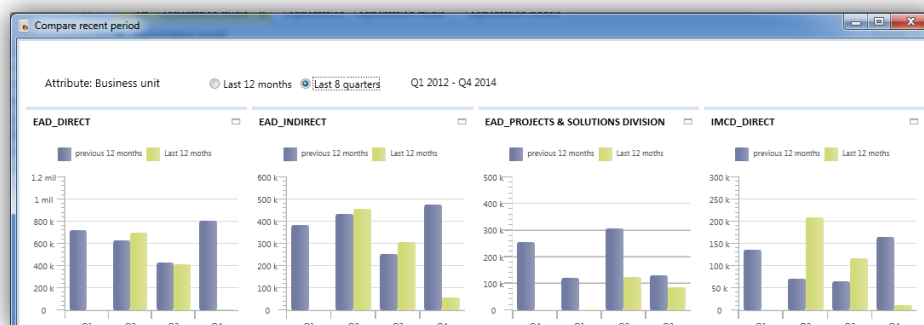
For each value of the selected attribute you can not only review the turnover, the profit margin, and the number of customers etc. but, most importantly these two dashboards allow you to perform dynamic ABC Analysis on the selected attribute values.

Moreover, the dashboards allow you to change **ad hoc** the values of the A, B and C (from the default A: 70, B: 90, C: 100 to *e.g.* A: 60, B: 80, C: 100 and so forth) using the slider on the left.



Compare recent period

This dashboard allows you to compare the turnover achieved in the last 12 months (or 8 quarters) to the previous, corresponding period of time. In order to provide a comprehensive presentation of this, the dashboard provides a **multi-chart**: which presents the turnover trend by month or quarter (depending on the view); one chart per attribute is presented. The difference (%) between the two periods is also presented on the graph tooltip.

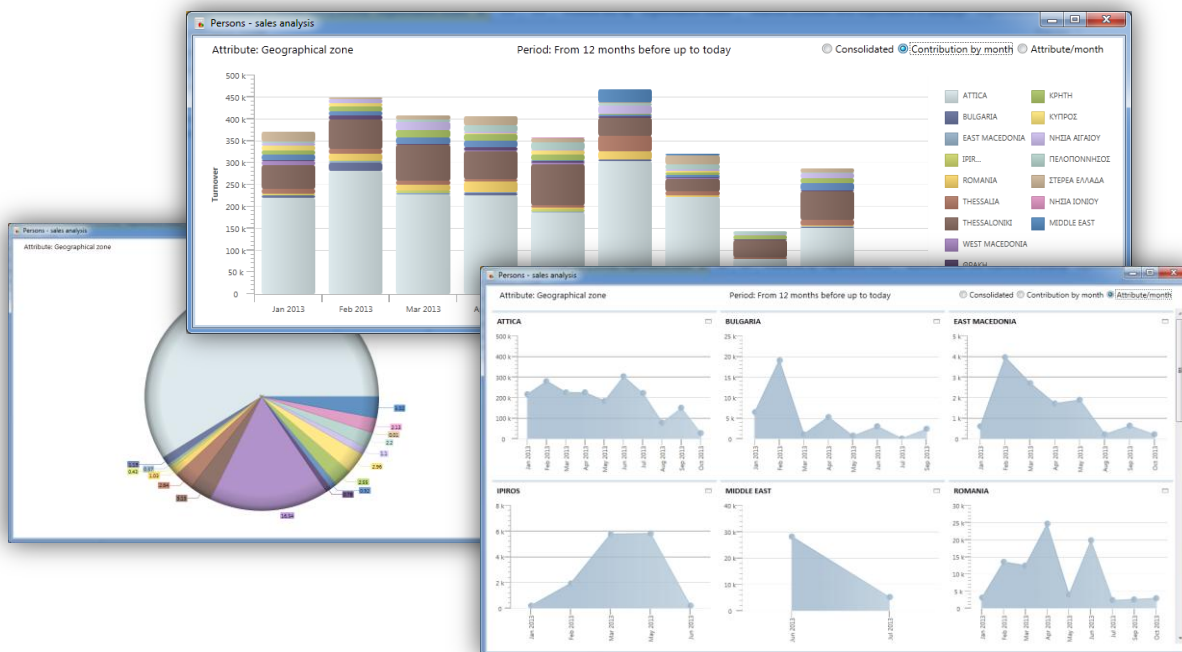


Sales statistics

The **Sales Statistics** dashboard provides the following items:

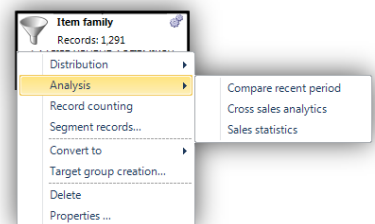
- **Pie chart:** which is available under the **consolidated** view and presents the turnover and the turnover share, grouped by the selected attribute
- **Stacked bar chart:** which is available under the **contribution by month** view and presents the turnover by month and stacked by the selected attribute

- **Multi-chart:** which is available under the **attribute/month** view and presents the turnover trend by month; one chart per attribute is presented.

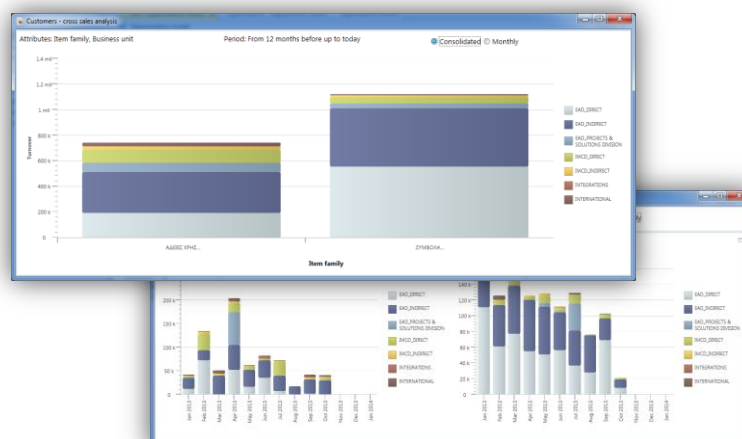


Cross sales analytics

Assuming that a segment is filtered by a set of specific attribute values and it is desired to cross-check it in relation to another attribute, the segmentation studio allows you to select a segment (that includes the attributes values) and an attribute from the attribute palette and perform **Cross Sales analysis**. The **Cross Sales analytics** dashboard provides the following items:



- **Stacked bar chart:** This is available under the **consolidated** view and presents the turnover and the turnover share, grouped by the segment attribute values and stacked by the selected attribute.
- **Stacked multi-chart:** which is available under the **monthly** view and presents the turnover by month and stacked by the selected attribute; one chart per segment attribute value is presented.

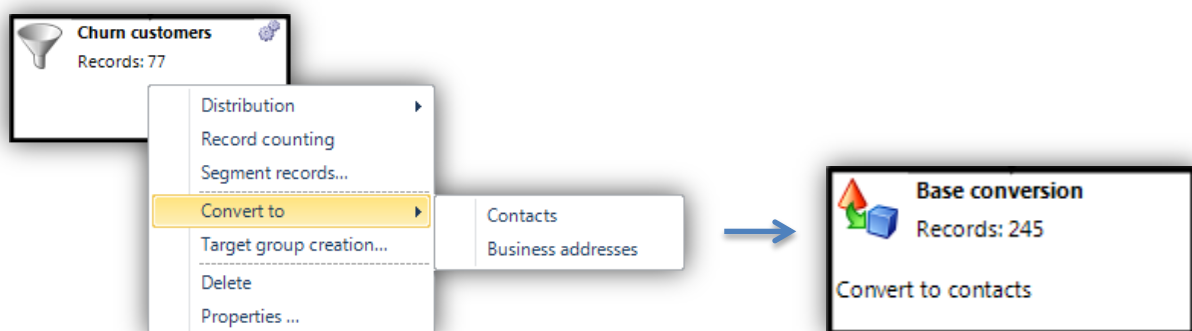


Segment context functions

The following table shows the context functions that are available for each item of a segmentation model hierarchy:

Function/Item	Top/Initial segment	Segment	Target group	List
Counting	✓	✓	✓	
Attribute distribution	✓	✓	✓	
Show members	✓	✓	✓	via show list
Edit properties		✓	✓	via show list
Create target group		✓		
Assign to marketing activity				Only if the target group allows it
Delete		Only if segment branch has no list node	Only if segment branch has no list node	Only if list has not been assigned to a marketing activity
Convert	✓	✓		

The '**convert**' action allows you e.g. to focus on a segment of customers and then convert them to their actual contacts/business addresses in order to perform further segmentation based on their attributes or create lists that include related personalization/focus info and so forth. Having (a) performed the 'convert' action and (b) selected the base conversion → you will notice that the attribute palette contains the attributes available for the corresponding entity (e.g. the available contact attributes). Note that as regards contacts, the conversion can be applied on Persons of Company type only (i.e. B2B Contacts).



Target group

A target group is a **list of prospects/customers** that have been chosen to be contacted during the execution of a marketing activity, for example a campaign or an event.

A target group can be **created using** the **segmentation studio** provided functions or using the **functions provided by the list management**.

Creating a target group **does not mean that a list has been generated**. A target group specifies the followings:

- Code, Description
- Availability to marketing activities
- Availability to segmentation – if it is true then this target group's list can be used as a segmentation basis for future segmentation models. It will be also available for combinations with other target group lists.

Post processing functions

In this section, we will focus on the post processing functions provided by the segmentation studio. These functions are the following:

- **Combination:** You can combine a target group with another target group list. For example, you have created a target group the customers who purchased a specific item but you need to exclude from this target group the black list customers. The provided combination operations are the following:
 - **Merge:** You can merge the target group with another target group. This operation returns distinct records.
 - **Except:** You can exclude the members of a list from the member of the new target group.
 - **Intersection:** You can intersect the members of the target group with the members of a list. In this context, the new target group list contains only the objects that belong to both source target groups.

The list that is used for combination can be of any type (static, dynamic or combination list). The system uses the provided 'ESFilteredByList' service function to retrieve the members of the list.

- **Reduce size:** Considering marketing cost constraints you cannot afford to contact all the members of the target group. In this way, you need to fill in an absolute or percentage value that can be used by the reduce function. If a combination is defined then the reduce size algorithm is applied on the result set of the combination.
- **Split:** Considering test and marketing costs, you can split a target group into smaller lists. In this way, you need to fill in an absolute or percentage value that it will be used by the split algorithm to divide the target group into smaller lists. If a reduced function is defined, then the split operation is applied on the result set produced by the reduced function. In this context, you can test a sub-set of the target group to be contacted through a campaign. Based on the response rate, you will decide if the other sub sets will be addressed.
- **Ranking:** if a reduction or/and split function is selected then you have the option to rank the members of the segment before the function is applied. You can use the ranking function by selecting a ranking filter and the selection mode. Two selection modes are provided I) First entries II) Last entries. Moreover, the following ranking filters are provided: I) Based on sales revenue, II) Based on sales quantity, III) Based on gross profit (%) and IV) Based on contribution to the gross profit.


List Management

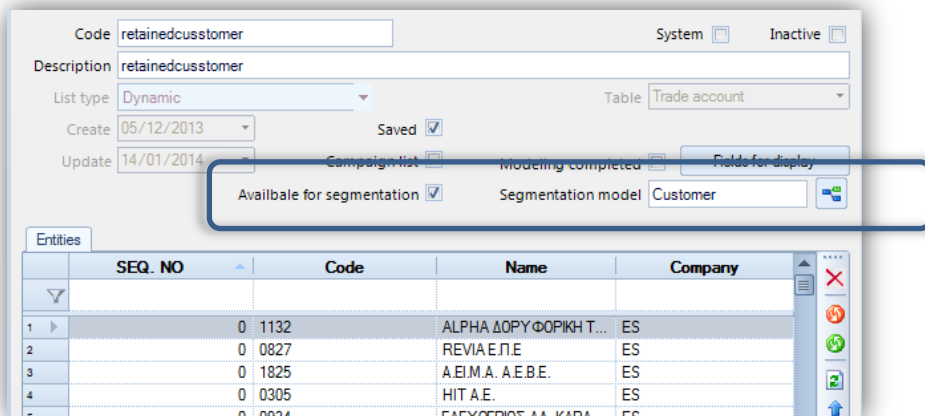
A list is a group of records of a specific object defined using business criteria. The following list types are available in the Entersoft platform:

- Static
- Dynamic
- Combined. A combined list is a special type of list that is used to combine others lists. This type of list supports the 'keep' and 'exclude' operations.

You can also specify the following list properties:

- **Stored (only for dynamic or combined):** A stored list can be scheduled for periodic calculation. Using periodic calculation you can define if the calculation of the list should refresh or update the members of the list.
- **Campaign list:** The list can be assigned to a marketing activity, for example campaign or event.
- **Available for segmentation:** The list can be used as a segmentation basis during segmentation. Moreover, they can be used for combination with other target group definitions in the segmentation studio.
- **Modeling completed:** The members of the list cannot be changed. In this way, you cannot add or remove members.

Lists that have been created from the Segmentation Studio include the information of the specific model (as shown next). By clicking on the  button you can directly access the specific segmentation model.



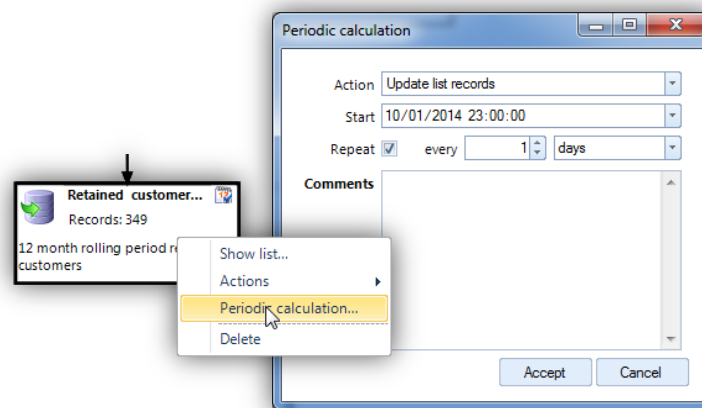
SEQ. NO	Code	Name	Company
1	0 1132	ALPHA ΔΟΥΡΥΦΟΡΙΚΗ Τ...	ES
2	0 0827	REVIA Ε.Π.Ε	ES
3	0 1825	Α.Ε.Ι.Μ.Α. Α.Ε.Β.Ε.	ES
4	0 0305	HIT A.E.	ES
5	0 0934	ΕΛΕΥΘΕΡΙΟΣ Α.Α. ΚΑΡΑ	ES



Periodic calculation

Note that if you select 'dynamic - stored' you need also to define a periodic calculation, for example every night at eleven o'clock.

The periodic calculation (available on the right click menu on a list when in the Segmentation studio / as an action when on the List UI Form) can be defined only if the list has been generated using the context options of the list.

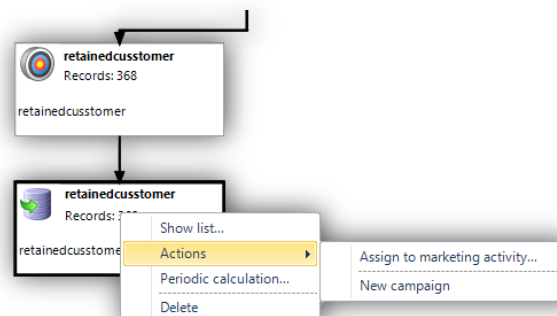


In this context, when the resulting list is used as a basis for segmentation the system will get the members of the list from the stored data. Otherwise, if we select 'dynamic' list type then the system will execute the query on demand every time the segmentation basis is needed.



Lists and Campaigns

If a Target group (and consequently the list based on the group) is marked as "Marketing Activity List" then you can assign it to a marketing campaign, as shown next, or create a new campaign for the specific target group.



Modeling completed

You can also mark the list 'Modeling completed'. To achieve this, go to the list UI, by selecting 'Show list' on the right click menu. This way, the system will not allow adding or removing any members to/from the list.

Segmentation basis

A segmentation basis is a **list of objects** that can be used to form the **basis of segmentation**. In this context, you can restrict the selection of the objects to be classified during the segmentation process.



Example

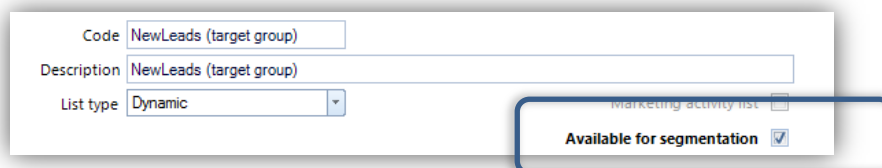
You want to create segments based on the active customers of the last 12 rolling months.

- To achieve this, a **dynamic list** must be defined using **an advanced filter** that will read sales data and return the active customers for the last 12 rolling months.
- Then, **this list can be used as a segmentation basis** to delimit the customer base of the segmentation process. Additionally, you can perform ad hoc analysis of the active customers using the functions provided by the segmentation studio.

A segmentation basis can be created as follows:

- Using segmentation studio by combining different characteristics
- Using list provided functions

The target group, that a list is based on, must be stated as '**Available for segmentation**' in order to be available as segmentation basis:



Code: NewLeads (target group)

Description: NewLeads (target group)

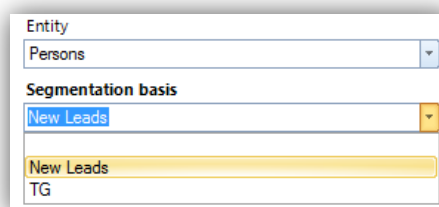
List type: Dynamic

marketing activity list ☐

Available for segmentation ☒

Segmentation basis are defined per Entity; so **when creating a new segmentation model** (add

- First select the entity and, then...
- ...specify, optionally, the segmentation basis.



Entity: Persons

Segmentation basis: New Leads

New Leads

TG

Examples

Segmentation basis creation: 12 month rolling period retained customers

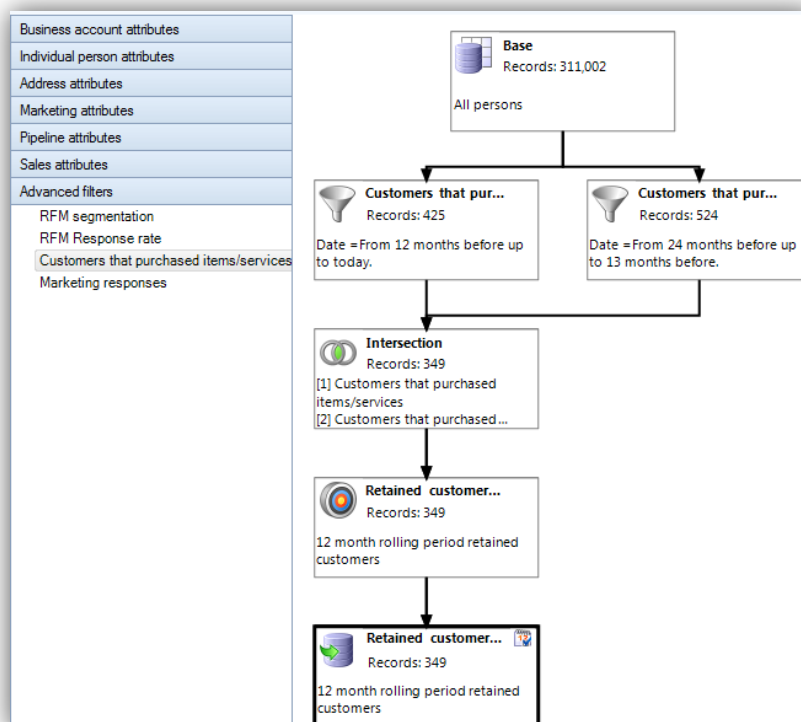
A marketing department needs to create a **segmentation basis** that it will be used for future segmentation models. This basis will include all the retained customers of the last 12 months rolling period compared with the previous 12 months. This is one of the **ready to use scenarios** provided by default by the Segmentation Studio. However, for the purposes of the specific example we will assume that it is desired to construct it ourselves.

In order to create the segmentation basis we will use the modeling functions provided by the segmentation studio. In this context, we create a new model.

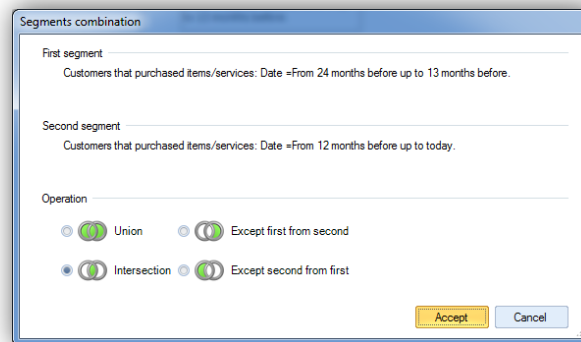
Using drag and drop on the initial segment we select the advanced filter '**Customers who purchased item/services**'.

- We select the last 12 month rolling period value for the relative date parameter (default parameter value).
- In the same way, we choose again the same advanced filter on the initial segment of the model. For the new segment we select the previous 12 month rolling period value for the relative date parameter.

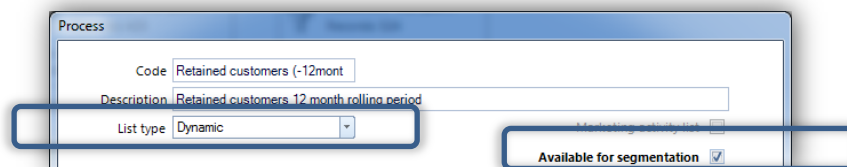
So far, we have created **two different branches**, one that leads to the customers of the last 12 months rolling period and one that results to the customers of the previous 12 months rolling period.



Considering that we need to create a **segmentation basis for the retained customers**, it is required to combine the two different segments. You can drag and drop one segment to another segment. By releasing the mouse button, the resulting dialog displays the 1st and 2nd segment and the available operations. **The required operation is 'Intersection'**. The new segment will contain only the customers that belong to both source segments.



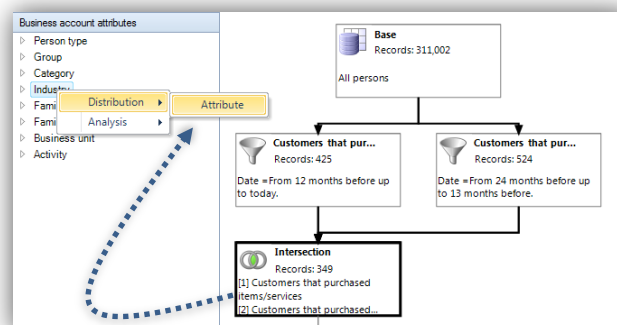
Using the context actions (right click) of the combined segment we **can create a new target group**. The resulting target group must be dynamic.



Additional attribute distribution

At any time you can **perform attribute distribution** on any segment of a model. Therefore, If you need to see the distribution of the attribute profession of the customers that meet the criteria of the last created segment:

- Select the segment first and then
- Select the attribute by using right click and then 'Segment distribution'.

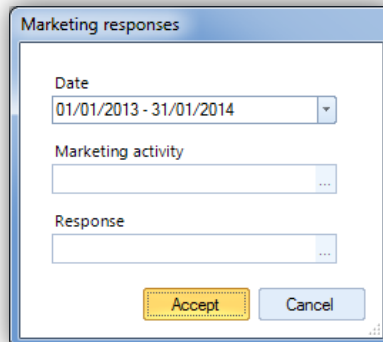


Segmentation basis use: 12 month rolling period retained customers who responded to a specific campaign

A marketing department needs to create a target group based on the retained customers of the last 12 months rolling period who respond to a specific campaign.

In this context, you need to **create a new segmentation model** using **as segmentation basis** the **list created** in the **previous example**. Therefore, in this model, the initial segment displays the segmentation basis list and the number of the retained customers.

- You then need to create a new segment based on the response to a specific campaign. You select the advanced filter '**Marketing responses**' and drag and drop on the initial – top segment. Using the advance filter parameter dialogue you select the required campaign and the response code as well (e.g. 'sale', 'call back' and so forth).



The dialog box titled "Marketing responses" contains the following fields:

- Date:** A date range selector showing "01/01/2013 - 31/01/2014".
- Marketing activity:** A text input field with a dropdown arrow.
- Response:** A text input field with a dropdown arrow.
- Buttons:** "Accept" (highlighted in yellow) and "Cancel".

The resulting segment includes all the retained customers of the last 12 months rolling period who respond to a specific campaign. The item of the resulting segment shows also the number of customers that meet the selective criteria.

Cross-sell / Up-sell scenario

A marketing department needs to **create a target group** based on the customers who purchased a high definition TV but they have not purchased a blue ray disk player.

This **target group will be assigned to a marketing campaign**.

In this context, you need to create **a new segmentation model** with **no** segmentation basis.

- You select the advanced filter '**Customers who purchased product/services**' and then you drag and drop on the initial – top segment. Using the advance filter parameter dialogue you select the value for the HDTV category. The resulting segment includes all the customers who purchased an HDTV.
- In the same way, you select the **same advanced filter again** over the initial segment. For the new segment you select the category 'Blue Ray Player'.
- In order to find the customers who purchased an HDTV but they not purchased a blue ray player you **just drag and drop the one segment over the other segment**. The resulting dialog displays the first and second segment and the available operations. You need to select the operation **HDTV segment except Blue Ray Player segment**.

The **resulting** segment will contain the customers that meet the selective criteria.

Using the combined segment you can **create a new target group**.

- The target group **should be static**.
- When the target group is defined then using the available **context action** you can **generate the list**.
- Moreover, when the list is created using the relative context action you can **assign the new list to the campaign** you wish.

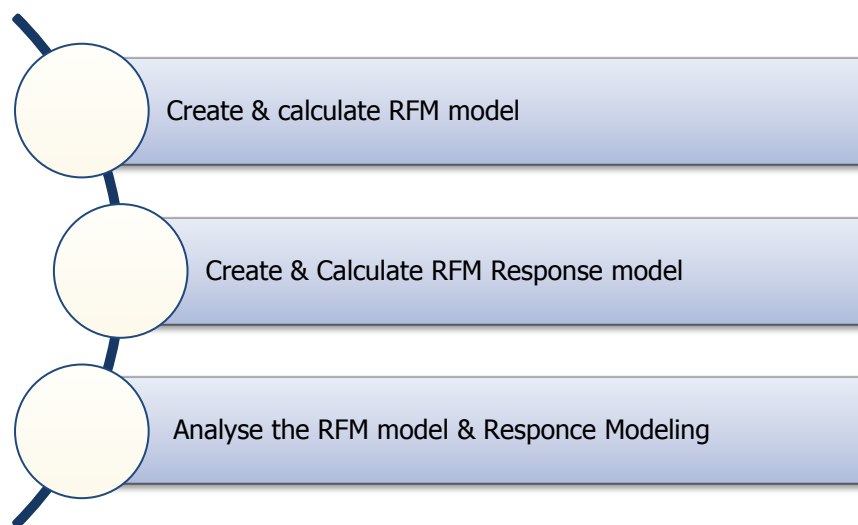
2. RFM analysis

RFM Model & Response Prediction

RFM analysis is an empirical marketing technique that has been extensively applied in the past in database marketing to predict response rates for a planned campaign. In this way, an RFM analysis model is used to optimize the profitability or the ROI of a campaign. The RFM procedure usually is applied during the design phase of a new campaign wave. An RFM response model can help you to identify the optimum target group for a campaign.

The predicted chance of sale success is based on the analysis of past transactional data related with booked sales orders. The predicted response rate is based on the calculation of the actual response rate of a comparable/representative campaign(s) in the past.

The RFM segmentation and analysis process flow can be outlined as follows:



The RFM model analysis uses the following parameters to predict the likelihood of a win response to a campaign:

- R - Recent: How long ago a customer made a purchase. R factor is assumed to have the most influence on a campaign predicted response rate.
- F – Frequency: How often a customer makes a purchase. F factor is assumed to be less influential.
- M – Monetary: How much a customer spends on a purchase. M factor has the least influence on response rates.

The above three values are applied to divide customers into segments. In this context, you can use an RFM model to assign your customers into RFM segments.

An RFM model uses the following parameters to define the period of the transactional data that must be read to calculate the aforementioned factors:

- Reference Date: Last date of the previous month (default value)
- Months: 12 (default value)

The above values are used to define the calculation period. The calculation period starts always from the first day of the month.

The RFM segmentation model reads transactional data to determine the customer behavior for the specified period. In this way, the model calculates the three factors for each customer as follows:

- R value = the date of the most recent sale transaction

- F value = the number of sales transactions
- M value = the sum of the net value

Using the RFM model you can specify the customers that you wish to perform the RFM segmentation model. By default all customers are selected. Otherwise, you can set the relative parameter to 'Based on filter'. In this way, a container block dynamically is enabled that shows filters parameters that can be used to define a subset of your customer base. This filter can be customized if you need different parameters to restrict the customers required by your segmentation model.

In an RFM model you need to define the number of segments that the customers will be split. The proposed values are R=5, F=5 and M=5. Using these values the RFM model will divide customers into 125 (5x5x5) segments (cells). Therefore, if you need to segment 500.000 customers then each segment will contain 4.000 customers. You can define different values for the R, F and M factors. For example, if you need fewer customers to be segmented, it is more appropriate to reduce the f and m numbers. Normally, you reduce first the number of m segments, then the number of f segments and finally the number of r segments. It is better to experiment based on your business.

It is very likely that during the selected period defined for the transactional data to be read a number of customers to be inactive. In this way, you can set true the relative parameter 'Assign inactive customers to 000' in order to assign the inactive customers to the 000 segment. It is very important to know how you will treat the inactive customers of the RFM model. If the number of inactive customers is large then it will fill many of the lower segments of your model.

You can use the provided action 'RFM model data' to see the following important figures that can help you to define your segmentation model:

- The number of segments
- The number of customers
- The number of inactive customers
- The number of customers per segment
- The period of the transactional data

The segmentation model calculates the RFM cells as follows:

The system calculates for each customer the R, F and M value. The customers are then sorted in descending order by R and divided into the number of R segments you specified in your model. The produced R segments are assigned corresponding numbers in descending order. Then, the customers of each R segment are sorted in descending order by their F value and split based on the defined number of F segments. In this way, F segment numbers in descending order are added to the R segments. In this way the RF segments are generated. The customers that belong to each generated RF segment are sorted in descending order by their M number. Therefore, M segment numbers are added to the RF segments.

At the end of the calculation process the following data are stored for each customer:

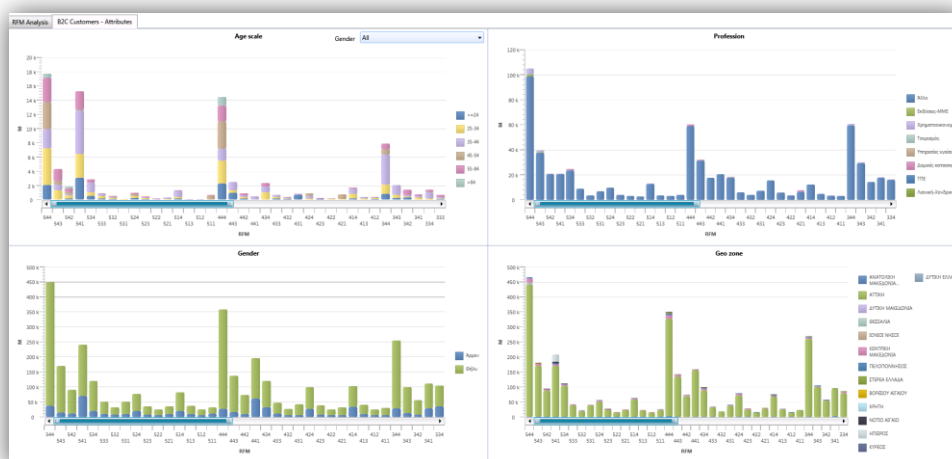
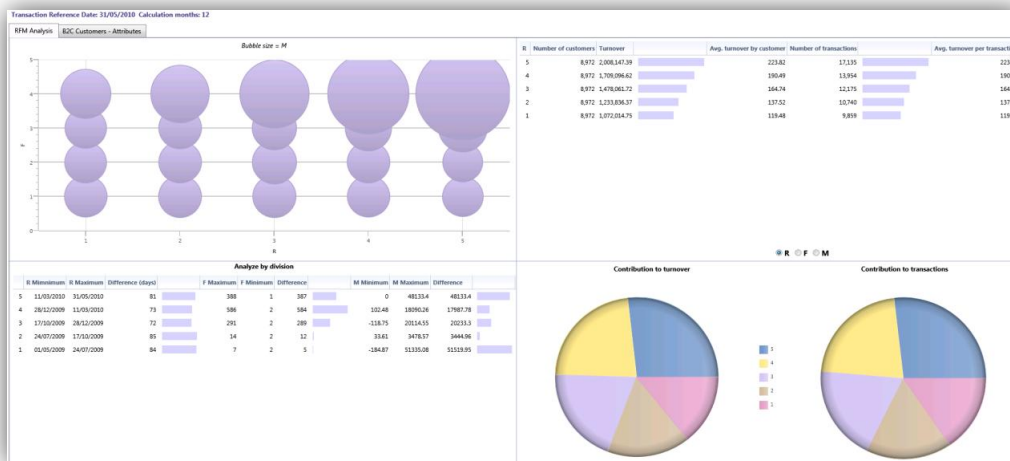
- The R, F, and M numbers
- The R value, F value and M value
- The RFM cell

Then the status of the RFM model is updated as 'Completed'.

You can schedule the calculation process of an RFM model by using the 'More' sub menu in the toolbar of the form.

You can also use the dashboard RFM analysis to get answers for the following:

- Which RF cells have the highest monetary value?
- Which is the monetary value share by R or F or M division?
- Which is the transaction share by R or F or M division?
- Which are the min and max value and the difference as well for each division specified for R, F and M?
- Which is the monetary value share by each RFM cell and age band (B2C attribute)? You can also restrict the chart data by gender using the provided drop down combo selector.
- Which is the monetary value value share by each RFM cell and geo region?
- Which is the monetary value share by each RFM cell and professional industry?
- Which is the monetary value share by each RFM cell and gender (B2C attribute)?



RFM Response Prediction Model

You can use this model to calculate a predicted response rate for each cell of a specific RFM model. Response modeling can help you to optimize the performance of a planned campaign. An RFM response model is connected to an RFM model and one or more representative past campaigns that are used to calculate the predicted response for each RFM cell. It is also important to select representative campaigns that executed in the same period of the calculation period of the assigned RFM model. In this way, you will have more accurate predictions for the response of each RFM segment. The RFM segments that have the higher response rates are more likely to respond to your planned campaign. In this way, you can select these segments to create your target group for your planned campaign. You can schedule the calculation process by using the 'More' sub menu in the toolbar of the form. When the schedule process starts to calculate the response model but the connected RFM model has not been calculated yet then this process is rescheduled to start again after one hour.

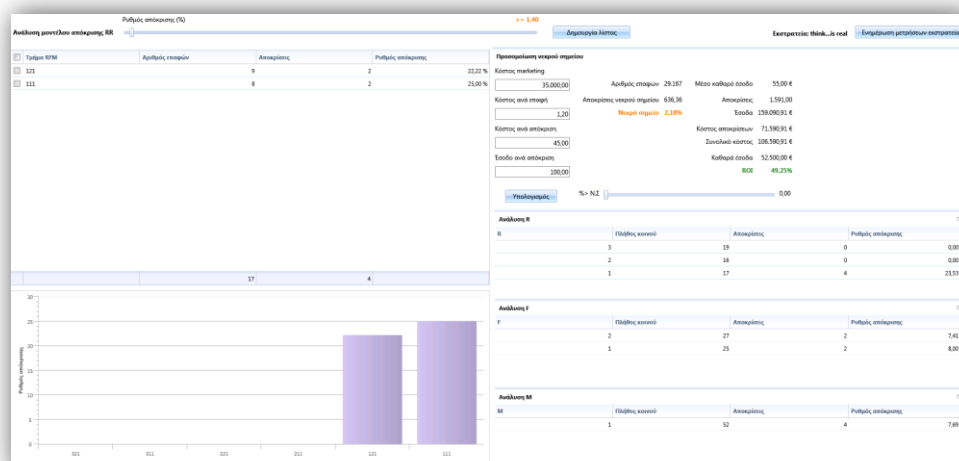
Response modeling provides analytic interactive pages that can be used to optimize the performance of your planned campaign.

You can use the following dashboards to analyze the predicted response rate for each RFM cell:

Response model analysis

You can use this page to simulate the break-even response rate of your planned campaign. Break-even response rate is calculated as follows:

B.E Rate = cost per contact / sale net revenue. It is very important to simulate the break even in order to compare it with the predicted response rate for each segment of your RFM model. To understand the significance of the break-even response rate the following business scenario can be used. A marketer is planning to launch a new promotion for a new high tech gadget. For that reason, creates an RFM model for the whole customer database. For the transaction period the last 12 months are selected to be read. Then, he creates an RFM response model to predict the response rate for each segment of the new RFM model. For the response calculation he selects a representative campaign wave that executed during the period that used to calculate the RFM cells. When then calculation of the response is completed then he uses this interactive page to simulate the break even response rate. The approved marketing cost of the planned campaign is 20,000 EUR. The cost of each mailing is 0.4 EUR. Therefore the number of business accounts that must be addressed should be equal to Marketing cost / Cost per piece = 50,000 business partners. If the average net revenue of a sale is equal to 80 EUR then $20,000 / 80 = 250$ business accounts need to respond in order to reach the break-even point (where the marketing cost equals the net revenue). Therefore the break even response rate is equal to $100 * 250 / 50,000 = 0.5\%$ or $100 * 0.4 / 80 = 0.5\%$.



This analytic page provides two mandatory parameters to define the RFM response model and the planned campaign that you want to optimize. If the selected campaign has updated with the optimization parameters and the planned key figures then these values are copied to the relative fields provided by the interactive page. In this way, you can perform what – if simulation for the break even response rate and the planned ROI. You can use the action 'Update Campaign' to update the planned key figures of the campaign based on the simulated values of the page.

Using the provided fields of the page you can set the cost per piece and the net revenue as well to simulate the break even response rate. In this way, you can select the action 'Calculate' which calculates the break-even rate and also filters the RFM segments with response rate greater than the break-even response rate. These segments should be promoted first.

Compare response models

You can use this interactive page to compare two RFM response models. For example, you created a response model to predict the response rate for a planned campaign 'X'. When the campaign 'X' has completed then you created a new response model to calculate the actual response rate. The interactive page calculate the following key figures for each RFM segment:

- Response Rate 1 (%) = $100 * \text{Number of Responses} / \text{Number of Contacts addressed}$
- Response Rate 2 (%) = $100 * \text{Number of Responses} / \text{Number of Contacts addressed}$
- Variance (%) = Response Rate 1 (%) - Response Rate 2 (%)
- Contacts Addressed for response model 1
- Contacts Addressed for response model 2
- Responses for response model 1
- Responses for response model 2

