

7. harjutustund (16.10)

Kava

Mitmedimensionaalse OLAP andmebaasi koostamine SQL Server Power Pivot abil:

- Vajalike andmete laadimine Excel –i (2010, 2013).
- Power Pivot loomine
- Raporti vormistamine Pivot Tabeli abil
- Arvutatud väärtuse lisamine Power Pivot/i ja raportisse
- Kasutada PowerView finktsiooni graafilise vaade lisamiseks raportisse.

Teemad

Üldist

Selles harjutustunnis me jätkame 6 harjutustunni, kuid SQL Server Analysis Services (SSAS) service asemel me teeme aruanne Excel 2013 Power Pivot kasutades. Arvutiklassi arvutites installeeritud Excel 2013, juhul kui soovite teha ülesanne oma arvutist tuleb eelnevalt alla laadida eeltäidetud Exceli

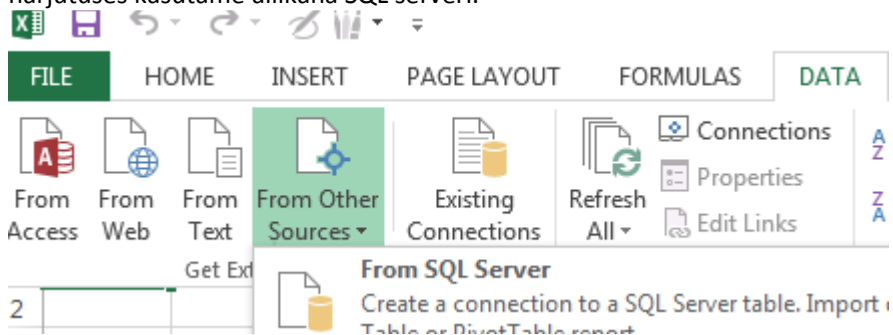
https://www.dropbox.com/s/279phws0i8a78rb/Harjutus7_Templatewithdata.zip?dl=0

(selleks arvutis peab olema vähemalt Excel 2010 versioon).

Harjutus

Andmetabelite tömbamine Excelisse andmebaasist AdventureworksDW2012.

Avage lokaal arvutis Excel 2013 ja looge uue ühenduse. Selleks tuleb valida menüüst Data ->From Other sources. Selles harjutuses kasutame allikana SQL serveri.



Looge ühenduse serveriga IDBI\SQLDIMENSIONAL kasutades Windows Authentication. (Oma arvutist sisselogides tuleb sisestaja kasutaja kujul intra\kasutajanimi.

Data Connection Wizard

Connect to Database Server

Enter the information required to connect to the database server.

1. Server name:

2. Log on credentials

Use Windows Authentication

Use the following User Name and Password

User Name:

Password:

Cancel < Back Next > Finish

Nüüd tuleb valida kuubi loomiseks vajalikud dimensioonide ja fakti tabelid, mida te kasutasite Harjutustunniis 6: **DimCustomer**, **DimProduct**, **DimDate** ja **FactInternetSales**.

Valige tabeli mida on soov lisada Excelisse:

from Other Sources Existing Connections Refresh All Connections Sort & Filter

Data Connection Wizard

Select Database and Table

Select the Database and Table/Cube which contains the data you want.

Select the database that contains the data you want:

Connect to a specific table:

Enable selection of multiple tables

Name	Owner	Description	Modified	Created
vAssocSeqLineItems	dbo			9/30/2010
vAssocSeqOrders	dbo			9/30/2010
vDMPrep	dbo			9/30/2010
vTargetMail	dbo			9/30/2010
vTimeSeries	dbo			9/30/2010
DimEmployee_Rauno_Pihlak	db_datareader			10/2/2010
DimEmployee Tuuli Turk	db_datareader			10/2/2010

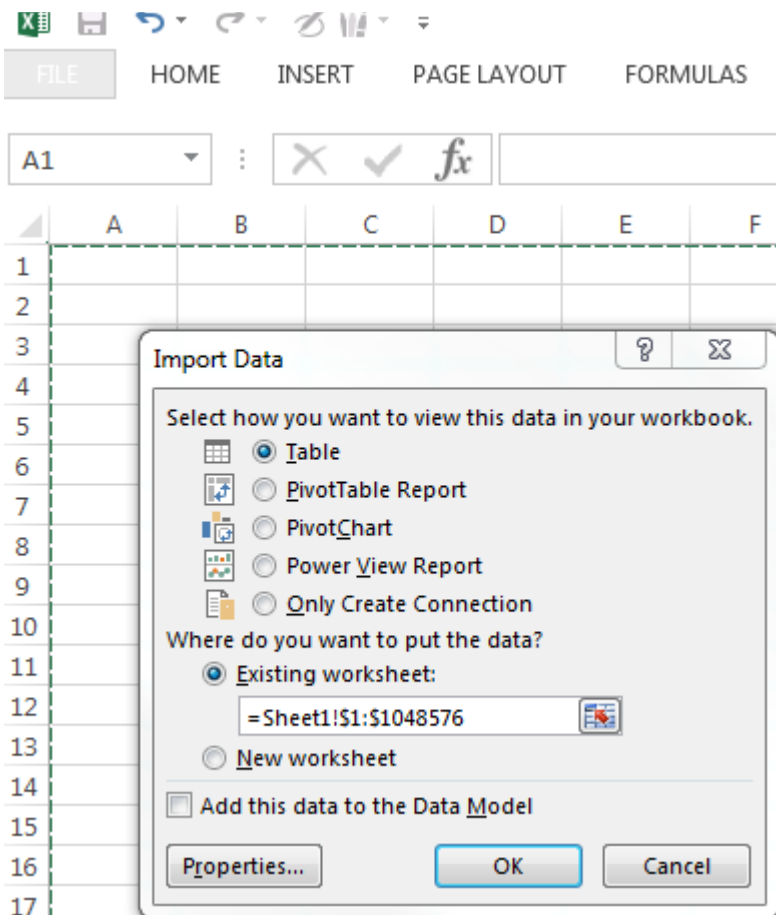
Import relationships between selected tables

Cancel < Back Next > Finish

Valige sobivad nimed tabelitele: DimDate, DimProduct, DimCustomer ja Fact_InternetSales. (Friendly Name) ja muutke vastavalt ka worksheet-ide nimed.

The screenshot shows the Microsoft Excel interface with the 'Data Connection Wizard' dialog box open. The wizard is in the 'Save Data Connection File and Finish' step. The 'File Name' field is filled with 'idbi_sqldimensional AdventureWorksDW2012 DimDate.odc'. The 'Description' field contains '(To help others understand what your data connection points to)'. The 'Friendly Name' field is set to 'DimDate'. The 'Search Keywords' field is empty. There is an unchecked checkbox for 'Always attempt to use this file to refresh data'. The 'Excel Services' section has a button for 'Authentication Settings...'. At the bottom, there are buttons for 'Cancel', '< Back', 'Next >', and 'Finish'. The background shows the Excel ribbon with the 'DATA' tab selected and a worksheet named 'DimDate' active.

Vajutage Finish nuppu ja valige kogu worksheet-i kuhu on soov tuua andmed:



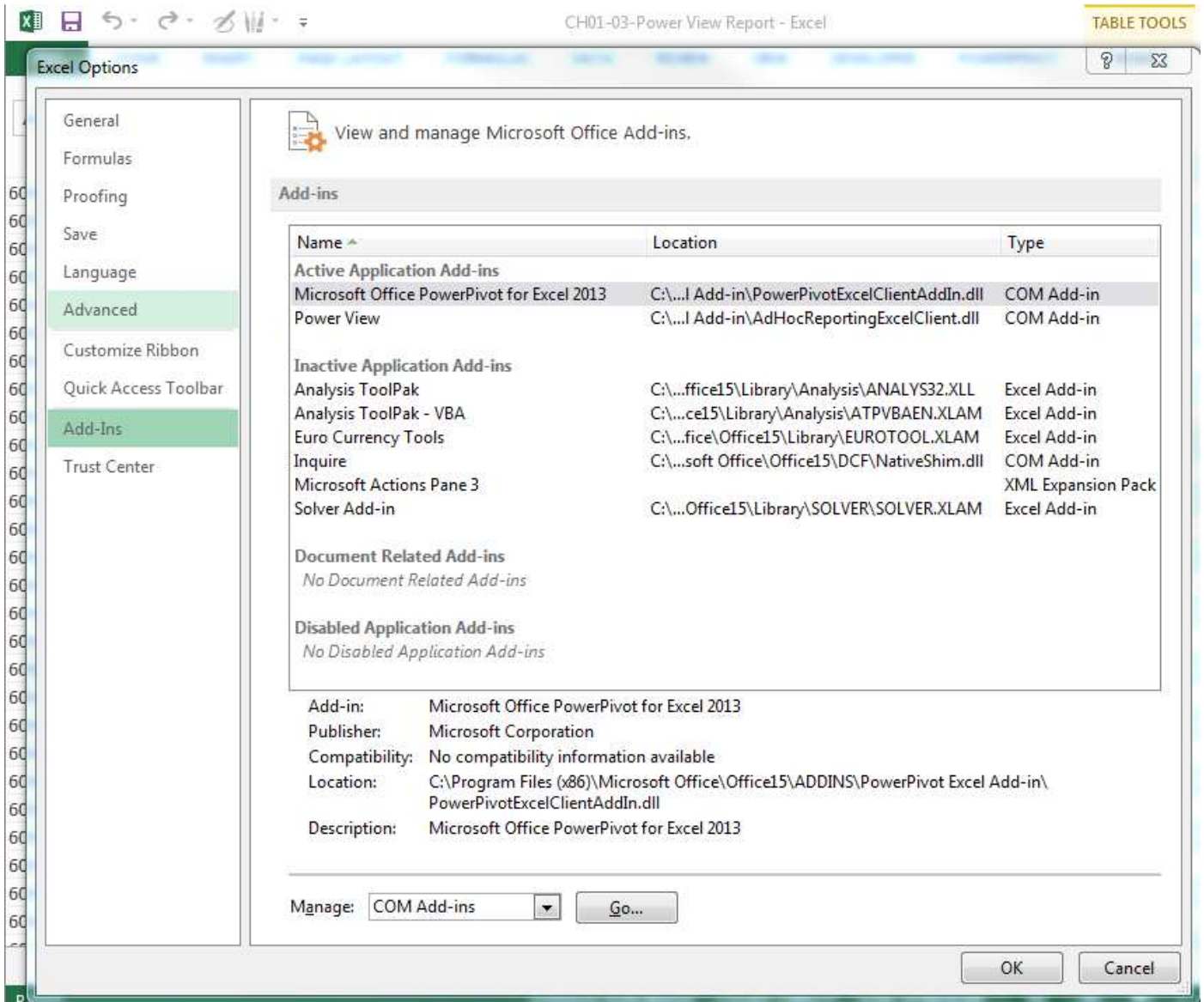
PowerPivot-i loomine.

Kui kõik vajaliku tabelid on sisse tõmmatud salvestage saadud Excel faili.

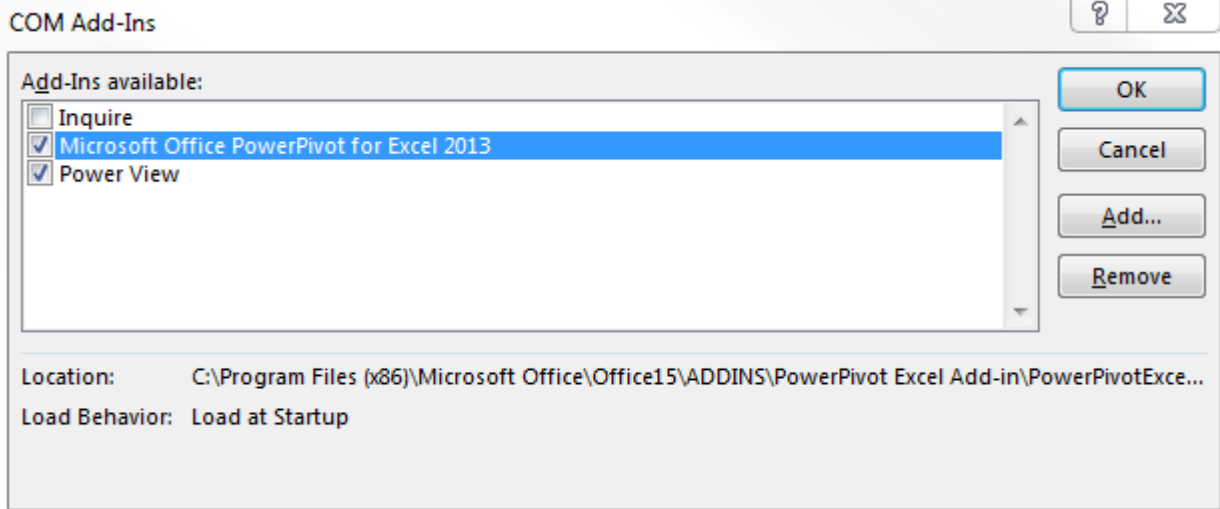
Lisage dimensioonide ja fakti tabelid PowerPivot-i.

PowerPivot aktiveerimiseks tuleb lisada Add-Inn

Selleks tuleb avada Excel options->Add-Ins ja see järel valida Manage COM Add-ins



Ja valida vajalikud Add-Ins



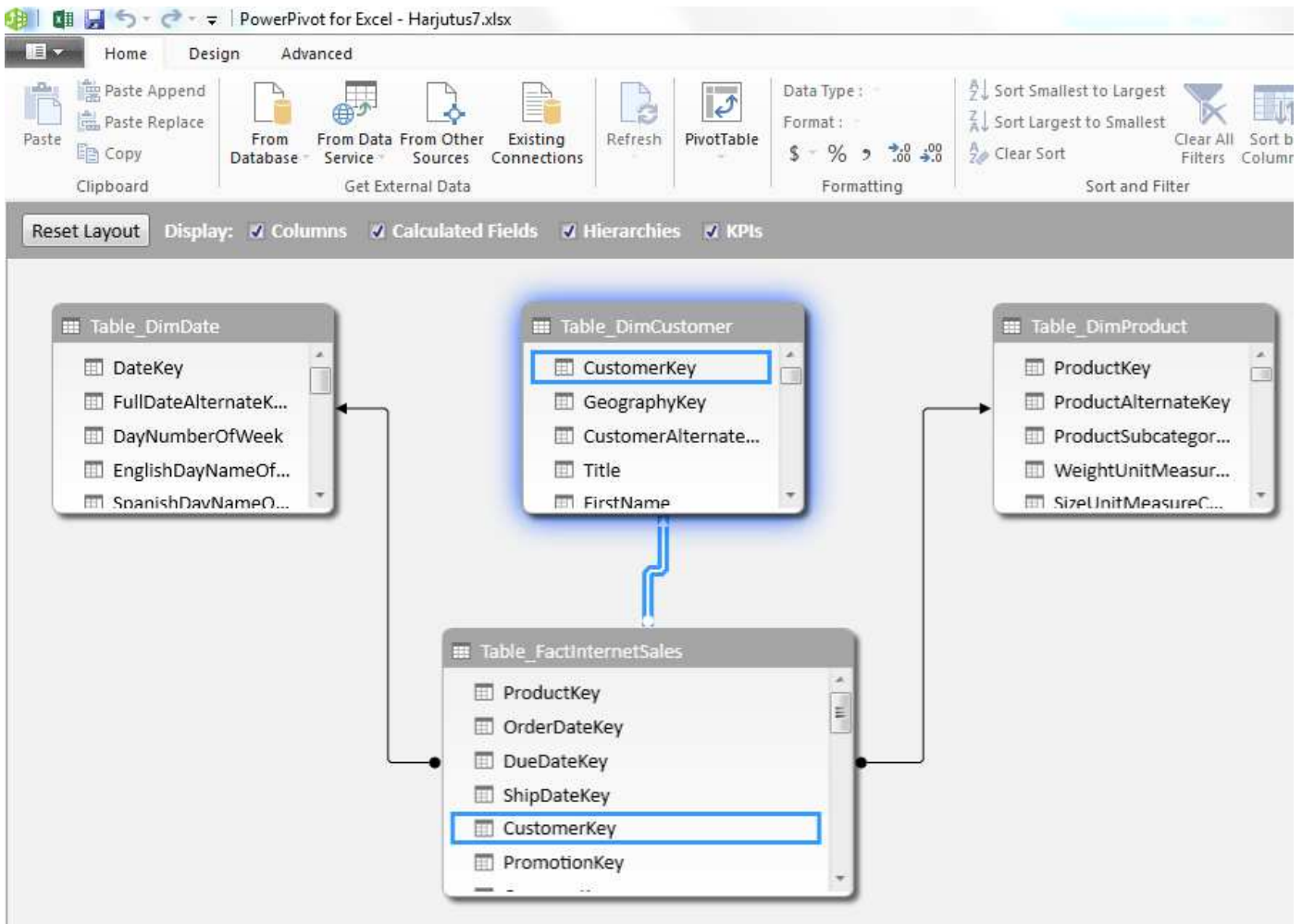
Sellest tuleb minna sellele Excel

See järel tuleb minna worksheet-i tabelile mida on soov lisada PowerPivot-i ja valida Add To Data Model.

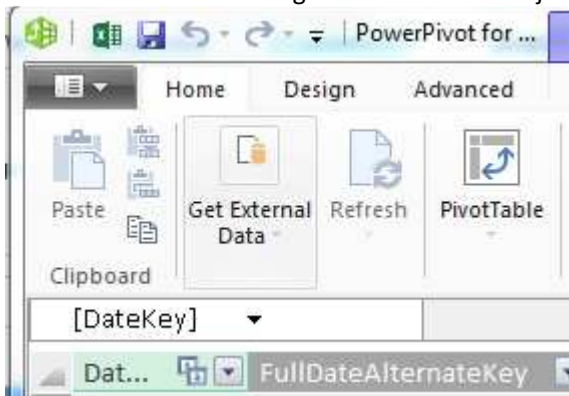
	A	B	C
1	DateKey	FullDateAlternateKey	
2	20050101	2005-01-01	
3	20050102	2005-01-02	
4	20050103	2005-01-03	
5	20050104	2005-01-04	
6	20050105	2005-01-05	
7	20050106	2005-01-06	
8	20050107	2005-01-07	
9	20050108	2005-01-08	
10	20050109	2005-01-09	
11	20050110	2005-01-10	
12	20050111	2005-01-11	

Andke tabelitele sobivad nimed: Table_DimDate; Table_DimCustomer; Table_DimProduct ja Table_FactInternetSales.

Määrake tabelite vahelised seosed:



Kui seosed on loodud lisage uue Pivot tabeli vajutades PivotTable nuppule:



Valige samad tabelid mida me oleme kasutanud Harjutustunnis 6:

PivotTable Fields ▼ ✕

ACTIVE | **ALL**

Choose fields to add to report: ⚙️ ▼

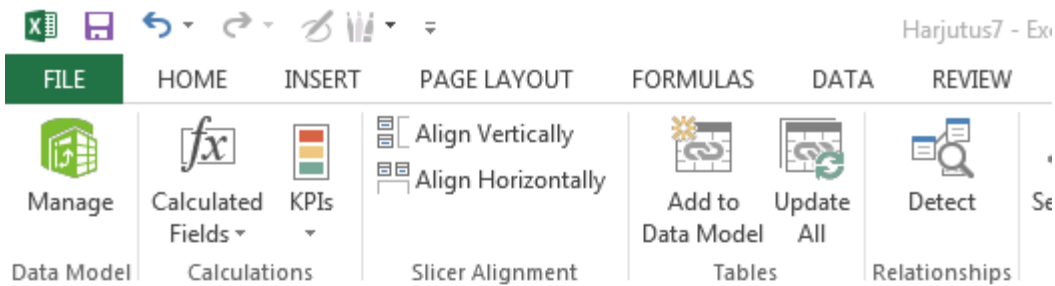
- LastName ▲
- NameStyle
- BirthDate
- MaritalStatus
- Suffix
- Gender**
- EmailAddress
- YearlyIncome
- TotalChildren
- NumberChildrenAtHome ▼

Drag fields between areas below:

▼ FILTERS	 COLUMNS
	Gender ▼
☰ ROWS	Σ VALUES
EnglishProdu... ▼	Sum of Order... ▼

Defer Layout Update UPDATE

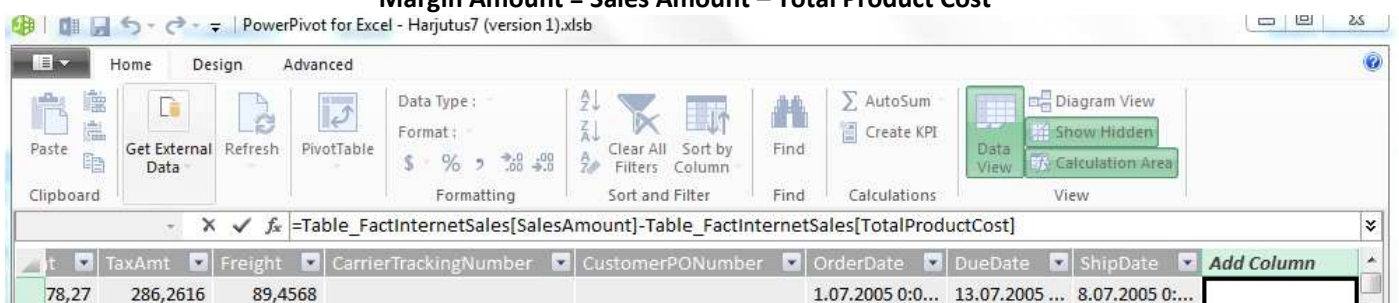
Ja tutvuge saadud aruandega:




	A	B	C	D	E
1					
2					
3		Sum of OrderQuantity	Column Labels		
4		Row Labels	F	M	Grand Total
5		All-Purpose Bike Stand	140	109	249
6		AWC Logo Cap	1092	1098	2190
7		Bike Wash - Dissolver	438	470	908
8		Classic Vest, L	94	101	195
9		Classic Vest, M	99	100	199
10		Classic Vest, S	82	86	168
11		Fender Set - Mountain	1044	1077	2121
12		Half-Finger Gloves, L	232	211	443
13		Half-Finger Gloves, M	236	263	499
14		Half-Finger Gloves, S	224	264	488
15		Hitch Rack - 4-Bike	154	174	328
16		HL Mountain Tire	694	702	1396
17		HL Road Tire	441	417	858
18		Hydration Pack - 70 oz.	367	366	733
19		LL Mountain Tire	405	457	862
20		LL Road Tire	526	518	1044
21		Long-Sleeve Logo Jersey, L	214	238	452
22		Long-Sleeve Logo Jersey, M	233	209	442
23		Long-Sleeve Logo Jersey, S	227	202	429
24		Long-Sleeve Logo Jersey, XL	204	209	413
25		ML Mountain Tire	554	607	1161
26		ML Road Tire	461	465	926
27		Mountain Bottle Cage	1004	1021	2025
28		Mountain Tire Tube	1527	1568	3095

3. Lisage tabelile Fact_InternetSales uue kolonni mis arvutab välja marginaali:

$$\text{Margin Amount} = \text{Sales Amount} - \text{Total Product Cost}$$



Nimetage uue kolonni Margin Amount ja lisage seda aruandele juurde:

Choose fields to add to report:  ▼

- ProductStandardCost ▲
- TotalProductCost
- SalesAmount
- TaxAmt
- Freight
- CarrierTrackingNumber
- CustomerPONumber
- OrderDate
- DueDate
- ShipDate
- Margin Amount** ▼

Drag fields between areas below:

▼ FILTERS	 COLUMNS
	Gender ▼
	Σ Values ▼
☰ ROWS	Σ VALUES
EnglishProdu... ▼	Sum of Margi... ▼
	Sum of Order... ▼

Tulemusena kuvatakse müügi ja marginaali andmed toodete kaupa:

Row Labels	F		M		Total Sum of Margin Amount	Total Sum of OrderQuantity
	Sum of Margin Amount	Sum of OrderQuantity	Sum of Margin Amount	Sum of OrderQuantity		
All-Purpose Bike Stand	13934,76	140	10849,206	109	24783,966	249
AWC Logo Cap	2257,9284	1092	2270,3346	1098	4528,263	2190
Bike Wash - Dissolver	2179,7946	438	2339,049	470	4518,8436	908
Classic Vest, L	3736,594	94	4014,851	101	7751,445	195
Classic Vest, M	3935,349	99	3975,1	100	7910,449	199
Classic Vest, S	3259,582	82	3418,586	86	6678,168	168
Fender Set - Mountain	14364,918	1044	14818,9815	1077	29183,8995	2121
Half-Finger Gloves, L	3556,7224	232	3234,7777	211	6791,5001	443
Half-Finger Gloves, M	3618,0452	236	4031,9741	263	7650,0193	499
Half-Finger Gloves, S	3434,0768	224	4047,3048	264	7481,3816	488
Hitch Rack - 4-Bike	11568,48	154	13070,88	174	24639,36	328
HL Mountain Tire	15205,54	694	15380,82	702	30586,36	1396
HL Road Tire	8999,7516	441	8509,9692	417	17509,7208	858
Hydration Pack - 70 oz.	12633,4979	367	12599,0742	366	25232,5721	733
LL Mountain Tire	6335,6985	405	7149,1709	457	13484,8694	862
LL Road Tire	7076,1202	526	6968,4986	518	14044,6188	1044
Long-Sleeve Logo Jersey, L	2460,5078	214	2736,4526	238	5196,9604	452
Long-Sleeve Logo Jersey, M	2678,9641	233	2403,0193	209	5081,9834	442
Long-Sleeve Logo Jersey, S	2609,9779	227	2322,5354	202	4932,5133	429
Long-Sleeve Logo Jersey, XL	2345,5308	204	2403,0193	209	4748,5501	413
ML Mountain Tire	10400,6298	554	11395,6359	607	21796,2657	1161
ML Road Tire	7211,7457	461	7274,3205	465	14486,0662	926
Mountain Bottle Cage	6278,7148	1004	6385,0277	1021	12663,7425	2025
Mountain Tire Tube	4769,8899	1527	4897,9616	1568	9667,8515	3095
Mountain-100 Black, 38	39876,1812	27	32491,7032	22	72367,8844	49

Lisage graafilist vaadet raportisse.

Selleks tuleb valida Insert menüüst Power View ja see järel valida andmed mida on vaja kuvada. Excel küsib kas soovite aktiveerida vastava Add-Inn, või eelnevalt lisada Add-Inn käsitsi:

Harjutus7 (versi

Excel Options

- General
- Formulas
- Proofing
- Save
- Language
- Advanced
- Customize Ribbon
- Quick Access Toolbar
- Add-Ins**
- Trust Center

View and manage Microsoft Office Add-ins.

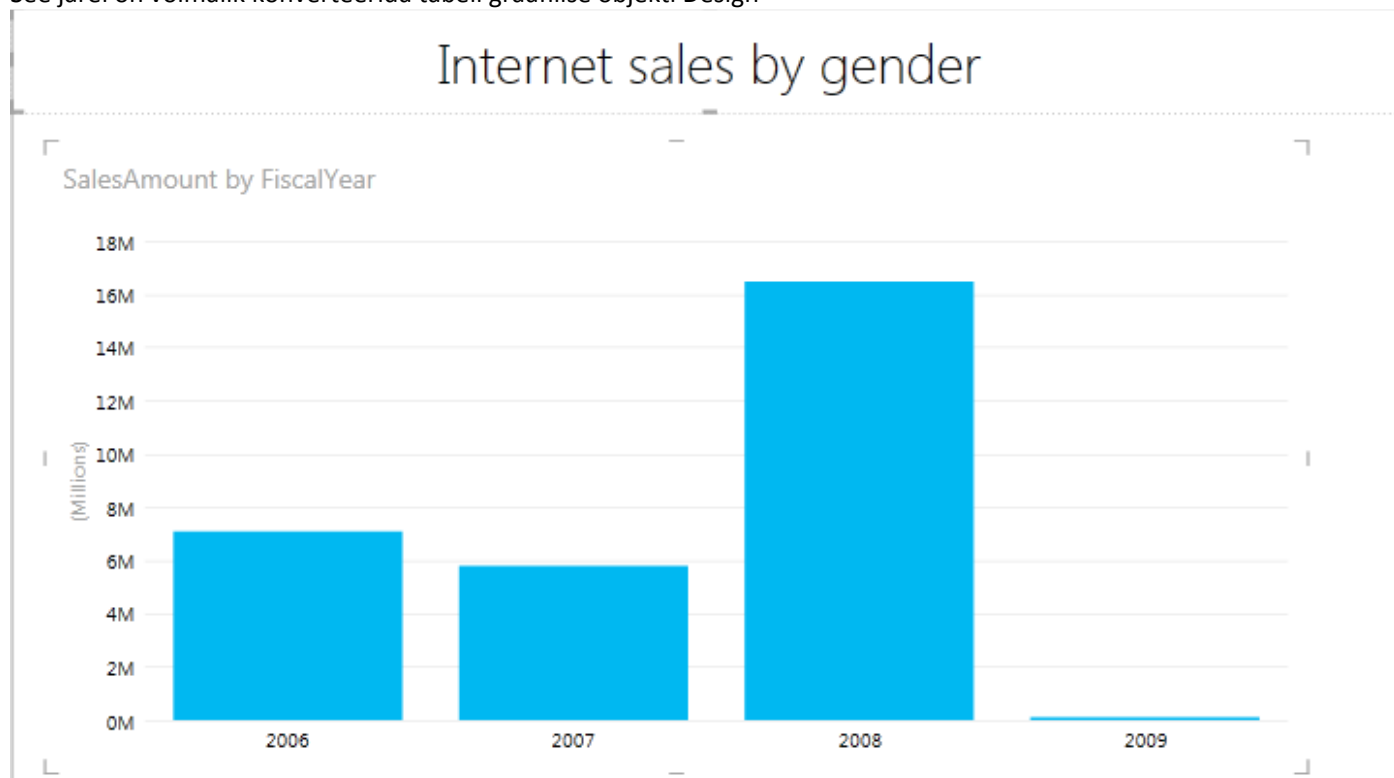
Name	Location	Type
Active Application Add-ins		
Microsoft Office PowerPivot for Excel 2013	C:\...I Add-in\PowerPivotExcelClientAddIn.dll	COM Add-
Power View	C:\...I Add-in\AdHocReportingExcelClient.dll	COM Add-
Inactive Application Add-ins		
Analysis ToolPak	C:\...ffice15\Library\Analysis\ANALYS32.XLL	Excel Add-
Analysis ToolPak - VBA	C:\...ce15\Library\Analysis\ATPVBAEN.XLAM	Excel Add-
Euro Currency Tools	C:\...fice\Office15\Library\EUROTOOL.XLAM	Excel Add-
Inquire	C:\...soft Office\Office15\DCF\NativeShim.dll	COM Add-
Microsoft Actions Pane 3		XML Expar
Solver Add-in	C:\...Office15\Library\SOLVER\SOLVER.XLAM	Excel Add-
Document Related Add-ins		
No Document Related Add-ins		
Disabled Application Add-ins		
No Disabled Application Add-ins		

Add-in: Power View
 Publisher: Microsoft Corporation
 Compatibility: No compatibility information available
 Location: C:\Program Files (x86)\Microsoft Office\Office15\ADDINS\Power View Excel Add-in\AdHocReportingExcelClient.dll
 Description: Power View

Manage: Excel Add-ins Go... OK

FiscalYear	SalesAmount
2006	7 072 084,24
2007	5 762 134,30
2008	16 473 618,05
2009	50 840,63
Total	29 358 677,22

See järel on võimalik konverteerida tabeli graafilise objekti Design

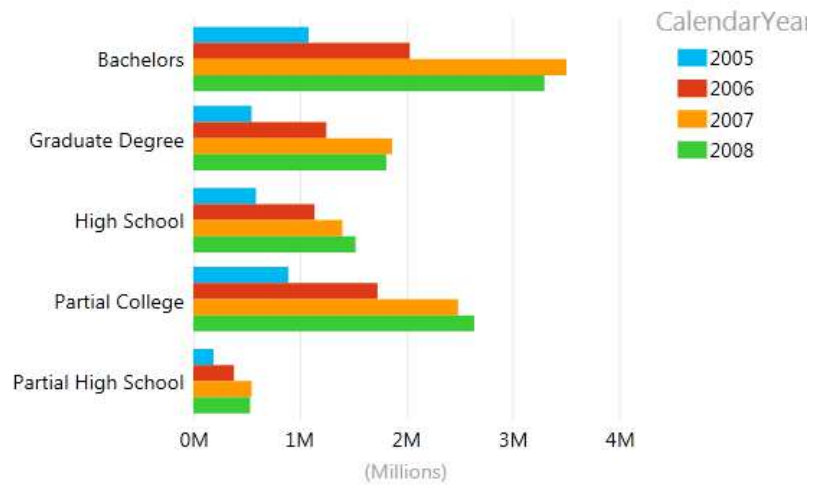


Nüüd on võimalik lisada Internet Sales Graafilise vaatele ka muud analüüsiks vajalikud andmed, mida on mugavam jälgida graafiliselt:

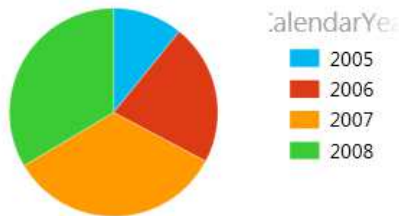
Internet sales

FiscalYear	SalesAmount
2006	7 072 084,24
2007	5 762 134,30
2008	16 473 618,05
2009	50 840,63
Total	29 358 677,22

SalesAmount by EnglishEducation, and CalendarYear



Margin Amount by CalendarYear



Iseseisev harjutus

- Lisage PowerPivoti uued tabelid:
 - Dimensioonide tabelid:
 - Reseller - *DimReseller*
 - Employee - *DimEmployee*
 - Sales Territory - *DimSalesTerritory*
 - Product - *DimProduct*
 - Date - *DimDate*
 - Kuubid:
 - Sales - *FactResellerSales*
- Koostage Power Pivot abil aruanne, millega oleks võimalik leida vastus järgmistele küsimusele:
 - Milliseid tootemudeleid müüdi 2005. aastal kõige rohkem Kanadas?
 - Milliste jalgrataste müük ei lähe spetsiaalselt rataste müügile spetsialiseerunud kauplustes kõige paremini?
 - Lisage uue graafiku kus oleks nähtav müük territooriumite kaupa:
Vihje:
Enne kui loote tabeli tuleb määrata FactInternetSales ja DimSalesTerritory vahelised seosed.

Create Relationship

Pick the tables and columns you want to use for this relationship

Table:	Table_idbi_sqldimensional_AdventureWorksDW2012_Fac...	Column (Foreign):	SalesTerritoryKey
Related Table:	Table_idbi_sqldimensional_AdventureWorksDW2012_Di...	Related Column (Primary):	SalesTerritoryKey

Creating relationships between tables is necessary to show related data from different tables on the same report.

Manage Relationships... OK Cancel

Tulemus näeb välja järgmiselt:

SalesAmount by SalesTerritoryCountry



Salvestage saadud tabeli nimega Harjutus7_Nimi_Perekonnanimi ja saatke hindamiseks emailiga aadressile Eduard.sevtsenko@ttu.ee

Materjalid

Kõik hüperlingid on seisuga 16.10.2014.

- 1) Video: Getting Started with Power Pivot
https://www.youtube.com/watch?v=dOJvKz8QWk8&feature=player_embedded
- 2) Video: Getting Started with Power View
<http://office.microsoft.com/en-gb/videos/video-getting-started-with-power-view-VA104060051.aspx?CTT=5&origin=HA104009784&client=1>