dun & bradstreet

Market Insight

Base Advanced Module

Training Manual v3.1

Base Advanced Module

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System: Training (UK & Europe)

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Introduction

Market Insight provides powerful and interactive marketing analysis of customer data overlaid on a D&B data universe. The system is web based with a truly easy to use Windows interface. Using a consistent and intuitive "drag and drop" approach throughout, every action automatically results in a query that can be saved and reused with ease. With a wide range of descriptive and predictive analytical tools, Market Insight's analysis options are virtually unlimited as any technique can be applied to any results in any order. Market Insight provides a unique combination of speed, power and accessibility for data exploration and understanding.

Market Insight holds your data overlaid on a D&B universe. This enables you to accurately measure your customer data in proportion to the opportunities in the market place. Hence the product's name: it enables insight of your activities in comparison to the market place rather than just within your business.

The D&B data universe in your Market Insight system will be adjusted to suit your licensing and measurement requirements. Your customer data is loaded from extract file(s) you provide and although this process allows for some cleaning and manipulation of the data, what you see within Market Insight is a reflection of the data you provide.

The Market Insight view of the data is a snapshot at the time that the data was loaded. Market Insight is an analytical system able to provide insight and understanding but it can also provide data feeds to your operational marketing systems to implement your targeting decisions.



Market Insight Splash Screen – D&B Website

N.B. The counts and figures in this manual may differ to those seen when you use this system as the data changes over time. Not all the functionality shown in this manual may be available in the system you are using.

N.B. Where suitable variables are not available in the Market Insight Training system, the data of a holiday company has been used to provide the examples.

Data Structure

The structure of your Market Insight system can vary. The elements shown here are typical – each Record may simply be flagged with Customer data or can have many related Names. A Record may also have many matched Customer Accounts. The data loaded for each matched Customer Account is configurable – for example you may have multiple Transactions or Divisional Summaries or Product Summaries etc.

The detail present on each table of data depends on the Market Insight administrator. The data is arranged into folders to assist the user to navigate and find data items.

The Training System, illustrated in this manual, uses a simple structure that has Records (organisations) with Names (contacts at the organisation). A subset of the Records, called Customers (the User's customers), is also held, together with a related table, called Policies (activity of the User's customers).





Accessing Market Insight

The Market Insight software is downloaded automatically to your PC when you click a link to launch the system. Once the software has been downloaded, it will automatically update from the server whenever necessary. You will normally receive a welcome email with details of this process.

To access Market Insight you need:

- Windows PC Market Insight is a Windows.NET application that combines the best of the Windows interface with web based systems. Market Insight is not available on Mac or UNIX computers
- The latest Windows.NET framework version installed. This can be obtained by visiting www.windowsupdate.com or from your IT team

To launch your Market Insight system, use a browser to view:

https://www.dnbmi.com/disco_systems/v3/new/milauncher.msi

Alternatively use the links within your welcome email.

N.B. The "https" prefix establishes a secure connection between your browser and the D&B Server.



Welcome to D&B - Market Insight V3 Email

- Navigate to where you saved the downloaded file and double click it. Agree to run when prompted, and then follow the on screen instructions
- The installation process will result in an icon on your desktop and in a D&B Start Menu folder



- On subsequent uses of Market Insight, you can simply double click this icon. The software will automatically update from the D&B server whenever new releases are made available
- You can install Market Insight on as many computers as you wish it is your user id that controls your access. This means, for example, you can use Market Insight when working from home

谩	DnB Market Insight Launcher v4.5 Setup 🛛 – 🗆 🛛 🗙
	Welcome to the DnB Market Insight Launcher v4.5 Setup Wizard The Setup Wizard allows you to change the way DnB Market Insight Launcher v4.5 features are installed on your computer or to remove it from your computer. Click Next to continue or Cancel to exit the Setup Wizard.
	Back Next Cancel

Launcher Setup Wizard

뻻	Options – 🗆 🗙
C	Options Q
	Choose your options
	Select the options for DnB Market Insight Launcher v4.5
	✓ Create a DnB Market Insight Launcher v4.5 shortcut on the desktop.
	☑ Run DnB Market Insight Launcher v4.5 after installation.
-	
	Back Next Cancel

How to Login

To use Market Insight, you need to have an Internet connection.

Start Market Insight by:

Clicking on the Market Insight icon ³/₂ on your desktop, or by navigating to the program using Windows Explorer

In the upper left hand corner of the screen you will see a Login window that gives you the opportunity to connect to a Market Insight system containing data available to you for analysis.

Enterprise Tab

Your Market Insight system operates on a secure and resilient web connected server enabling you to access the system from any location with an Internet connection. A number of users may access the system at the same time, each of whom is authorised by a user account and password. Your Market Insight Administrator will provide you with a Username and Password.

Login credentials	
Username:	
Password:	
System:	
Training	-
	Login
	Options >>
Enterprise	

Login Window

Selection: Create and Save

Having worked through the Base Standard manual or as part of your work activities you will be familiar with the creation of selection queries. The following example will be one we can use throughout this course.

- > Display a new selection window set to the **Records** table level
- Within the System Explorer search for the following variables and add them to the selection window as shown opposite:
 - Economic Region West Midlands
 - Major Industry Sector UK 2003 Wholesale, Retail and Repair
 - Banded Sales Select all ranges from £1,000,000-4,999,999 to £1,000,000,000+
- > Click the Build button to count the result

To use this example as the basis for a number of activities in this manual it will be useful to have it saved.

- Rename the selection as WM High Sales W-R-R
- Click the Save button and navigate to the Private folder to set it as the save destination
- Click the Save button

This selection query can now be found under the Private folder of the My Market Insight Folders within the Files explorer window.

C New Selection					x
New Selection Records					
ち ご 🖷 🖬 📋 Notes 📲 🚝 🍰 View Settings 🔹 😪 🗒 🕅	w] - PP -				
Selection *				7	×
► New Selection	Banded Sal	les		$\overline{\tau}$ ×	m
Economic Region AND Major Industry Sector UK 2003 AND Ba	Filter 🔹	Descript	ion Contains 🔹		, ono
Economic Region of West Midlands	Ø 🗶 📹 Ba	inded Sal	les 🔹		mic
Major Industry Sector UK 2003 of Wholesale, Retail & Repa	Include	Code	Description	Records	Regi
Balided Sales OF £1,000,000 - £4,959,559 OF £3,000,000 - £9			Unclassified	6,099,181	S
		01	£1 - £99,999	84,024	S
		02	£100,000 - £499,999	38,128	jor
		03	£500,000 - £999,999	14,772	ndu
	✓	04	£1,000,000 - £4,999,999	29,851	stry
		05	£5,000,000 - £9,999,999	14,577	Secto
		06	£10,000,000 - £49,999,999	30,508	РГ Ц
		07	£50,000,000 - £99,999,999	5,624	200
			£100,000,000 - £499,999,	5,540	8
		09	£500,000,000 - £999,999,	866	Ba
		10	£1,000,000,000+	983	Ided
					S
4	Include	•	1 III OR 🔹 +🗖		8
Cover Selection *					
Cover Selection					

Save as					×
Save In:	Q My MI V3 F	olders -	t t	\times	
Desktop Q My Mi V3 Folders My Documents Q My Computer	Name				*
	File name:	WM - High Sales W-R-R			Save
	Save Item: Type:	This Page (New Selection Save Selection Settings)	•	Cancel

Save Selection Window

Selection of target Records

Selection Logic Between Tables

The Structure

You will already be familiar with the logic operators **AND** & **OR** which are used between variables when building a selection query.

Remember, each selection query has a **Resolve Table** – the query is resolved to select a set of rows from this table.

However, you will have noticed that when you use a variable from a different table to the one set for the window a **THE** or **ANY** precedes the variable. The word used indicates the direction in which the query has to travel, up or down, the table structure.

- > Open a Selection window set to the **Customer** table
- > Drag on the **Country Code** variable, select **Wales**

You will notice in this example a THE indicator is used. This is because we are moving up the table structure selecting Customers where THE Country they relate to is Wales.

- > Open a Selection window set to the **Customer** table
- > Drag on the **Policy Premium** variable, enter **>500**

You will notice in this example an ANY indicator is used. This is because we are moving down the table structure, selecting Customers that have ANY Policy Premium over £500.

User Training Manual





⊢□ Customers' Premium Policy Value

- IN Customer has ANY Policy with Policy Premium

Policy Premium of >500

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Selection Options

In the examples above you made your selections with a normal left mouse drag. However, if you make a right mouse drag you will be presented with more options than the default logic join of an **AND**.

- Open a Selection set to the Names table, then drag on the Gender variable and select Male
- Right drag the Job variable beneath Gender

The popup menu now presents you with all the possible options based around the logic operators and any tables above and including the one you are counting at. We will select **Director**:

Option 1 – AND this names has Job (Default)

This will select all Names with a Male Gender AND who have a Job of Director.

Option 2 – AND this Records has ANY names with Job

This will select all Names who are Male **AND** are associated with a Record where someone has a Job of Director. The same Name could meet both these criteria and satisfy the query.

Option 3 - OR this names has Job

This will select all Names with a Male Gender **OR** any Name with a Job of Director.

Option 4 - OR this Records has ANY names with Job

This will select all Names with a Male Gender **OR** all those associated with a Record where someone has a Job of Director.

w Selection	ames			
📑 🕞 🔋 Notes 📲 📲 🦓 View Settings 🔹 😪 🧮	× • • • • •			
				7 3
lection	Gender			7 3
nder of Male	Filter • De	scription (Contains •	٩
AND this names has Job	ø x 🖆			
AND this Records has ANY names with Job	Include	Code	Description	names
OR this names has Job		1	Unknown	892,292
OR this Records has ANY names with Job		F	Female	3,039,459
Cancel	\checkmark		Male	
► Diew Sele	ection			
≻-⊡ New Sele	ection der of Male			
► New Sele	ection der of Male AND this nam	es ha	s Job	
► Dew Sele	ection der of Male AND this nam	es ha rds ha	s Job as ANY names	with Job
on *	ection der of Male AND this nam AND this Reco DR this names	es ha rds ha	s Job as ANY names ob	with Job
on *	ection der of Male AND this name AND this Record DR this names DR this Record	es ha rds ha has J ls has	s Job as ANY names ob ANY names w	with Job
	w Selection In International	w Selection	w Selection names]	w Selection



Option 4 - OR this Records has ANY names with Job

User Training Manual

Variable Position

It is important to be aware of the effect that the positioning of a variable will have on the final selection.

- > Open a new selection window set to the Records table
- > Drag on the Gender variable and select Female
- Drag on the Primary Job Function variable and drop it underneath the Gender variable. Select Owner
- Click the Build button

In this example the Gender and Job variable are closely associated. The query will therefore return all Records that have a contact that meets both criteria i.e. a Female CEO.

Let's see what happens when you reposition one of the variables.

- Click and drag the Primary Job Function variable above the row that contains the ANY
- When the black line appears extend it to the left and let go of the mouse button
- Click the Build button

This new example has a looser association between the Gender and Job variables. The query will therefore return all Records where there is at least one Female and at least one Owner, but they no longer need to be the same contact.

Records with Female Owners
 Records has ANY names with Gender AND Primary Job Function

- - m Primary Job Function of Owner (A0A1)

✓ ☐ Records with Female Owners	ł
A C (Records has ANY names with Gender) AND (Records has ANY names with Primary Job Function)	ł
✓── Records has ANY names with Gender	ł
Gender of Female	
▲ 💷 💷 Records has ANY names with Primary Job Function	
Primary Job Function of Owner (A0A1)	

NOT Operator Position

It is important to understand that where you place your NOT operator in the logic structure can affect the question asked and subsequently the results given.

- Create a selection of Major Industry Sector UK 2003 of Construction and Job Functions of Chief Executive Officer
- Right click on the line with the AND operator and select NOT
- Click the Build button

With the combination of the **AND NOT ANY** this selection will return construction Records (organisations) that do not have any CEO Names (contacts).

- Recreate the selection of Major Industry Sector UK 2003 of Construction and Job of Chief Executive Officer
- > Right click on the line Jobs of Chief Executive Officer and select NOT
- Click the Build button

With the combination of the **AND ANY NOT** this selection will return Records for construction organisations that have Names <u>other than</u> a CEO. Some of these Records may also have CEO Names.

If you place a **NOT** on both the lines mentioned above, this will return a count of construction Records where there is <u>only</u> a CEO Name!



AND ANY NOT

Major Industry Sector UK 2003 AND (Records has ANY names with NOT Job Functions)

- ---- Major Industry Sector UK 2003 of Construction
- A 1000 1000 Records has ANY names with NOT Job Functions
 - MOT Job Functions
 - Job Functions of Chief Executive Officer (A1A7)



D&B Market Insight Parameterised Selections

When creating a selection you may wish to mark certain parts of it that allow for User input. This could involve creating a complex selection with one or more elements that give the User the chance to determine the values used. For example, a complex selection to determine a group of sites might be further examined by their total employees. The User would then be prompted to choose the employee range without being concerned with the rest of the pre created selection. In the example opposite, the selection of **WM** – **High Sales W-R-R** will have the **Policy Product Type** element parameterised to allow other users to determine which range(s) they want to apply to this selection.

- Display the saved selection WM High Sales W-R-R and add the Policy Product Type variable
- Right click on the variable to be parameterised (Policy Product Type) and click on the option Apply Parameters... from the popup menu

The **Substitution Definition** window allows you to firstly select the **Substitution Type** which could be to choose new **Values** or a new **Variable & Values**. The other options are:

- Name This will be the description that the User will see. This can be amended here.
- Prompt This will be the prompt description the User will see. This can be amended here.
- Optional Ticking this box will activate the Remove from the Substitution Selection tick box on the Substitution Values window. This allows the User to ignore the parameterised part of the selection query.



Substitution Def	inition		
🖂 Substitute 🛛 —			
Substitution Type		Values	-
Name		Policy Product Type	
Prompt Title	Enter values for Policy F	Product Type	

In this example the default options will be used.

- Click OK. Now run the selection by clicking on the
 Build button. Select the required Policy Product Type(s) and then OK
- > From the **Cover** page click on the **Substitutions** tab

If this selection is to be saved and used again you may want to set the **Behaviour** of how the Users interact with the selection.

Always Ask	Every time the selection is used the User will be prompted to see if a parameter needs to be changed.
Always Clear & Ask	As above but with any existing parameter cleared.
Ask Once	After the first prompt to set or change the parameter that choice will be set as the default.
Remove	This option will ignore the parameterised part of the selection.

- To change the Policy Product Type category for the selection, click on the ... button. This will redisplay the Substitution Values window
- Change the values and click OK followed by the Build button to see the new result

N.B. Because some of the parameterised settings are held on the cover page of the Selection window, you must save your Parameterised Selection as a **Whole Book** by dragging the 🖻 book icon into a Files folder.

You might also consider using a <u>read only</u> folder to ensure multiple users can access the selection but without altering its set up.

Include	Code	Description	Policies
	1	Unclassified	
✓	PRODUCT A	PRODUCT A	68,6
	PRODUCT B	PRODUCT B	42,6
	PRODUCT C	PRODUCT C	41,7
	PRODUCT D	PRODUCT D	22,5

Contents Notes Substitutions						
Name	Value	Behaviour	*			
Policy Product Type	Policy Product Type of PRODUCT A	Ask Once 🛛 🕶				
		Always Ask				
		Always Clear & Ask				
		Ask Once				
		Remove				

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Recency Frequency Value

In some situations it is not sufficient to select only on the presence or absence of data. This may be the case when you wish to select on the number of times that a particular type of data appears, or to perform averages across data records. In this situation, you will need to use the MI RFV selection mode.

In this example we will start by finding the Customers who have 3 or more Live Policies.

- > Open a new selection window set to the **Customers** level
- Drag and drop the Policy Status variable onto the selection, select
 Live and click the
 Build button, noting the count

The MI RFV mode can be applied to a blank selection or where there is an ANY node.

- > Right click on the ANY row and select Apply RFV to Customer ...
- Select the check-box next to Frequency and enter >=3
- > Click **OK**. Then click **Pauld** to count the selection

The result is a count of the number of Customers with 3 or more Live Policies associated with them.

We can further refine our results by using the Recency and Value elements of this tool. By using date and numeric/currency variables we can select and test records against certain criteria.

≻ □ New Selection		Policy State	us		
- I Customer has ANY Policy w	ith Policy Status	Filter •	Description C	iontains 👻	* 1
Policy Status of Live	Cut	ø x 😭			
	Сору	Include	Code	Description	Policies
	Paste		1	Unclassified	
	Delete		Lapsed	Lapsed	10
	Apply Limits		Live	Live	165
	Apply Top N				
	Apply 'N' per 'Variable'				
	Apply 'N' Customers per Records				
	Apply RFV to Customer				
	Rename				
	Apply Alternatives				
	Cancel				

RFV	×
Grouping Table	Customers
Transactional Table	Policies
✓ Frequency	
>=3	
Recency	
Drop your recency variable here	1
Value	
Sum	
Drop your value variable here	
OK	Cancel

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- > Right click on the **RFV** node within the selection
- > Click on the **Modify RFV...** option from the pop up menu
- Select the check-box next to **Recency** and then drag the **Policy Renewal Date** variable onto the drop-zone
- Amend the settings to show Last 2

This will identify the 2 most recent Live Policy transactions for Customers who have 3 or more Live policies.

- Check the box against Value and then drag the currency variable Policy Premium onto the drop-zone
- Leave the default measure as Sum and enter the value of >=350

Based on these settings, where a Customer has at least 3 live policies (determined via Frequency), the system will take the sum of the Policy Premiums (determined via Value) for the last 2 Policy Renewal records (determined via Recency) and, if the value is greater than or equal to £350, that Customer will form part of the final count.

- Click OK and then click Build to count the selection
- Save the selection as Frequent High Value Live Policy Holders for the next section

N.B. The Recency element will only apply to your selection if it is used in conjunction with the Value element.

The RFV function can also be used in conjunction with the Count Wizards. An explanation of these and the other Virtual Variable options are described in a later section.

RFV	×
Grouping Table	Customers
Transactional Table	Policies
✓ Frequency	
>=3	
✓ Recency	
Policy Renewal Date	2
✓ Value	
Sum ->=350	
Policy Premium	
The First value for variable Policy Renewal Date is Unclassif Last value is 31-12-2013.	fied. The
ОК	Cancel

D&B Market Insight Data Grids

Column Aggregation

Data Grids have the ability to aggregate results from child tables. This feature has a number of marketing analysis applications including selecting latest transactional details, calculating total and average transaction values, selecting contacts at companies and exploring transactional trends.

By creating a Data Grid (on a Customer table selection) with a mixture of Records, Customer and Policies table information the resolve table will automatically set itself to the lowest table level. This will then display all Policies for the Customers identified in the selection with Customer information repeated against each record.

The Column Aggregation within the Data Grid can be seen as the middle option between showing all or none of the transaction information. It allows you to sequence the transactional data to show just one set of transactional information against one higher level record e.g. sum of employees at all sites.

- Open the Selection Frequent High Value Live Policy Holders and drop a data grid on top. Drag on to the Data Grid the variables Business Name, DUNS, Policy Channel, Policy Status and Policy Premium. Click the Build button
- > Click on the Σ Cell Aggregation icon, tick the Apply Column Aggregation box, chose the settings in the screenshot and click OK.

Note that the table level auto-sets to the Records level.

Click the **Build** button

The default aggregation option will be shown in the description heading for the two lower level variables.



			roncy rremain (wear) –	
		Live(11794);Lapsed(589)	2,701.23	
ton Joinery Ltd	210001613	Live(8);Lapsed	225.84	
ckport Grammar School	210003077	Live(6)	35,551.17	
inger Holdings Ltd	210004624	Live(5)	290.00	
is Healthcare International Ltd	210007658	Live(7)	684.43	
son Capital Management Europe Ltd	210007828	Live(3)	15,894.33	
bacher & Co Ltd	210010971	Lapsed(7);Live(3)	19,178.72	
rey Holdings Ltd	210014668	Live(13)	16,180.68	
der Industrial Materials Ltd	210015079	Live(10);Lapsed	263.23	
razil Reinforcements Ltd	210016959	Live(10)	176.86	
Dil Llandarcy Refinery Ltd	210018610	Live(5)	162.60	
letting Ltd	210020338	Live(8)	1,003.00	
dbrook Acquisitions Ltd	210021806	Live(10);Lapsed	17,874.14	
			Browsing firs	st 1 000 Records

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Refer to the Help file for a full list of the aggregation options available for the different types of variable displayed.

To display the sum **Policy Premium** at all the sites associated with a Record:

- Right click on the Policy Premium column heading and select Aggregate to Records
- > Change the **Function** from **Mean** to **Sum**
- > Click **OK** and then the **Build** button to see the results

N.B. The main Column Aggregation window gives a further option to filter the results and use a sequencing variable to establish an order.

Transactional Filter – create a selection that will restrict who will be displayed in the Data Grid.

Sequence Variable – this could be a purchase date that would then allow you to filter the records by last transaction or first transaction etc.

Poli	cy Premium (Mean) 🛛 🕸	A					
	Change Column To Display	/ Codes					
	Change Column To Hide T	nousand Separators	1				
	Summary Aggregation	Aggregate to Recor	ds (Policy F	Premium (M	lean))		×
	Aggregate to Records	Aggregation Details	Aggregatio	on Function			
	Rename	Apply Aggregation	-				
₽↓	Sort Ascending	Apply Aggregation	I				
Z↓	Sort Descending	Function		Sum			•
	Remove Sort	Index					
ᆋ	Group by this column	Index					-'
	Group by Box	Default Text To Displa	iy				
	Remove this column						_
2	Column Chooser	Drop your selector	variable				
	Best Fit	here	in a bic				
_	Show all columns						
				Edit S	elected (Codes	
							- 1
				OK		Cancel	

Grid			Chart	
Drag a column header here to group	by that col	umn.		
Business Name	DUNS 👳	Policy Status (List Distinct) 👳	Policy Premium (Sum)	-
		Live(11794);Lapsed(589)	33,449,292.26	
Seaton Joinery Ltd	210001613	Live(8);Lapsed	2,032.58	
Stockport Grammar School	210003077	Live(6)	213,307.00	
Grainger Holdings Ltd	210004624	Live(5)	1,450.00	
Oasis Healthcare International Ltd	210007658	Live(7)	4,791.00	
Mason Capital Management Europe Ltd	210007828	Live(3)	47,683.00	
Ansbacher & Co Ltd	210010971	Lapsed(7);Live(3)	191,787.21	
Asprey Holdings Ltd	210014668	Live(13)	210,348.88	
Calder Industrial Materials Ltd	210015079	Live(10);Lapsed	2,895.58	
F. Brazil Reinforcements Ltd	210016959	Live(10)	1,768.64	
Bp Oil Llandarcy Refinery Ltd	210018610	Live(5)	813.00	
Pb Jetting Ltd	210020338	Live(8)	8,024.00	
Stradbrook Acquisitions Ltd	210021806	Live(10);Lapsed	196,615.52	
			Browsing	first 1,000 Records
Cover Selection Data Grid *				
			1	1,810 Customers

Summary Aggregation

Within a Data Grid it is possible to aggregate the information in a column based upon the variable type being displayed. For example a Currency/Numeric variable may be summarised in terms of the sum or mean of values.

- Right click on the heading Policy Premium(Sum) and select Summary Aggregation
- > Click on the **Median** option

N.B. The result can now be seen at the bottom of the column and is calculated <u>only</u> on the information displayed in that column.

Another example - this time using a selector variable with text:

- Right click on the heading Policy Channel and select Summary Aggregation
- Click on the Unique Values option

Once more the results can be seen at the bottom of the column. In this example it displays a count of the number of unique Channels found in this column of data.

Refer to the online Help files for a full list of the Summary Aggregation options available for the different types of variable displayed.

	Change Column To Display Codes		
	Change Column To Hide Thousand Separators		
	Summary Aggregation	\checkmark	None
	Aggregate to Records		Count
	Rename		Unique Values
₽↓	Sort Ascending		Maximum
Ă↓	Sort Descending		Mean
	Remove Sort		Median
코	Group by this column		Ninimum
	Group by Box		Sum
	Remove this column		
2	Column Chooser		
	Best Fit		
	Show all columns		•

Grid		Chart									
Drag a column header here to group	Drag a column header here to group by that column.										
Business Name	DUNS 👳 Po	licy Status (List Distinct) 🛛 🖙	Policy Premium (Sum) $\Sigma \Rightarrow$	-							
Yorkshire Dales National Park	212405703 Liv	e(9)	22,172.00								
Feilo Sylvania Uk Ltd	212406144 Liv	e(19);Lapsed	270,064.54								
Churches Training Co	212412386 Liv	e(3)	15,307.19								
Nationwide Training Services	212419043 Liv	e(4)	6,778.80								
Samuel Smith Old Brewery (Tadcaster)	212421523 Liv	e(21);Lapsed	108,917.61								
Alan Gee Transport Services	212426156 Liv	e(8);Lapsed	9,170.00								
Saint-Gobain Quartz Ltd	212429880 Liv	e(7);Lapsed	13,143.91								
T.J. Murphy Ltd	212437115 Liv	e(11)	8,833.86								
N B Leisure	212437532 Liv	e(3);Lapsed	19,280.77								
Secanim Ltd	212439780 Liv	e(10)	125,621.02								
Seraph Surveying Services	212440189 Liv	e(5)	1,837.00								
Grand Summaries											
			Median = 4,558.27	Ţ							
			Browsing first 1,000 Records								
Cover Selection Data Grid *											
			11,810 Custome	rs							

Cubes

Cubes and Tables

The Cube tool enables you to take a selection and break it down by one or more variables on each dimension of the table. As such, a Cube can be 1, 2, 3 - or more - dimensional.

Whilst most of your work with Cubes may be done at the selection resolve table level, Cube analysis can be resolved to and carried out using any available table level, independent of the selection's resolve table. You can change the Cube table level by right-clicking on the box at the top of the window, in the same way as you do for a selection.

A Cube will also process data from multiple tables if either the dimensions or the measures (the statistics in the central body of the cube) are derived from multiple tables. However, in all cases, the Cube tool will only process data that relates back to its underlying Selection.

- Use the Economic Region variable to create a selection of Records from South East (Inside M25)
- Drop on a ^{i,-} Cube and display by Banded Nr of Employees (Company) on the horizontal axis and Major Industry Sector UK 2003 on the vertical axis
- Click the Build button to create the cube

5 🧭 😐 🕞 🖹 Notes - 4월 년들 🎝 View Settings - % 🗐	× • • • •				
election					7
E (Inside M25)	Economic Re	egion			7
Economic Region of South East (Inside M25)	Filter - De	escriptio	n Contains 🔹		
	ø 🗶 🐔				
	Include	Code	Description	Records	
		1	Unclassified	3,01	10
		01	North	211,04	18
		02	North West (Excluding	358,02	1
		03	South East (Outside M	1,190,42	2
		04	South West	513,66	59
		05	East Midlands	363,63	19
		06	West Midlands	493,38	k
		07	East Anglia	208,02	2
		08	Yorkshire and Humber	426,05	î
		09	South East (Inside M25)	1,498,66	51
		10	Scotland	424,83	10
		11	Wales	232,41	4
		12	Northern Ireland	118,68	R
	Include	- 🛒	🛄 OR 🛛 - +🗖		

ΣΒ	Banded Nr of E	mployees (Company)	Drop your varia	ble here								
		Unclassified	1 - 5 Employees	6 - 10 Employees	11 - 20 Employees	21 - 49 Employees	50 - 99 Employees	100 - 199 Employees	200 - 499 Employees	500 - 999 Employees	1000+ Employees	TOTAL
Unclass	ified	66,308	14,689	476	227	73	32	19	8	7	6	81,8
Agricult	ture, Hunting	1,636	3,341	236	100	57	19	6	5	0	0	5,4
Fishing		100	114	6	1	2	1	0	1	0	0	2
Mining	& Quarrying	1,152	1,251	159	121	73	30	31	19	14	19	2,1
Manufa	acturing	21,743	30,509	2,862	1,750	1,050	507	284	227	74	115	59,
Electrici	ity, Gas & Wat	1,744	2,343	111	32	32	17	10	8	2	7	4,
Constru	uction	28,968	50,071	2,521	1,272	578	269	131	84	38	36	83,
Wholes	ale, Retail & F	64,268	94,622	6,972	3,027	1,444	615	309	250	91	132	171,
Hotels I	& Restaurants	26,730	41,822	4,940	2,826	1,287	573	278	156	52	54	78,
Transpo	ort, Storage &	18,247	23,227	2,218	1,381	952	416	191	147	50	76	46,
Financia	al Intermediati	25,075	21,559	2,311	1,339	1,007	604	372	332	153	181	52,
Real Est	tate, Renting i	263,558	325,682	19,868	9,353	5,475	2,887	1,584	1,250	548	777	630,
Public A	Administration	1,997	1,376	169	116	117	72	42	66	36	81	4,
Educati	ion	15,525	11,907	2,177	1,558	1,162	641	377	172	44	47	33,
Health I	& Social Work	29,337	36,766	4,611	3,035	1,484	594	271	166	61	104	76,
Other C	Community, Sc	66,624	85,755	5,736	2,811	1,472	685	399	213	104	77	163,
Private	Households v	463	549	33	9	4	0	0	1	0	0	1)
Extra-Te	erritorial Orga	346	243	7	9	7	1	2	2	1	0	
TOTAL		633,821	745,826	55,413	28,967	16,276	7,963	4,306	3,107	1,275	1,712	1,498,

To see the results of this breakdown by another table, drag the appropriate table from the system Tables window.

Drag the Policies table onto the middle of the Cube and press the Build button

To hide or delete a statistic once it has been added to a Cube:

Click on the Statistics button and then uncheck the Display mark box against the item to hide, e.g. Records, or click Delete... to delete the column from your Cube

 \checkmark **N.B.** By moving the Σ button from the horizontal dimension to the vertical dimension, figures shown in separate columns can be displayed in the same cell.

N.B. By default, the first figure in each cell will be whatever is set as the resolve table. The order can be updated within the Statistics dialog window by left-dragging the measures into the required order within the grid.

To apply a calculated statistic using a Numeric or Currency variable:

Right drag and drop the Policy Premium variable into the middle of the Cube and select Sum(Policy Premium) from the pop-up menu

E.g. The highlighted cell in the screenshot opposite indicates that for the SE (Inside M25) region, of the 114 Fishing Records with 1-5 Employees, one Policy has been purchased at a total cost of $\pm 2,075.10$.

When you right-drag a numeric variable onto a Cube, the most commonly used statistics are displayed. Select Add Statistics to access and display further figures within each cell.

Cube							
	Σ Banded Nr of Employees (Company) → Drop your varia	able here					
		Unclassified		1 - 5 Employees		6 - 10 Employees	
8		Records	Policies	Records	Policies	Records	Policies
Ř	Unclassified	66,308	20	14,689	44	476	
to	Agriculture, Hunting & Forestry	1,636	27	3,341	63	236	
y Se	Fishing	100	0	114	1	6	
dustr	Mining & Quarrying	1,152	0	1,251	11	159	
r p	Manufacturing	21,743	77	30,509	299	2,862	
Majo	Electricity, Gas & Water Supply	1,744	3	2,343	10	111	
-	Construction	28,968	56	50,071	456	2,521	
e	Wholesale, Retail & Repair	64,268	124	94,622	820	6,972	
le he	Hotels & Restaurants	26,730	20	41,822	164	4,940	
ariab	Transport, Storage & Communication	18,247	115	23,227	172	2,218	
nr v	Financial Intermediation	25,075	243	21,559	263	2,311	
b yo	Real Estate, Renting & Business Activity	263,558	776	325,682	4,527	19,868	
8	Public Administration, Defence & Compulsory Social Security	1,997	77	1,376	10	169	
	Education	15,525	83	11,907	38	2,177	

	Banded Nr of Employees (Company)	riable here		
		Statistics	Unclassified	1 - 5 Employees
	Unclassified	Records Policies	66,308 20	14,
UK 200	Agriculture, Hunting & Forestry	Records Policies	Sum(Policy	Premium)
Sector	Fishing	Records Policies	Minimum(Pol	licy Premium)
Industry	Mining & Quarrying	Records Policies		s
ajor	Manufacturing	Records	Cancel	50,

Cube '										
	Banded Nr of Employees (Company) Drop your variable here									
Int		Statistics	Unclassified	1 - 5 Employees	6 - 10					
5003	Unclassified	Records Policies Sum(Policy Premium)	66,308 20 £73,179.82	14,689 44 £183,579.07						
ector UK 2(Agriculture, Hunting & Forestry	Records Policies Sum(Policy Premium)	1,636 27 £23,526.70	3,341 63 £9,883.25						
or Industry 5	Fishing	Records Policies Sum(Policy Premium)	100 0 £0.00	114 1 <u>£</u> 2,075.10						
 Majo 	Mining & Quarrying	Records Policies Sum(Policy Premium)	1,152 0 £0.00	1,251 11 £5,989.11						

D&B Market Insight

Cube Table Filter

It is possible to apply a Table filter to your Cube that allows you to restrict the records in the breakdown.

- Create a Cube of records and display by Banded Nr of Employees (Company) on the horizontal axis and Major Industry Sector UK 2003 on the vertical axis
- Change the Table level to Names
- > Drag the **Records** table onto the middle of the **Cube**
- Click the Build button

N.B. Alongside the Table box at the top of the window a new drop zone has appeared with the words Return all Customers.

- Create a new selection of Names identifying Gender of Female, Primary Job Function of Owner and Economic Region of West Midlands
- Rename the selection Female Owners in West Mids
- Drag the Female Owners in West Mids selection onto the Return all Names drop zone
- Click Build

The display will now be restricted to show only the number of Names who are Female Owners in the West Midlands.

 \checkmark **N.B.** Remember you can additionally filter which categories are displayed in each dimension by using the pop-up menu on the variable. You can turn this filter on or off using the filter toggle button \heartsuit .

Female Directors in West Mids	names				
5 🦟 😐 🕞 🗄 Notes 🛛 📲 🦉 View Settings	• % 🗐 🗐 •	- 🖻 -			
election					1
Female Directors in West Mids	Economic Re	egion		7	>
► Gender AND Job AND (names having THE Reco	Filter - D	escriptior	n Contains	•	
Gender of Female	α x 📹				
Job of director	Include	Code	Description	Records	-
Economic Region of West Midlands		02	North West (358,023	
		03	South East (1,190,424	
		04	South West	513,669	
		05	East Midlands	363,639	
		06	West Midlan	493,382	
		07	East Anglia	208,022	
		08	Yorkshire an	426,051	Ŧ
•	Include	• 🛒	III OR ▼→□		
ver Selection					

I Banded Nr of	Employees (Company)	Drop your vari	able here						
Unclassified			1 - 5 Employees		6 - 10 Employees	- 10 Employees		11 - 20 Employees	
	names	Records	names	Records	names	Records	names	Record	
Unclassified	1,598	1,417	602	532	35	14	15		
Agriculture, Hunting	236	203	837	700	59	40	61		
Fishing	7	6	18	14	0	0	0		
Mining & Quarrying	15	14	40	37	8	6	5		
Manufacturing	982	911	2,738	2,459	465	388	394		
Electricity, Gas & Wa	36	36	102	87	18	9	11		
Construction	822	778	2,812	2,628	235	206	158		
Wholesale, Retail &	2,021	1,817	5,722	5,086	643	523	428		
Hotels & Restaurant	1,220	1,080	2,322	1,962	216	123	132		
Transport, Storage 8	1,140	1,090	1,459	1,331	125	96	105		
Financial Intermedial	367	331	807	721	90	71	63		
Real Estate, Renting	11,621	10,105	22,885	19,566	2,412	1,294	1,095		
Public Administratio	47	46	105	77	12	6	16		
Education	933	544	1,795	1,152	685	220	1,182		
Health & Social Wor	2,037	1,773	4,969	4,092	546	257	476		
Other Community, S	3,234	2,738	5,975	4,467	1,150	514	553		
Private Households	35	26	44	35	5	2	3		
Extra-Territorial Org	13	10	18	16	1	1	0		
TOTAL	26,364	22,925	53,250	44,952	6,705	3,770	4,697		
¢								_	
I - D								-	

D&B Market Insight

Date and Numeric Variables

The use of Date and Numeric variables on a Cube can give you some extra display options.

- Open the Female Owners in West Mids selection and set the table level to Customers
- Drop a cube on the selection and drag the Major Industry Sector UK
 2003 variable onto the vertical dimension
- Right drag the Customer Start Date variable onto the drop box on the horizontal dimension and select Years
- Click the Build button

Right dragging the date variable gives you the ability to display the figures in a number of date divisions including the Full Date which is the default and equivalent to left dragging the variable across.

- Right drag the Customer Level Revenue variable into the middle of the Cube
- From the popup menu select Sum(Customer Level Revenue) and click the Build button



	∑ Banded Customer Start Date (Years) → Drop your var	iable here						
		2004		2005		2006		2007
		Customers	Sum(Customer Level	Customers	Sum(Customer Level	Customers	Sum(Customer Level	Customers
I	Unclassified	0	£0.00	0	£0.00	0	£0.00	
I	Agriculture, Hunting & Forestry	0	£0.00	1	£1,776.90	1	£1,317.01	
	Manufacturing	3	£16,003.01	2	£6,578.64	3	£93,464.31	
	Electricity, Gas & Water Supply	0	£0.00	0	£0.00	0	£0.00	
	Construction	1	£14,312.00	2	£6,521.89	1	£2,250.00	
	Wholesale, Retail & Repair	9	£198,189.91	7	£135,031.65	6	£126,836.64	
	Hotels & Restaurants	1	£7,286.49	0	£0.00	0	£0.00	
	Transport, Storage & Communication	0	£0.00	0	£0.00	2	£176,241.62	
	Financial Intermediation	0	£0.00	1	£71,050.00	1	£1,574.95	
	Real Estate, Renting & Business Activity	15	£311,658.57	11	£191,836.83	11	£622,248.72	
	Public Administration, Defence & Compulsory Social Security	0	£0.00	0	£0.00	0	£0.00	
	Education	2	£21,820.00	1	£8,703.00	1	£500.00	
	Health & Social Work	2	£7,275.58	3	£206,708.42	0	£0.00	
	Other Community, Social & Personal Service Activities	6	£187,996.78	3	£225,184.07	2	£334,225.00	
	TOTAL	39	£764,542.34	31	£853,391.40	28	£1,358,658.25	
	<							
			1					

D&B Market Insight

To use a numeric variable as a Cube dimension:

Right drag the Nr of Employees (Company) variable onto the Cube dimension drop panel

This allows you to choose from various standard bandings of the data in the variable or use the banding tool to create any other banding.

N.B. The brackets in the pop-up menu show which banding options need calculating. Once a banding option is calculated it is shown without brackets.

- The "Choose Banding..." option allows use of the numeric distribution tool to analyse and generate a wide range of different banding types including quantiles (quartiles, deciles, centiles, etc.) and specific treatment of outlying values
- Once a banding is defined, you can amend it by right-clicking on the dimension and choosing **Edit**. This will display the banding tool
- The tabs to the right of the banding graph of statistical information relate to the banding or variable as a whole





D&B Market Insight RFV & Cube Dimensions

The functionality of RFV can be used to set the dimensions on a Cube.

For example Frequency can be added on a dimension by right dragging a transaction table onto a Cube dimension.

- > Open a blank Cube set to Customers
- Right drag the Policies table onto the vertical cube dimension and select Add RFV Frequency dimension
- > Amend the bandings as required and click **OK**

To use the Recency function, right drag a date variable onto a Cube dimension.

- > Open a blank Cube set to **Customers**
- Right drag the Policy Renewal Date variable onto the vertical cube dimension and select Add RFV Recency dimension
- Select the date period to band as required and click **OK**

To use the Value function, right drag a numeric or currency variable onto a Cube dimension.

- > Open a blank Cube set to **Records**
- Right drag the Policy Premium variable onto the vertical cube dimension and select Add RFV Value dimension
- > Amend the bandings as required and click **OK**



Recency	
Policy Renewal Date	Last •1
Years -	

Value		
Sum	>0 - 100 >100 - 250 >250 - 500 >=500	

D&B Market Insight

Queries as a Cube Dimension

In addition to using variables as cube dimensions, you can use one or more queries as a dimension. This is appropriate if you wish to analyse by a characteristic that is not directly presented as a variable (for example, analyse by "Bought in the last year").

- Define a query in a new selection window
- Drag and drop it onto the cube dimension drop zone

The query will produce two categories, Yes and No and behaves exactly as a variable from the table it is resolved to.

N.B. You can drag the query back off the cube dimension, but if you change it, you will need to drag the amended version back on again. The cube holds a copy of your query; it does not reference any changes you may make in the original definition window.

A single dimension can also have multiple queries added to it. Because in general two selections can both select the same records, you can choose whether you want to see the selections overlap each other (providing results that would look similar to a flag array selector variable) or whether the selections should be "de-duplicated". De-duplicating selections means that if a record is selected by one selection, then it will not be counted in the figures for all subsequent selections.

- Define two additional queries
- Right-drag one of these and drop it on the first query within the cube dimension area. You will see a popup menu as shown opposite





The options for multiple selections on a dimension are:

Overlapped

Where a cell shows every record that meets the criteria for that selection.

Deduplicated

Where a cell shows the count of that selection with any duplicated records from the previous cell(s) having been removed.

Cumulative

Where a cell adds any new records with those from the previous cell(s).

Compounded

Where a cell only shows records where the record meets the condition from the previous cell(s).

Drag your next selection on to the same dimension drop box and click on the Build button

Once you have created your multi selection display, the order of the selections can be altered by using the Edit option.

- Right click on the dimension contains the dragged on selections and choose Edit
- Right click on the queries to move them up or down to change the order in which they are applied
- Click OK, and then click on the Build button



	Query		
1-49 Employees			
Recent High Value Policy Holders			
High Revenue Live Customers			
Queries will be overlapped			
Queries will be overlapped			
Queries will be overlapped Queries will be deduplicated			
Queries will be overlapped Queries will be deduplicated Queries will be cumulative			
Queries will be overlapped Queries will be deduplicated Queries will be cumulative Queries will be compounded			

D&B Market Insight

Cube Calculated Measures

This feature allows you to perform simple calculations in and between cells on a Cube or Tree tool.

For example you may wish to display the average Policies per Customer broken down by Major Industry Sector.

- Display a Cube on a blank selection at the Customers table level, with Major Industry Sector on the vertical dimension
- > Drag the **Policies** table onto the center of the Cube
- Click on the Statistics button followed by Add Statistics...
- Click on the radio button called Calculated Measures and complete as opposite

Name: Policies per Customer

Type: In-Cell Calculation

Measure: Policies/Customers

Click OK

The results of the calculation are displayed immediately on the Cube without the need to click the build button.

Statistics					×
- Statistics					
O Use Resolve Table (Customer	5)				
 Specify other Table, Variable, 	Selection or Ex	pression			
Calculated Measures					
Name Policies per Customer					
Type In-Cell Calculation	•				
Measure Policies	• /	- 0	Measure	Customers	-
			Malua		
O value		0	value		
Display as %					
help				ОК	Cancel
-					
Cube	New Sele	ction	istomers		1
• • • • • • • • • • • • • • • • • • •	▽ 〒 Thematic 편 🖸 🖬 🖬 🖬 • 📢	•∑ Statistics • 4] • [7] •	Cube Size ▼ ∑•	£	
Cube	iable bere			÷ ×	
	Customers	Policies	Policies per Cus	tomer	

Σ Drop your vi	riable here		
-	Customers	Policies	Policies per Customer
3 Unclassified	2,810	12,682	4.51
Agriculture, Hunting	1,596	5,164	3.24
Fishing	46	145	3.15
Mining & Quarrying	246	870	3.54
Manufacturing	7,115	23,981	3.37
Electricity, Gas & W	a 117	335	2.86
Construction	3,922	14,790	3.77
Wholesale, Retail 8	F 6,546	24,228	3.70
Hotels & Restaurar	ts 979	3,232	3.30
Transport, Storage	8 1,915	6,801	3.55
Financial Intermedia	ti 1,725	6,919	4.01
Real Estate, Renting	21,570	58,180	2.70
Public Administratio	or 417	2,253	5.40
5 Education	840	2,587	3.08
Health & Social Wo	rł 1,199	4,088	3.41
Other Community,	Sc 2,855	9,347	3.27
Private Households	v 14	42	3.00
Extra-Territorial Or	gi 4	6	1.50
TOTAL	53,916	175,650	3.26

D&B Market Insight

Another example of a Calculated Measure would be to compare cells, perhaps to show the difference in mean profit between quarters

- > Display a Cube on a blank selection at the **Records** table level
- Right drag the Policy Renewal Date variable onto the horizontal dimension and select Quarters
- > On the vertical dimension add **Policy Product Type**
- Right drag Customer Level Revenue into the middle of the cube and select Mean
- > Click on the Statistics button followed by Add Statistics...
- Click on the radio button called Calculated Measures and complete as opposite
- Click OK

The results of the calculation are displayed immediately on the Cube without the need to click the build button.

N.B. The Cell contains a list of actions which will be restricted if you use a non-sequential variable:

ThisUse the cells in the currently selected measureTotalUse the total cell of the dimensionFirstUse the first cell of the dimensionPreviousUse the previous cell to the one already indicatedNextUse the next cell to the one already indicatedLastUse the last cell of the dimension

Use	e Resolve Table (Records)	
C Spe	cify other Table, Variable, Sele	ction or Expression
• Cal	culated Measures	
Name	QOQ	
Туре	Comparison	•
	Comparing across	Banded Policy Renewal Date (Quarters)
	for measure	Mean(Customer Level Revenue)
	find the	Difference 👻
	It to the	1 🕂 Value 💌 Before 💌

8					New Selection					- •	
	• 🗗 Cube	⊽ 🕤 i 🔠 Thematic •	Σ Statistics + III 0	rds Cube Size • ∑• •∑	II 4 0 B	0 🖪 🖬 • 🖷 • (P] -				
Cut	Jube										
	Z Banded Policy Renewal Date (Quarters) Drop your variable here										
		Quarter 4 2012			Quarter 1 2013			Quarter 2 2013			
200		Records	Mean(Customer Leve	QOQ	Records	Mean(Customer Leve	QOQ	Records	Mean(Customer Leve	QOQ	
t	PRODUCT A	10,413	£6,453.14	-£181.32	10,323	£6,476.31	£23.18	12,446	£6,783.88	£307.56	
Pund	PRODUCT B	5,062	£18,805.41	£361.23	5,045	£18,466.16	-£339.25	6,125	£19,244.65	£778.49	
Sile	PRODUCT C	6,735	£16,864.60	-£189.61	6,686	£16,242.97	-£621.63	7,514	£19,326.79	£3,083.83	
đ	PRODUCT D	3,909	£27,715.21	-£1,541.02	3,931	£29,019.56	£1,304.35	4,711	£29,328.46	£308.90	
	TOTAL	20,103	£12,947.32	-£214.69	20,241	£12,936.95	-£10.37	22,906	£13,777.32	£840.37	
2 Contronie de la control de l	<	1	1					I			
										53,915 Customers	

Segmentation

All businesses would like to know more about their customers and their transactional behaviour. If we understand our customers better we can produce more effective campaigns and ultimately improve our response rates and return on investment. For outbound marketing we can make our message personal to the individual. For analytical purposes however it is much more common to place our customers into a manageable number of groups that share common characteristics. This grouping is commonly referred to as segmentation – a grouping of people that is meaningful to your business and marketing processes.

Our customers are not static; they are on a journey with our business. Some of our customers will undoubtedly be loyal steady customers, but the majority will be continually moving between our defined segments. Some will be defecting to the competition, some will be on their way towards becoming our loyal customers; others will be on a journey away from being a customer. Knowledge of the characteristics of these groups, how they are changing and the journeys they are making is extremely valuable in trying to maximise our return from our customers.

The following pages will demonstrate how you can use FastStats Discoverer and its Segmentation tool to examine both your customers at a point in time and how they move between segments over a period of time.



The Segmentation Window

The Segmentation Window can be opened from the analysis section of the toolbox ribbon bar. At the bottom of the segmentation window there are 3 tabs:

Cover gives you a headline view of the segmentation.

Selection allows you to view, or create, an underlying selection for your segmentation in the same way as other tools within Discoverer.

Segmentation opens up two further tabs at the top of the screen that in turn allow us to add the variables or selections we will use to build the segmentation.

•• Segmentation 📔 📋 Notes 🛛 📕 Segment Colours 🚽 🖓 🖳 🔚 Segment Settings 🔹 🗵 Statistics 🛪 🕅 Reporting Points 🔹 🎹 🍗 🗐 🖛 Segmentation Segments . Dimensions Drop your variable here Variable ID + QueryName + C Selections Cover Selection * Segmentation

Building the Segmentation

Segments

Drag on to this area the variable, or selections, you wish to use to segment your data. Changing the radio button enables you to segment the data by a variable or alternatively by query selections.

Dimensions

This tab is used to define which variables the segmentation will be broken down by and once the segmentation is built will display the results.

Segmenting a variable

The following example will use the region that a customer lives in to segment the entire database. This will allow us to examine the behaviour of the customers in each region segment.

> Ensure the **Segments** tab is uppermost

Now we can chose the variable we want to use to segment the data.

Drag and drop the Policy Product Type variable, from the households folder, in your system explorer onto the box labelled Drop your Variable here

Having chosen the variable we want to use to segment the data we will now chose which variables the segmentation will be broken down by. The variables must come from the same table level or above that at which your segments are to be created.

- As we will use a variable from the **Policies** table level change the **table** level of the underlying selection to **Policies**
- Click on the **Dimensions** tab so it is uppermost
- From the System Explorer drag the following variables on to the Dimensions tab. Major Industry Sector, Banded Nr of Employees, Economic Region, Policy Channel, Customer Level Revenue



D&B Market Insight

Reviewing the Segmentation Report when Segmenting by Variable

With the **Dimension** tab still uppermost click the **Build** button to create the Segmentation report

The visualisation displays a summary line for each variable. It is possible to drill down and see the results for each category in any particular variable by clicking on the plus to the left of the variable description.

The initial visualisation is a summary view detailing the relative importance of each Variable in defining the segments. The **Mean Index** gives the average index for the categories in each variable and the higher the index the greater significance that variable has in informing the segment. Clicking on the column header allows you to sort the column.

- Click the heading Mean Index until it displays the results highest to lowest
- Click the + next to Major Industry Sector to see the breakdown of data by that variable

This report presents a lot of information that you can sort and view in a variety of ways. Right clicking on a column header brings up a box containing the relevant options.

Show/Hide this type will select or hide all of the columns which contain the same information as the column header you clicked on.

Show/Hide this segment will select or hide all the columns relevant to the particular segment you clicked on.

Segmentation Segment Settings → Σ Statistics → Reporting Points → M → → → → → → → → → → → → → → → → →	3	New Se	lection	
Image: Policy Channel Image: Policy C		Segmentation		
*Ill * Segment Settings * Σ Statistics * IIII Reporting Points * IIII ▲ EII * Segmentation # × Segments Ø Dimensions Description # Mean Ind # Policy Channel Banded Custom Banded Custom Banded Nr of E IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII		👜 🕞 📋 Notes 🕶 📑 Segment Colo	urs 🔻	
Segmentation # × Segmentation # × Segmentation # × Segmentation # Mean Ind # Policy Channel Banded Custom Banded Custom Major Industry Cover Selection Segmentation	_	4≣ ▶≣ 🖪 Segment Settings 🕶 ∑ Sta	tistics 🔹 🥅 Reporting Points 👻	• • •
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Description * Mean Ind * Policy Channel Banded Custom Economic Region Banded Nr of E Major Industry Cover Selection Segmentation	<u> </u>	Segments	Di Di	mensions
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Cover Selection Segmentation	4			+
corer beletabil begintentation	Cove	er Selection Segmentation		
175,650 Policies				175,650 Policies





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Right click on a column heading Product D and select Show this segment only

As you study the report you will want to examine all of the segments and columns. Viewing one segment only will allow us to examine the different types of columns and the information each gives us. The following column descriptions would also include the name of the segment e.g. London as in the screen shots opposite.

Description displays the name assigned to that particular variable category.

Penetration displays a histogram with an index value centred on 100. Histogram bars to the right of the centre line show the segment is over represented in that category. Histogram bars to the left of the centre line show under representation.

Segment is the number of records in the segment in that category.

Index is the ratio of the segment N and Base figures multiplied by 100. The higher the number the higher the proportion of records from the segment, that belong in that category, in relation to the number of base records.

Z-Score displays a figure which shows how confident we can be in the result. It is a standardised measure to show if the result is a true characteristic of the data and not a quirk of the data sample used. The further a result is away from the average (0) the less chance the result is a quirk of the data.

Histogram is a graphical representation of the number of records from that segment in each category.

Segment: Base compares the number of records from the segment to the number of base records in each category.



Description P	PRODUC	CT D Penetration 👎	PRODUCT D 🕂	PRODUCT D Index 👎	PRODUCT D Z-Score 보	PRODUCT D Histogram 🗢 PRODUCT D : Base	: -P
Mining			123	101.97	0.23		
Wholesale			1,330	121.35	7.57		
Transport, Com			1,414	119.14	7.06		
Manufacturing			5,142	141.76	26.93		
Retail			1,554	102.17	0.91		
Finance, Insuran			2,683	77.20	-14.39		
Construction			2,631	124.12	11.89		
Services			7,071	82.15	-17.73		
Public Administr			715	180.68	17.18		
Agriculture, For			712	94.88	-1.50		
Unclassified			1,108	70.02	-12.77		
TOTAL			24,483	-	-		

Z-Score	Confidence
> +/- 3.29	> 99.9%
> +/- 2.576	> 99%
> +/- 1.96	> 95%
> +/- 1.65	> 90%
<= +/- 1.65	<=90%

Z-Score values and the confidence they represent

See Appendix 1 for details as to how a Z-Score is derived

D&B Market Insight

Toward the bottom left corner of the report are 3 tabs, the Dimensions tab and two others. The two other tabs give visualisations which allow you to change the way the segment report data is viewed.

Click on the Word Cloud tab

This option shows the most influential categories from the variables used in terms of breaking down the segment. The user can chose the segment to be viewed, the measure to use and the number of categories to be displayed.

The default is the 'Index' measure which gives a variable-independent measure of how over or under-represented that category is in the segment being viewed. It is possible to switch from Index to Count which will then display the categories selected by the total number of records from the segment.

By default you will see the top 10 categories for the segment. It is possible to change the number of categories viewed and to select the 'Top' or 'Bottom'.

Click on the Scatter Plot tab

The chart uses a stratified sample of 1000 records and assigns a colour for each category so you can see how the segments are distributed across the categories. The Rows and Columns options allow you to choose which of the variables used to create the segments you wish to display. A tool tip box shows a breakdown of the records behind each point if you hover the mouser pointer over the point.

It should be noted that as we are viewing a sample of 1000 records the results may not be indicative of the entire database. The scatter graph may give useful insight but it is important to use the Dimensions tab to develop/confirm any conclusions.



D&B Market Insight

Segmenting Selections to show changes over time

This functionality allows us to look at trends over time.

The selections used with this function will require a date element that will give the potential for the result to change over time. Therefore a date variable needs to be used within the selection. It is possible to view the dates returned by a date rule at the bottom of the date rule window.

e.g. the date rule in the first screen shot returns dates a year ago up to yesterday, this allows the potential for the result to change as time progresses.

Whereas ...

...the date rule in the second screen shot has fixed start and end points, this does not allow the potential for the result to change and therefore should not be used when exploring segment change over time.

To illustrate this we will examine the changes over time between 5 selections of customers who have made holiday bookings. The selections will identify the frequency with which customers have booked holidays as well as the cost of those Holidays. Those renewing the most often and higher cost policies will be identified as High Frequency High Value (HFHV) customers and those renewing the least often and taking lower cost policies will be identified as Low Frequency Low Value (LFLV) Customers. High Frequency Low Value (HFLV) and Low Frequency High Value (LFHV) will fall in between.

D&B Market Insight

To create the HFHV selection

- Open a Customer level selection
- > Drag on the **Policy Renewal Date** variable
- Click on the drop down arrow in the Type column
- Select Last Year from the drop down menu
- Right click on the ANY node and select Apply RFV to Customer...
- > Apply the **Frequency** and **Value** as shown in the screenshot
- > Name the selection 1 HFHV and Save in the private folder

N.B. If you are on the Base Advanced course the remaining selections have been saved in the public folder. Otherwise create the following:

2 - LFHV – Policy Renewal Date variable set to The Last Year. Apply RFV to show frequency as <2 and value to show Sum Cost to be >=300.

3 - HFLV - Policy Renewal Date variable set to **The Last Year**. Apply **RFV** to show **frequency** as >=2 and **value** to show Sum **Cost** to be <300.

4 - LFLV - **Policy Renewal Date** variable set to **The Last Year**. Apply **RFV** to show **frequency** as <2 and **value** to show Sum **Cost** to be <300.

5 - No Transactions - Policy Renewal Date variable set to **The Last Year**. Apply **RFV** to show **frequency** as 0.

N.B. The no bookings variable makes no distinction between previous purchasers and new customers.

Transactional Table	Policie
Trensactional Table Frequency Perequency Crop your recency variable here Value 2 2	Police
✓ Frequency >*2 > Recency Drop your recency variable here ✓ Value	•
>=2 Recency Drop your recency variable here Value	•
Recency Drop your recency variable here Value	v
Recency Drop your recency variable here Value	•
Recency Drop your recency variable here First	¥
Value	•
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✓ Value	
Value	
	-
Sum +	00
Policy Premium	
_	

- Display a new Segmentation window and set the underlying selection to the Customer table level
- Ensure the Segment tab is uppermost and the radio button by Selections is checked
- Drag 1 HFHV, 2 LFHV, 3 HFLV and 4 LFLV onto the segmentation window

As you do this you will notice 3 additional tabs become available at the top of the window.

Before viewing the 3 report tabs set the **Reporting Points** via the drop down at the top of the window. By default the display will be set with 4 reporting points ranging from today to the start of the year 3 years ago.

Clicking on the drop down by the dates will allow you to alter the years the report covers.

Changing the radio button that is currently against Yearly allows you to report at different intervals.

The final section of this window allows you to choose which point of the time period selected the movements between the selections will be shown at.

By changing these options it is possible to increase the number of reporting points but **PLEASE NOTE** the more reporting points you set the longer the processing time to see the results.

Set the **Reporting Points** as in the screenshot

Segme	ntatio	on							Π.	×
🗋 Segm	ents	V	Dimensions	Time Re	eport	Migration (2	Migration (All	Journeys	Retent	ion
C Variat	C Variable									
C	Drop your variable here									
Select										
1	D	- S	election identi	fier ⊹⊨		S	election name			-
	1	A			1 - HFHV	1				
	2	B		2	2 - LFHV					
	3	C		3	3 - HFLV					
	4	D		4	4 - LFLV					
Cover	Select	ion	* Segmenta	tion						

C Daily	○ Every	July on day 13
C Weekly	The	1st
C Monthly	Every	1 year(s)
Yearly		
	From	01/01/2013 •
	То	13/07/2016 🔹
Reporting on the fo	llowing dates (4 p	pints)
01/01/2013 01/01/2014 01/01/2015 01/01/2015		
01/01/2010		

Reviewing the Segmentation Report when viewing Time Reports

There are 3 tabs related to this type of segmentation each of which gives different insight.

Time Report – Produces a cube displaying the number of records for each segment at each reporting point.

Migration (2 points) – Produces a report showing the migration between segments across two specific points in time.

Migration (All Points) – Produces a cube showing migration between all of the segments at every reporting point.

Each report will be built separately by clicking on the **Build** button with the relevant tab uppermost. When the report displays a cube it is possible to drag off cells to produce a selection.

Time Report

Open the Time Report tab and click the Build button

By default you can see the **Values** in each segment at each reporting point. For example on 01/01/2013 there were 12,151 HFHV customers. By clicking on the **Displaying results as** box you can change the results displayed from **Values** to **Percentage of Segment**. Choosing this option allows us to see that those 12,151 HFHV customers represent 34.89% of all customers on 01/01/2013.

Click on the Chart tab to the left of the window

The chart is a visual display of the trends over time.

Segme 🗹 Dimen Time Re Migration Migration Journeys Retent							Reter	ntio
Displaying resu	lts as	Values			•			
		Statistics	0	1/01/20	13	01/01/2014		
1 - HFHV		Customers			12,151		13,874	
2 - LFHV		Customers			9,622		9,979	
3 - HFLV		Customers			4,457		4,497	
4 - LFLV		Customers			8,594		9,342	
TOTAL		Customers			34,824		37,692	
<							>	

Migration (2 points)

- > Drag the **5** No Bookings selection into the Segments tab
- > Open the **Migration (2 points)** tab
- Chose the time periods you wish to report on using the From and To boxes. We will select from 01/01/2013 to 01/01/2014 (the period identified in the Time Report as showing a particular downward trend)
- Click the Build button

The visualisation shows movements between segments across the two reporting points. The default display shows values therefore we are seeing the number of customers that moved from one segment to another. Of the 12,151 customers who were HFHV on 01/01/2013 658 had become LFLV by 2014 and 2,743 had made no transaction in that year. Of the 20,352 who had made no transactions on 01/01/2013 3,672 became HFHV.

We can view this information in 3 further ways by clicking on the **Displaying** results as box.

Percentage of Segment at Start Point gives the percentage row of people. In this case of those who were in a particular Segment in 2013 what percentage are in each of the segments in 2014.

Percentage of Segment at End Point gives the percentage column of people. In this case of those who were in a particular segment in 2013 what percentage were in each of the segments in 2014.

Percentage of all Segment Movements shows what percentage of all movements each particular cell accounts for.

Se	gmentation *								7 ×
\square	Segments		Dimensions	Time Report	Migration (2 po	ints)	Migration (All points)	Journeys	Retention
F	rom 01/01/20	013	- to 01/0	01/2014 💌	displaying results as	Values		•	

Segmentation *								4 х
Segments	Segments 🛛 Dimensions		ort Migration (2 points)		Migration (All points)		urneys Rete	ention
From 01/01/2013 • to 01/01/2014 • displaying results as Values •								
	Statistics	1 - HFHV (01/01/20'	2 - LFHV (01/01/201	3 - HFLV (01/01/201	4 - LFLV (01/01/201-	5 No Bookings (01/0	TOTAL	
1 - HFHV (01/01/20"	Customers	6,603	1,331	816	658	2,743	12,151	
2 - LFHV (01/01/201	Customers	1,778	1,850	28	173	5,793	9,622	
3 - HFLV (01/01/201	Customers	935	25	2,104	776	617	4,457	
4 - LFLV (01/01/201)	Customers	886	152	863	1,200	5,493	8,594	
5 No Bookings (01/0	Customers	3,672	6,621	686	6,535	2,838	20,352	
TOTAL	Customers	13,874	9,979	4,497	9,342	17,484	55,176	
Cover Selection S	egmentation *							

Segmentation *	egmentation *							
Segments	Dimensions	Time Rep	ort Migrat	ion (2 points)	Migration (All p	oints) Jo	urneys Rete	ention
From 01/01/2013 • to 01/01/2014 • displaying results as Percentage of Segment at End Point •								
	Statistics	1 - HFHV (01/01/20"	2 - LFHV (01/01/201	3 - HFLV (01/01/201	4 - LFLV (01/01/2014	5 No Bookings (01/0	TOTAL	
1 - HFHV (01/01/20	% Column of Custom	47.59%	13.34%	18.15%	7.04%	15.69%	22.02%	
2 - LFHV (01/01/201	% Column of Custom	12.82%	18.54%	0.62%	1.85%	33.13%	17.44%	
3 - HFLV (01/01/201	% Column of Custom	6.74%	0.25%	46.79%	8.31%	3.53%	8.08%	
4 - LFLV (01/01/201	% Column of Custom	6.39%	1.52%	19.19%	12.85%	31.42%	15.58%	
5 No Bookings (01/0	% Column of Custom	26.47%	66.35%	15.25%	69.95%	16.23%	36.89%	
TOTAL	% Column of Custom	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	

D&B Market Insight Migration (All Points)

> Open the **Migration (All points)** tab click the **Build** button

We can now see the movements between segments at each reporting point. It is possible to look for patterns such as movements from our best customer group to worst or more positively the worst customer groups to the best.

Dragging these two cells off would create a selection that we could utilise within Discoverer to identify the records in an attempt to re-engage them, and/or understand their characteristics, so we can intervene with those who have similar characteristics.

	Statistics	01/01/2013-01/	01/01/2014 - 01/	01/01/2015-01/	TOTAL
HFHV -> HFHV	People	241	82	488	-
HFHV -> HFLV	People	205	195	905	-
HFHV -> LFHV	People	697	207	652	-
HFHV -> LFLV	People	775	425	1,398	-
HFHV -> No Bookings	People	13,256	39,261	11,022	-
HFLV -> HFHV	People	447	91	939	-
HFLV -> HFLV	People	655	333	5,480	-
HFLV -> LFHV	People	1,178	253	1,409	-
HFLV -> LFLV	People	2,318	805	7,027	-
HFLV -> No Bookings	People	36,341	74,184	34,811	-
LFHV -> HFHV	People	236	307	941	-
LFHV -> HFLV	People	249	630	1,806	-
LFHV -> LFHV	People	1,735	1,009	2,646	-
LFHV -> LFLV	People	1,244	1,999	5,215	-
LFHV -> No Bookings	People	23,858	61,621	31,878	-
LFLV -> HFHV	People	588	439	1,650	-
LFLV -> HFLV	People	783	1,529	7,778	-
LFLV -> LFHV	People	2,212	1,148	5,113	-
LFLV -> LFLV	People	4,488	4,119	25,155	-
LFLV -> No Bookings	People	60,099	123,138	108,905	-
No Bookings -> HFHV	People	38,658	13,546	14,190	-
No Bookings -> HFLV	People	73,774	46,979	44,226	-
No Bookings -> LFHV	People	59,744	39,869	38,941	-
No Bookings -> LFLV	People	121,548	141,253	131,668	-
No Bookings -> No Bookings	People	711,224	603,131	672,310	-
TOTAL	People	1,156,553	1,156,553	1,156,553	-

It is sensible to display the results as a **Percentage of Segment at Starting point** in order to see the relative size of changes across each row.

This allows us to identify where the highest proportion of movements occur as opposed to just the numbers who moved. From this we can discern between which segments the greatest proportion of movement has taken place.

Displaying results as Percentage of Segment at Start Point							
	Statistics	01/01/2013-01/	01/01/2014-01/	01/01/2015-01/			
HFHV -> HFHV	% Segment of People	1.59%	0.20%	3.37%			
HFHV -> HFLV	% Segment of People	1.35%	0.49%	6.26%			
HFHV -> LFHV	% Segment of People	4.59%	0.52%	4.51%			
HFHV -> LFLV	% Segment of People	5.11%	1.06%	9.66%			
HFHV -> No Bookings	% Segment of People	87.36%	97.74%	76.20%			

Journeys

The Journeys report takes our analysis a step further. Previous segmentation tools have identified the segment a record is in at the start and end points of a period. The journeys report uses intermediate sampling points which allow us to see the journeys records take between those two points.

Set the Journey start, Journey end and Intermediate points as shown in the screenshot and click the Build button

Any journey starting A and ending E corresponds to a journey moving from HFHV to No Bookings. The **Selection identifiers** can be seen by clicking on the **Segments** tab.

On the Journeys report right click on the column heading TOTAL and sort descending

We can see 21,011 records who moved directly from A-E but more helpfully we can see 11,382 who moved A-B-E 5,113 who moved A-D-E and 1,421 who moved A-C-E. If we identify records, therefore, that have moved from A to B or C they may be at risk of continuing the journey to E and hence we would lose them as customers. Having found the cells corresponding to A-D, A-C and A-B we could drag them to create a selection. This could be used with the Data Grid, to mail to them, or the Best Next Offer wizard (available via modelling) to identify an offer that may encourage them to book again.

N.B. Clicking on Segment Settings allows you to choose raw journey results which will show you each intermediate point and, therefore, when the movements occurred.

Journey start	01/01/2013	•	Journey end	01/01/2014	-	Intermediate points	10 🔹
(every 33 days)	_			_		

ID	-12	Selection identifier 👳	Selection name
	1	А	1 - HFHV
	2	В	2 - LFHV
	3	С	3 - HFLV
	4	D	4 - LFLV
	5	E	5 No Bookings

	Statistics	TOTAL
E	People	602,81
ED	People	141,38
DE	People	123,10
BE	People	61,62
CE	People	42,40
EB	People	39,95
EC	People	28,24
CDE	People	26,06
AE	People	21,01
EDC	People	16,39
ABE	People	11,38
EA	People	7,23
ADE	People	5,11
CBE	People	4,11
EBA	People	3,77
EDA	People	2,03
EBC	People	1,93
DCD	People	1,86
DED	People	1,66
ACE	People	1,42
CAE	People	1,27
DC	People	93
BED	People	92

D&B Market Insight

Retention

The Retentions report allows us to identify how long a record has been in a segment at a particular point in time. This enables us to identify those who have been our best customers, for a long period of time, or those who have stopped making bookings for a short period of time who we may wish to reengage.

- Set the Retention at point as 01/01/2014. This is the point we will look back from to identify how long a record has been in the segment
- > Enter the ranges
 - 0-2 2-4 4-8 8-12 >=12

These ranges are the divisions separating how long a record has been in the segment

- Check in Segment every 1 Month. This ensures that to fall in a segment for a particular range a record must have been present in the previous range for every month it covers.
- Click the Build button

The resulting cube identifies 51 Records who have been HFHV for over 12 months, our best customers. It also identifies 13,530 records who have fallen in to the No Bookings segment recently who we may wish to intervene with to ensure they do not continue in that segment for a longer period of time.

	Statistics	Unclassified	0-2 Months	2-4 Months	4-8 Months	8-12 Months	>12 Months	TOTAL
1 - HFHV (01/01/	People	0	1,946	2,637	5,824	4,038	51	14,496
2 - LFHV (01/01/2	People	0	5,028	6,949	15,046	15,451	104	42,578
3 - HFLV (01/01/2	People	0	7,222	8,320	18,413	15,608	183	49,746
4 - LFLV (01/01/2	People	0	17 570	22,503	56,315	51,873	474	148,744
5 - No Bookings (People	0	13,530	39,139	157,926	87,580	602,814	900,989
TOTAL	People	0	45,305	79,548	253,524	174,550	603,626	1,156,553

D&B Market Insight

Reviewing the Segmentation Report - Elapsed Time Reports

So far we have examined how many records are in each segment at specific, fixed points in time. This is useful, for example, for identifying recently lapsed customers or current 'best' customers. However, as all our customers start their journeys with us at different points in time, there may be occasions when we want to examine journeys from the date that a first interaction with us occurs. This enables us to identify overall patterns from start points.

Elapsed Time Reports can be interpreted in a similar fashion to Fixed Time Reports. As an example, we will consider how to set up an Elapsed Time Report and how to interpret the Time Report.

Choose Elapsed Time Points from the drop down

We will set a reference date related to a customer's first interaction with us. This could be first transaction or first communication, for example. In each case the reference date will be individual for each record.

- > Within the Reporting Points dialog click on Edit reference variable...
- From the System Explorer use a variable that will identify the first interaction with the Customer
- Complete the settings as per the screenshot opposite and click OK

Now we can build and interpret any of the reports, as we have done previously, but considering time as elapsing from a reference date that is individual for each person.

Transactional Table	People
Reference Variable or Expression	
Date of First Booking	
	OK Cancel

	Elapsed T	ïme Poi	nts		*			
Refere	Fixed Tin	ne Point	ts			_		
	Elapsed 1	lime Po	ints					
				Edit refer	ence variable			
Report	every	1	• •	Years		•		
Startin	g from	1	•	Years		*		
Until		4	÷	Years		*		
					,			
leporti	ng on the	followi	ng date	es (4 points	s)			
leporti 1 Year: 2 Year: 3 Year: 4 Year:	ng on the s s s	followi	ng date	es (4 points	s)			
leporti 1 Year: 2 Year: 3 Year: 4 Year:	ing on the s s s	followi	ng date	es (4 points	s)			

D&B Market Insight Virtual Variables & Wizards

Virtual Variables are a way of adding to the information that you can analyse within D&B Market Insight. An initial set of variables are created when the system is built and these cannot be changed without rebuilding the system (which can take a long time and will require your administrator to perform the task). Virtual Variables can be used to import additional information into your system or to derive new data by summarizing or aggregating existing information into new forms.

Virtual Variables are treated in the same way as "normal" variables by the system and can be used in all the same ways. They will appear in the System Explorer and can be dragged onto all the same places as a normal variable.

Unlike normal variables, Virtual Variables can also be updated once they have been created. Virtual Variables can also be deleted if they are no longer needed (whereas normal variables can only be removed by rebuilding the system).

The creation of a Virtual Variable is managed through a step by step Wizard process. A full description of most Virtual Variable Wizard is described in **Appendix 1**. A few examples are shown in this manual.

However, Virtual Variables are automatically invalidated when the system is refreshed (for example when fresh D&B data is loaded). The variables will remain in the system explorer, but will be grayed out until they are refreshed (see below).

✓ **N.B.** Creating virtual variables uses disk space on the D&B Market Insight servers. This space usage is monitored automatically for each user. Large virtual variables will be archived or referred back to users to delete to ensure disk space usage remains within sensible quotas.

N.B. A fully worked example for each Wizard can be found on the software Help menu. The Wizards displayed on your system may differ to those shown here and are dependent upon individual configuration.

D&B Market Insight Manage Virtual Variables

The Manage Virtual Variable dialog allows the user to recreate Virtual Variables that are no longer available due to the Market Insight system being rebuilt. The user can also permanently remove Virtual Variables (or old virtual variable definitions) that are no longer needed.

Most Virtual Variables will be created not by the administrator in FastStats Designer but by end users in Market Insight. When the Market Insight system is rebuilt using Designer it won't necessarily include the definitions for recreating the Virtual Variables and they will become unavailable to the user. These variables can then be recreated using the Manage Virtual Variables dialog available from the Tools menu.

Refreshing a Virtual Variable "By Rule"

Whenever an action is performed on a Virtual Variable, such as creating it or modifying it the definition of the change is saved. These constitute a set of "rules" that are used to put the variable in its current state. When refreshing the Virtual Variable these rules can be rerun to recreate the Virtual Variable. However, most of the rules used to recreate a variable will use selections on other variables. When the Market Insight system is reloaded the data in the system will change and the selections may now select different records. For example, one code of a selector Virtual Variable can be set to a selection of people that bought a certain product. When the Market Insight system is refreshed more purchases will have been added into the system and so more people will have bought the product in question. Therefore if the Virtual Variable is recreated "By Rule" the count for the particular code will go up as the selection now has more people in it.

Refreshing a Virtual Variable "From URN Snapshot"

If you create a Virtual Variable and want it to remain exactly the same after a rebuild of the Market Insight system then you can optionally create a "URN Snapshot" of the variable. This takes the variable and records the value for each record against the Unique Reference Number (URN) for the table that the variable is on. Then when the variable is recreated from this snapshot it has exactly the same values as before.

This could be useful if the same PWE Model is created on a set of data after each rebuild of the Market Insight system and you want to be able to compare how the model has changed between builds. When you create the PWE variable you are given the option to take a URN Snapshot of the variable. This can then be used to recreate the variable after the system rebuild.

A URN Snapshot can also be taken for any virtual variable at any time by right clicking on the variable in the System Explorer and selecting the "Create URN Snapshot" option.

Permanently Deleting Variable

Variables can also be permanently deleted using the Delete button. If the variable is not currently available in the system (indicated by a faded icon to the left of the description) then the information required to refresh the variable will be removed from the server. This will mean that the variable will no longer appear in the list of variables to be refreshed and it will never be able to be recreated.

If the variable is available in the system (indicated by a color variable icon), then the variable will be deleted from the system and also permanently removed from the server.

D&B Market Insight Wizard Example – DUNs Transformations

One of the wizards available to you is the Duns Transformation wizard which allows you to transform a selection of company sites into a list of related sites according to the corporate structure. The list is shown as a set of DUNS numbers. You can choose whether the immediate parent companies, ultimate parent companies, subsidiaries, or every company within the whole group, for example, are included in the list.

- Click on the **Duns Transformations** link in the Wizards window
- Transformation Type From the drop down menu select the grouping you want to make based on the Duns numbers determined in the next step. Click Next
- Selection Drag onto the drop zone a selection or DUNs file to identify the sites used to obtain the relationship set in step 1. Click Next
- Name Click on the Browse... button to determine where you want to save your file
- Enter the name you want to save the file as
- Click Finish

The example opposite will find the DUNs of the Full Corporate Family associated with the DUNs you identified the selection step of the wizard.

You can use this selection for further analysis in Market Insight or drop it straight onto the Data Purchase wizard (see the Help files for further details).

	DUNS Transformations –	×
	Choose Transformation Type	
Transformation Type Selection Name	This wizard transforms a selection into a set of URNs. Select the transformation that you wish perform using the drop down list below. You can get a detailed description of the transformation by selecting and reading the information below. Immediate Parents Unimate Parents Ultimate Parents Ul	to •
	Whole Group Whole Domestic Group Whole Domestic Group (exc. Branches) Subsidiary	
	Next Canc	el

	DUNS Transformations – 🗆 🛛
¢	Choose Records to Transform
Transformation Type Selection	Please drag on a selection or a DUNS file that defines the records that will be transformed. If no selection or DUNS file is chosen the whole universe will be used.
O Name	Either use the icon in the top left of the selection window; the "current Windows" toolbox or drag a selection file from the File Explorer.
	You may also drag an DUNS file from the file explorer if you wish to transform all the records within the file.
	Next Cancel

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Output Wizard

This wizard allows you to quickly and simply output the records from a Cube, Tree or Data Grid. You may use this method as an alternative export process.

- > Click on the **Output** wizard link
- Select your source Drag the Data Grid onto the drop zone box. Click Next
- Limit your data This step relates to a Cube/Tree tool if selected at on the previous step. The options on this step restrict the cells selected by size. Click Next
- Choose your output type Select the output options for the records in the Data Grid. Click Next
- Output location Enter the name for the file. Use the Browse... button to select the location for the file. Click Next
- Confirmation This step will state the number of records that have been output. Click Finish

N.B. Both the Cube and Tree tool will follow the above steps and will be output as a text file.

	Output – 🗆 🗙
	Choose your source visualisation
Source	This wizard produces tab delimited files from cube and tree analysis results and from
O Limits	selected records in a data grid.
O Output type	Drag the visualisation that you wish to output onto the panel below.
O Output location	Tip: You can drag a visualisation onto this wizard by dragging the icons shown here.
O Confirmation	
	Image: Constraint of the second se

Combine Categories Wizard

The Combine Categories Wizard allows you to create a virtual variable based upon an existing variable where the values are grouped together into summaries.

Example

The existing variable Banded Sales breaks down this information into over 10 bands. You may wish to make this simpler with just 4 categories of <£1,000,000, £1,000,000-<£10,000,000, £10,000,000-<£100,000,000, >=£100,000,000.

- Click on the Combine Categories wizard link
- Summary Type Choose the appropriate method required for your source data. Select the Freeform Creation radio button. The other two options are described in the Help. Click Next
- Source Drag on the Banded Sales variable. Click Next.
- Threshold If you chose threshold as a summary type enter the threshold details and click Next
- Rules Based If you chose Rules Based Creation as a summary type you now have the opportunity to define how the codes are grouped. Click Next
- From File If you ticked Create Summaries From File you can drag the file on at this step. Click Next
- Freeform Highlight the first group of categories you wish to summarise. Click Add (See screen shot opposite)

	Combine Categories	×
¢	Choose Freeform Groups	
Summary Type Source	Select the values which make up each group, dropdown arrow to choose whether to add th	and click 'Add' to group them together. Use the em to a new group or to an existing group. <u>help</u>
Rules Based	CodeColumn +	DescriptionColumn 42
Add Descriptions From File	1	Unclassified
• Emoform	01	£1 - £99,999
• Freedom	02	£100,000 - £499,999
From File	03	£500,000 - £999,999
 Fixed File 	04	£1,000,000 - £4,999,999
Descriptions	05	£5,000,000 - £9,999,999
Add Notes	06	£10,000,000 - £49,999,999
O Name	07	£50,000,000 - £99,999,999
C Security	08	£100,000,000 - £499,999,999
n Finish	09	£500,000,000 - £999,999,999
	10	£1,000,000,000+
	Reset New Group	Add - Next Cancel

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- Select the other categories you require (all values must belong to a group) and click Add. Click Next
- Descriptions Enter the descriptions as in the screenshot and Click Next
- > Add notes You may enter optional notes in this window. Click Next
- > Name Enter the Description Sales Ranges. Click Next

If you have an existing Virtual Variable which will be superseded by this one it can be dragged onto the box **Drop the variable to overwrite here** to overwrite it.

Tick the URN Snapshot if you wish to recreate this Virtual Variable after a refresh of the data with the exact same records.

To **Modify Security Attributes** tick this box and you will go to **Security Step**. Click **Next**

- Security This step is only visible if you are running an Enterprise system and you have ticked the Modify Security Attributes box in the previous step.
- Dependants This step will allow you to see if any variables are dependent upon a variable that is being updated
- > Finish Tick the Show new variable as a selection box. Click Finish

The virtual variable now displays as a 5 category selector.

E	Choose Summary Descriptions
Summary Type Source	Below is a list of the summaries you have created. You can change the descriptions in the table below by double clicking the cell.
Threshold	Summany Description
Rules Based	Unclassified
 Add Descriptions From File 	E1.000.000
Freeform	
From File	£10,000,000-<£100,000,000
Fixed File	B >=£100,000,000
Descriptions	
Add Notes	
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Finish	
	Move Up Move Down Ungroup

] New Selection	Sale	es Ranges			7
ales Ranges	Filter	r • Descriptio	on Contains	•	• 1 • F
	, B	🗶 🐔 Sales Rang	es	•	
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	۲		2	£1,000,000	136,92
			3	£1,000,000 - < £10,000,000	44,4
	(iii)		4	£10,000,000 - < £ 100,000,000	36,13
	The second se				
			5	>= £100,000,000	7,31

Expressions

D&B Market Insight supports expressions as a method to calculate numeric results. Expressions can use constants, mathematical, logical and date functions, Market Insight variables and Market Insight Queries as elements of an expression. Use of expressions significantly enhances the power of Market Insight.

Expressions are currently used in three places in D&B Market Insight:

- In the 'Calculate Expression' wizard to populate a new variable according to a mathematical expression or logical rule
- Dragged from the Expression tool onto a Cube as a cube statistic
- Dragged from the Expression tool onto a Data Grid as an output column

Expressions may be saved and edited independently and are automatically saved within the tools they are used on.

Toolbox Ribbon

Wizard Ribbon

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The Expression Window

The Expression tool can be found under the heading Calculate in the Toolbox window. The components of this window are as described below:

- 1. Set the table level and data type relating to your expression e.g. The variable Last Name is used as a text variable at the Contacts table
- 2. The expression builder area where the expression is created
- 3. The section containing the different groups of functions
- 4. The section containing a list of functions for a selected group
- 5. The section containing a brief description of the function selected
- 6. The button that will insert the function selected into the expression builder window
- 7. The button which allows you to preview an expression on a selection
- 8. The button that allows a user to create 'on the fly' aggregations

The example opposite has used a string function called StrUpper that converts a string of text to uppercase. By placing the variable you want to convert in closed brackets after the function you can then display the results by dragging onto a Data Grid.

The Data Grid screen shot opposite shows a selection of records with the original Last Name variable displayed alongside the expression altered view.

() Ne	w Expression		1	Peop	sie	
0	Data Type: At: Text		• 🗸 Auto 20 🔹 🗿	A A	· h (8)	
StrUpper	([Surname])					7
			2			
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✓ Expressio	on is valid ⑦	•	in Addition(+)	Ŀ	10 Addition(+)	
✓ Expressio	en is valid Ø itors ons 3 aths Functions	•	% Addition(+) % Subtraction(-) % Multiplication(*)	•	The addition(+)	
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V Expressio	en is valid ⑦ ttors ons ③ tths Functions te and Time Date Functions Date Conversion	*	In Addition(+) In Subtraction(-) In Multiplication(*) In Division(/) In Modulus(%)	•	Addition(+) The addition operator. Adds two numbers.	
✓ Expression	on is valid ⑦ ttors ③ aths Functions bate functions Date Functions Date Conversion Date List Functions		다. Addition(+) 15: Subtraction(-) 15: Multiplication(*) 15: Division(/) 15: Modulus(%) Insert	•	Addition(+) The addition operator. Adds two numbers.	

Duns Number 🗜	Last Name 🕒	Upper Case Last Name 🕒
078759715	Daniels	DANIELS
078759715	Gerson	GERSON
078759715	White	WHITE
078759715	Peterson	PETERSON
078759715	Shurtleff	SHURTLEFF
078759715	Spurling	SPURLING
078759715	Radler	RADLER
078759715	Duff	DUFF

Components of an Expression

As an example take the If logic function to explore the makeup of an expression.

> Drag the **Expression** tool from the **Toolbox** onto the workspace

This window allows you to build an Expression as shown in the screen shot opposite.

The breakdown of this Expression is as follows:

You could read this as:

If (A [condition]

then B [outcome if condition met]

```
else C [outcome if condition not met])
```

Here a Condition is the test between two values. Those values can result from a Field, Numeric, String, Date or another Expression.

The example opposite has used a test on a Field (Branches is greater than 1000) and if that test is met display the word Yes otherwise display the word No. This can be seen when used on a Data Grid.

	10 or more Branches	
() 10 or more Branches	Customers	
💼 🕞 Data Type: 📲 Text	 ✓ Auto 20 T A' <	
If([Branches]>10,"Yes"	,"No")	
Expression is valid Go Operators Job Functions	Addition(+) So Addition(+) Constant Addition(+)	
 ► Functions ♦ Maths Functions ■ Date and Time ♥ Date Functions ♥ Date Functions ♥ Date Conversion ♥ Date List Functions ♥ DateTime Functions 	If S Subtraction(-) The addition operator. Adds two numbers. If Multiplication(*) Multiplication(*) If Mult	
Addredation Functions		

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Creating an Expression

- Select the If statement from the Logical Functions option in the Functions folder and then click the Insert button
- Next to the open black bracket type a left hand square bracket. This will display the available variables that can be used with this function
- Double click on the Emp Here variable. Alternatively you could have typed the variable name within square brackets to obtain the same result

The next part of the Expression is to create a test to find values greater than 1000, therefore you need to insert an Inequality Function.

- From the Functions button select Inequality Functions and the > Greater Than option. Click Insert. You may find it quicker to type the symbol directly after the variable
- > Type **10** followed by a comma

The next part of the Expression is to determine the output when the condition is met and when it is not met. As this example is outputting a word (String) in each case you need to ensure they are enclosed in double quotes.

- > Type "Yes","No" followed by a closing bracket)
- > Name the Expression window Many Branches

An expression can be previewed by clicking the **Build** button or it can be applied to a tool.

	10 or more	Branches	
(.) 10 or more Branches	4	Customers	
Data Type: 123 Integer	• ✓ Auto 20 📮 🖲 A	A B m	
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Assigned Sales (5) Tree Below	0		
Assigned sales of branches to H	u l		
Business Name			
A Company Employee Model			
4 Company Registration No			
- County			
Customer Level Revenue		~	
X Logical expression expected	▲ 5 Addition(+)	统 Addition(+)	
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	(Power(A)		
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	10 or more Branches	
(.) 10 or more Branch	les Customers	
A Data Tran		
Data Type: A		
10 or more Branches	Branches 40	·
No	7	
No	7	
Yes	12	
No	8	
No	8	
No	6	
No	9	
Yes	10	
Yes	10	
No	6	
Yes	16	
No	8	
Yes	12	
Yes	13	
Yes	13	
Yes	13	*
Expression Q Preview		

D&B Market Insight Creating a Salutation Expression

Building upon the previous example you will now see how you can use variable data as part of the output and also combine the results in the display.

Here you will test to see if your records hold a customer's name in preparation for a mail shot. If a record does hold a name the letter will start *Dear* [Title]. [Surname] e.g. Mr. Smith. Otherwise the letter will start *Dear* Customer.

- Open an Expression window and select the If(function, as in the last example
- > Change the Data Type to Text and the table level to Names
- Drag the Surname variable on after the bracket and then type <> "", to test if there is a text value
- From the Strings Function Category of the Function window select AddStr(
- > Insert after the bracket from the Selector Functions
- DescOf([Prefix]),". ",[Surname]) which will display e.g. Mr. Smith if a name is present
- Type a , after the bracket and then "Customer"). This will then display the word Customer if no name is present
- Click the Build button to see a Preview

		Salutation	
(.) Salutation		names	
📫 🕞 Data Type: 🖉 Te	ext 👻 🗸 Auto 20	🗧 🔟 A' A' 🗎 🚠	
IF([Surname]<>"",AddS	Str(DescOf([Title]),	". ", [Surname]), "Customer")	^
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🔎 🔒 Dat	a Type: 🛛 🗚 Text		🗧 🔯 🗛	A' 🗎	
Salutation	9 Surname	- Title -	2		-
Mr. Smith	Smith	Mr			
Mr. Daly	Daly	Mr			
Mr. Pether	Pether	Mr			
Mr Pether	Pether	Mr.			
Mr Miles	Miles	Mr.			
Ms Coetel	Coetel	Ms.			
Ms. Ray	Ray	Ms			
Mr Kerr	Kerr	Mr.			
Mr. Toole	Toole	Mr			
Mrs. Blake	Blake	Mrs			
Mr. Winters	Winters	Mr			
Mr. Stuart	Stuart	Mr			
Mr. Fearn	Fearn	Mr			
Mr Fern	Fern	Mr.			
Mr. Thomas	Thomas	Mr			
Mr. Singh	Singh	Mr			
Mr. Singh	Singh	Mr			
Mr Peters	Peters	Mr.			
Mrs. Dixon	Dixon	Mrs			
Unclassified. O'	O'Neil	Unclassified			
Expression Q	Preview				

Expressions and Cubes

In this example an Expression will be used as a statistic on a Cube display. The Expression itself will calculate 10% of total sales volume for sites in Florida broken down by Major Industry Category.

- > Open an **Expression** window
- Ensure the Table is set to Records
- > Drag on the **Sales** variable
- Type *0.10 which will multiply the sales volume by 0.10 to calculate 10%

To use this expression to help find 10% of total Sales Volume in Wales:

- Drag out the Economic Region variable and select Wales. Ensure the Table is set to Records
- Drag a Cube on to the selection and set the vertical dimension to Major Industry Sector
- > Drag your **10% of Sales Expression** onto the center of the **Cube**
- Press the Build button

The display now shows the number of Sites in each Major Industry Sectors in the Wales. Also it shows 10% of Sales Volume for all those Records in Wales.

		10% (of Sales	-
(.) 10% of Sales			Records	
📑 🕞 Data Type:	1 ₂ 3 Decimal ¥	🗸 Auto 20 🗘 🗘	A A B 🚠	
[Sales]*.10				1
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	2 Drop your vari	able here		
	L	Customers	Sum(10% of Sales)	
8	Unclassified	2,809	1,065,460.00	
ЗI	Agriculture, Hunting a	1,596	284,265,349.90	
1d	Fishing	46	12,796,497.20	
y Se	Mining & Quarrying	246	3,559,969,708.10	
dustr	Manufacturing	7,115	20,016,316,889.50	
u l	Electricity, Gas & Wa	117	3,825,612,517.30	
Majo	Construction	3,922	3,622,699,860.90	
•	Wholesale, Retail & F	6,546	26,222,251,155.10	
e	Hotels & Restaurants	979	1,183,472,487.20	
e hei	Transport, Storage 8	1,915	7,286,741,926.90	
ldbl	Financial Intermediati	1,725	9,691,167,410.60	
IL V9	Real Estate, Renting a	21,570	37,545,623,023.10	
Š.	Public Administration	417	456,657,338.00	
	Education	840	1,486,979,434.30	
	Health & Social Work	1,199	1,562,863,338.00	
	Other Community, Sc	2,855	3,885,147,830.00	
	Private Households v	14	1,581,400.00	
	Extra-Territorial Orga	4	272,529.30	
	TOTAL	53,915	120,645,484,155.40	

User Training Manual

D&B Market Insight

Calculated Expression on a Data Grid

In this example an Expression will be used as a statistic on a Data Grid display. The Expression itself will calculate turnover by employee for Sites in California.

- > Open an **Expression** window
- > Drag on the **Sales** variable
- > Type / and then drag on the Nr of Employees (Company) variable

To use this expression to display the turnover per employee of businesses in the West Midlands:

- > Drag out the **Economic Regions** variable and select **West Midlands**.
- Drag on a Data Grid and add the variables Business Name, Sales and Nr of Employees (Company)
- Drag your Turnover per Employee expression onto the Data Grid alongside the other variables
- Press the Build button

The display now shows a row for each site in the West Midlands with the relevant information.

	Turn over per employee	- • ×
(.) Turn over per employee	Records	
👜 🕞 Data Type: 🔤 123 Decima	al 🗸 🖌 Auto 20 🗘 🚺 A A 🗄 🚠	
[Sales]/[Nr of Employees	(Company)]	^
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Data Grid					# ×
		Grid		Chart	
Drag a c	olumn header here	e to group by t	hat column.		
DUNS +	Business Name 👳	Sales +	Banded Nr of Employees (Company) *	Turn over per employee 👒	*
210152	Imi Plc	1,751,000,000	100 - 199 Employees	15,918,181.82	
210354	Sodexo Ltd	1,195,967,000	1000+ Employees	39,020.13	
210107	Hhgl Ltd	1,177,114,000	1000+ Employees	98,925.46	
210184	Lonmin Plc	1,166,000,000	1000+ Employees	40,893.63	
210135	Harrods Ltd	919,700,000	1000+ Employees	234,258.79	
210320	Willis Ltd	903,000,000	1000+ Employees	244,516.65	
210066	Columbia Picture	759,852,000	100 - 199 Employees	4,366,965.52	
210042	Cala Group Ltd	747,928,000	100 - 199 Employees	7,261,436.89	
210138	Headlam Group	707,764,000	1000+ Employees	327,668.52	
210053	Steinhoff Uk Ret	680,619,000	1000+ Employees	259,481.13	
210173	Estee Lauder Cos	632,539,000	1000+ Employees	98,388.40	
210330	Exxonmobil Che	628,000,000	500 - 999 Employees	1,221,789.88	
210295	Total Uk Ltd	562,000,000	500 - 999 Employees	736,566.19	·
4					Þ
				Browsi	ng first 1,000 Records
Cover Sel	ection Data Grid				
					53,915 Customers

D&B Market Insight Appendix 1 – Wizards & Virtual Variables

Not all of the following wizards may be available to you and will be dependent upon your system configuration.

Transaction Summary	This wizard will help you create a new virtual variable grouping transactional records up to a higher level.
‡ Count	This wizard will help you create a new virtual variable using the records selected from a RFV analysis, based upon the Frequency option.
Recency	This wizard will help you create a new virtual variable at a higher table using the RFV Recency option when a lower level variable is used. The results can be displayed in terms of another lower level variable.
Aggregation	This wizard will help you create a new virtual variable at a higher table using the RFV Value option when a lower level numeric variable is used. The results can be displayed in terms of bands or individual values.
Best Next Offer	This wizard will help you create a table (Tree) that analysis's the pattern of transactions within a time frame. The results will show the number of times a pattern occurs.
Basket Analysis	This wizard will help you create a table (Tree) that analysis the pattern of transactions. The results will show the number of times a pattern occurs.
Best Fit Prospects	This wizard provides a simple way to create a model of how one selection of records (the Analysis selection) "fits" to another selection.

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Decision Tree Model Output	This wizard provides a way of capturing the model from the Decision Tree in the form of a Virtual Variable where the categories correspond to the selection rules associated with the nodes of the Decision Tree.
PWE Model	This wizard provides a way of accessing the PWE scores generated in Profiler in the form of a Virtual Variable. This could be as a series of banded categories or as a numeric variable.

Duns Transformations	This wizard allows you to perform corporate family tree processes for groups of records. For example, you can find the ultimate parent companies of a group of selected records.
Drive Zone	This wizard allows you to create a categorical variable that will display travel time or as the crow flies bandings from a geographical location. The end point is defined by a geographical selector.
Contine Geocoder	This wizard allows you to create two virtual variables to identify the Latitude and Longitude of a given set of records.
Point to Point	This wizard allows you to create a numeric variable that will calculate the travel time, road distance or as the crow flies value from a geographical location. The end point can be defined by a geographical selector.
□♦ Output	This wizard allows you to output records selected through various tools. Currently this wizard supports the Cube, Data Grid and Tree tools.
SalesForce.COM	This wizard allows you to upload targeted data directly into SalesForce.com so that prospects identified in the system can be seamlessly integrated into CRM sales activities.

Data Licensing	The wizard is used in systems where not all data is available to users straight away. This wizard can then be used to select what records (and what fields within those records) should be purchased.
Retrieve Previous Orders	This wizard allows you to go back to orders that have been made in the past and then generate a URN file containing all the URNs from a collection of 1 or more orders.

*= Initialise	This wizard will help you create a framework for a new virtual variable, where you define the table level and number of categories to be included.
Assign Values	This wizard will help you define your virtual variable by assigning Descriptions and a Selection to your categories.
進回} Date Banding	This wizard will help you create a banding based upon a date variable. You are able to define a time period and the number of periods you wish to select upon.
州昌) 【目】 Numeric Banding	This wizard will help you create a banding based upon a numeric variable. Select from 4 banding options to determine the selection display.
Calculate Expression	This wizard will help you to create a new numerical virtual variable from a mathematical expression.
Import Data	This wizard will help you import data into a variable using a key code, which can then be completed by using the Assign Values wizard to add descriptions if necessary.

凯 Combine Categories	This wizard will help you create a variable by combining the categories within an existing variable.
Create And Update	This wizard allows you to create a Selector or Flag Array variable based upon selections made within your Market Insight system. This method of variable creation also allows you to edit the variable at a later stage. To create a Numeric or Text variable you will still need to use the Initialise and Assign values wizards, however you will not be able to edit these variables.
Create From Cube	This Wizard allows you to create a selector Virtual Variable from the results of a cube or a tree. Only Sparse 1 dimensional cubes or trees, with a text dimension and no overlap can be used.