IBM

InfoSphere Warehouse Pack for

Customer Insight

Profiling Customers

Whitepaper

About This Paper

The purpose of this paper is to outline the components of the IBM InfoSphere Warehouse (IWH) Pack for Customer Insight and how these assist organizations in many business sectors in profiling their customer base.

Contents

This paper is divided into the following chapters:
Chapter 1, "**Support for Customer Profiling**"
outlines a high level view of some of the issues facing organizations in the area of Customer Profiling and how these are addressed by the IWH Pack for Customer Insight.

Chapter 2, "**Business Questions around Customer Profiling**" describes a selection of typical business focused questions relating to Customer Profiling and how these can be answered.

Chapter 3, "**Components of the InfoSphere Pack for Customer Insight**" describes briefly the major components of the IWH Pack for Customer Insight.

Who Should Read This Document

- Customer Relations Executives
- Sales and Marketing Executives
- Finance Directors and Board Directors
- IT, Operations Managers
- Business Intelligence practitioners

Executive Summary

Customer Profiling

- Meaningful profiling of customers can help an organization to identify market segments and customer groups where the organization performs particularly well or particularly badly.

maximize the effectiveness of marketing and sales by targeting customers most likely to respond

- Using customer profile information the organization can maximize the effectiveness of marketing and sales effort by targeting customers most likely to respond.
- Customer satisfaction levels may be related to the types of products being offered to customer groups. Associated support costs may be a result of poorly targeted selling.
- Customer communication and complaint trends can help identify quality and service issues across products, locations and employees.

How does the IWH Pack for Customer Insight help?

- The IWH Pack for Customer Insight provides the organization with a Business Issue focused approach.
- The IWH Packs share common atomic data and are designed to easily integrate with each other.
- The Pack includes a data model, dimensional data warehouse and sample reports – all connected up.

What are the benefits?

- The IWH Pack for Customer Insight uses tried and tested concepts to ensure easy integration with other IWH Packs. This means that the organization can concentrate on its most relevant business issues while still building an enterprise data warehouse.
- The sample Cognos reports provide the organization with an accelerated path to meaningful analysis of Customer profiling.

Chapter 1: Support for Customer Profiling

Most organizations would like to think they know and understand their customers. Understanding their customers makes it easier to retain existing customers, gain new ones and sell additional products and services to them.

What do we sell, who buys it and how much profit do we make?

Where large volumes are involved it is not always practical to "know" each individual customer. Instead, organizations need to profile their customers using a number of different classifications. This allows them to target relevant customers with product and service offers. A very obvious example of this might be a bank offering "Student Loans". Clearly, it only wants to offer these to students and it will use profiling information which classifies some of its existing customers as such. A mailshot to all customers would annoy non-students, cost more and likely lead to unwelcome applications.

Access to accurate profiling information varies from one business sector to another;

- Banks require detailed information regarding identity, residence, assets, liabilities and income before conducting business with a customer.
- Insurers may require lifestyle and health details to establish risk before giving cover.
- Retailers will request many personal details when granting customers a store credit arrangement but will enroll customers in a loyalty program with minimal identification and address details.
- Utility organizations will require basic identification and address details when providing service to a customer but in some cases such as pre-paid phone products there may be little or no details given.

Organizations value the ability to identify and profile their customers. They will take whatever information is available and try to supplement it through various means;

Different business users require diverse views of the same facts

- Offering warranties on products can capture additional details about the customer.
- Customer satisfaction surveys, and product reviews can also be used to capture details about the customer.
- A home address may be used to derive other information such as socio economic category
- Product purchase patterns may indicate gender,

age and even income range.

- Special promotions such as "register online and get free phone credit" are often used to capture customer details.

Having captured as much profiling information as possible the organization can use it to support business activities such as;

- Customer retention – offering incentives which are appropriate to the customer makes it more likely that the customer will stay with the organization or renew a service agreement.
- Cross selling – knowing a customer's net worth and approximate income allows the organization to offer investment or credit arrangements which are attractive to the customer and low risk to the organization.

To support these requirements the IWH Pack for Customer Insight provides access to the analytical data over many business dimensions including;

- Locations including Geographic and Organizational.
- Customer Segmentation, including Socio Economic Group, Gender, Marital Status, Age Range Nationality and Language Preference.
- Product Classification including Line of Business and Product Type.

This information is stored in a flexible data warehouse incorporating both an Atomic Data Warehouse Layer and the Data Mart Layer which supports the business analysis. Users access the information via business focused reports.

## Chapter 2: Business Questions around Customer Profiling

Which of our customers are most responsive?

Consider a typical business question; "**Which of our customers are most responsive?**"
Knowing the propensity of customers to responds to communications such as customer surveys or promotions helps the organization to apply marketing and sales effort where it has the greatest chance of success. The IWH Pack for Customer Insight includes sample reports in this area;
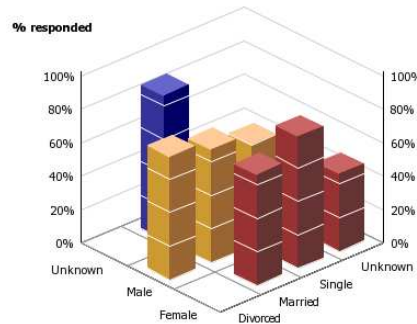
Customer Survey Response Details

Country: [Country] Age Group: [Age Group] Calendar Year: [Calendar Year]
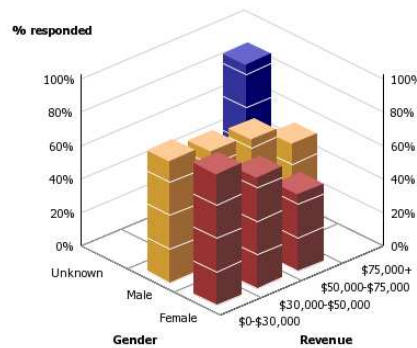
% responded	Unknown	Male	Female	Average
$0-$30,000		73%	78%	75%
$30,000-$50,000		68%	66%	68%
$50,000-$75,000		65%	46%	54%
$75,000+	86%	52%		71%
Average	**86%**	**66%**	**61%**	**67%**

% responded	Unknown	Male	Female	Average
Divorced		73%		73%
Married	86%	67%	66%	72%
Single		60%	78%	64%
Unknown			46%	46%
Average	**86%**	**66%**	**61%**	**67%**

This sample shows the response rates for customer surveys analyzed by revenue range and by marital status. Each group is further analyzed by gender to give the business user a clear picture of the type of customer who most often responds.

Consistent information across multiple dimensions

The IWH Pack for Customer Insight database will allow the business user to explore this information in finer detail. For example, by making a few simple selections the organization can see how customers in the 20-35 age group living in the
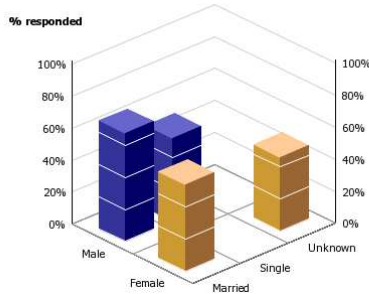
United States responded to surveys in 2009.

Customer Survey Response Details

Country: United States   Age Group: 20-35   Calendar Year: 2009
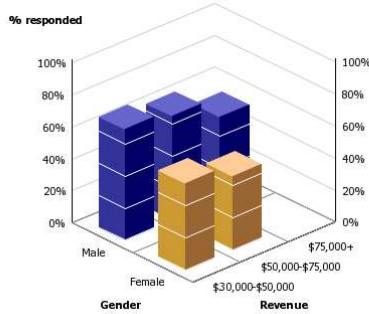
% responded	Male	Female	Average
$30,000-$50,000	69%	54%	65%
$50,000-$75,000	65%	46%	54%
$75,000+	52%		52%
Average	63%	48%	57%

% responded	Male	Female	Average
Married	67%	54%	65%
Single	52%		52%
Unknown		46%	46%
Average	63%	48%	57%

Consider another typical question; "**Who buys what**"

Who buys what?

An organization supplying a small number of products or services to a small number of customers can easily identify which customers are purchasing which products and services.

When large volumes of customers and / or products are involved, this becomes more difficult. The organization will first try to identify patterns based on customer profiles and product types.

The IWH Pack for Customer Insight database will help the organization to identify these patterns by analyzing the vast amounts of customer transaction data across multiple dimensions.

The following sample shows the transaction activity analyzes by the socio economic categories of the organizations customers on one table and the same transaction data analyzed by major product types on a second table. These tables basically identify which type of customers are most active and which types of products sell best.

Profit by Socio Economic Category and Product Type

Select start date * | Mar 6, 2009
Select end date * | Nov 26, 2009 | Finish
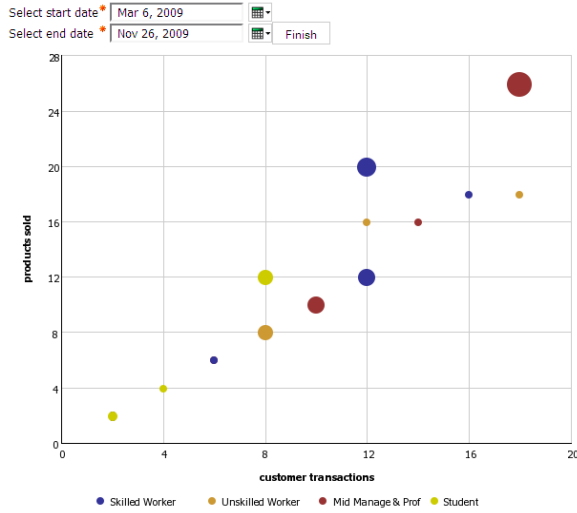
How to read this graph:
each bubble represents a product
the colour represents the socio economic category
the bigger the bubble, the higher the profit
put the mouse over a bubble to see the data behind
click on an underlined item to drill down

same data, by socio economic category

			customer transactions	products sold	profit amount	income amount
Mid Manage & Prof	filter on	Product(All)	48	58	1,291.00	4,129.40
Skilled Worker	filter on	Product(All)	48	58	987.30	3,593.50
Student	filter on	Product(All)	16	20	484.98	1,506.98
Unskilled Worker	filter on	Product(All)	48	52	657.92	2,082.12
Total			**160**	**188**	**3,421.20**	**11,312.00**

same data, by product type

			customer transactions	products sold	profit amount	income amount
Electronics	filter on	Socio Economic Category(All)	4	4	80.00	320.00
Fashion	filter on	Socio Economic Category(All)	32	32	1,346.00	4,082.00
Food	filter on	Socio Economic Category(All)	34	34	10.80	37.80
Furniture	filter on	Socio Economic Category(All)	46	66	1,962.00	6,692.00
Non-food	filter on	Socio Economic Category(All)	44	52	22.40	180.20
Total			**160**	**188**	**3,421.20**	**11,312.00**

The bubble chart on the left, meanwhile, combines these two analyzes showing which type of customers generate most profit through purchases of which types of products.

Drill down facilities allow the business user to focus on products in a particular category or to further analyze customers of a particular socio economic group by introducing another dimension such as gender.

This flexibility in the use of diverse dimensions allows the organization to gain the maximum business intelligence on customer profiles from available data.

Chapter 3: Components of the InfoSphere Warehouse Pack for Customer Insight

The IWH Pack for Customer Insight comprises the following major components;

1. A document describing the **Business Issues** and outlining how they are addressed by the pack under 2 broad headings of Customer Profitability and Customer Profiling.

2. Predefined **Physical Models** containing the Data Warehouse and Data Mart definitions needed for the business issues addressed by the pack

3. Associated sample **Runtime Artifacts** being the DDL for the data warehouse and data mart.

4. A **Method Guidelines** document outlining the proposed method and design decisions regarding the Physical, Relational and Star Schema models.

5. Integrated sample best-practice OLAP **Cognos Reports** and Framework Manager structures

The IWH Pack for Customer Insight includes a fully integrated set of components to specifically address the issues of Customer Profiling
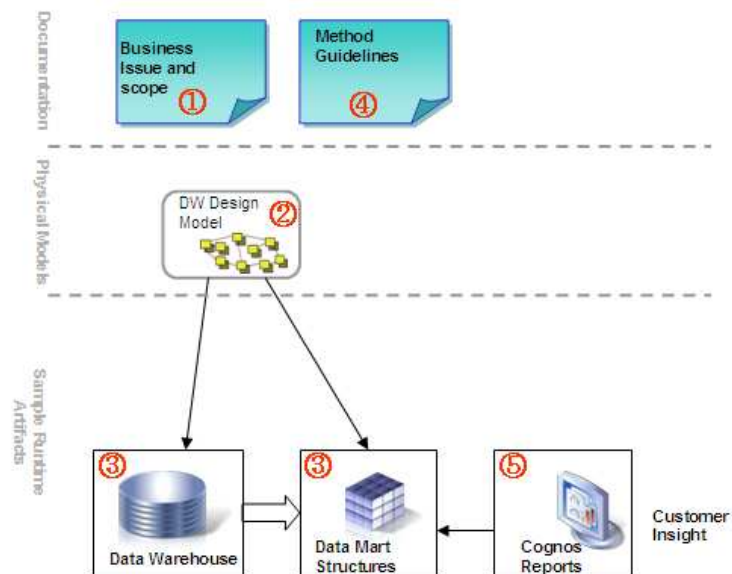
Being based on InfoSphere Warehouse, the IWH Pack for Customer Insight provides a scalable platform for information delivery that transparently offers incremental value such as advanced data mining and scalable cubing services to any Cognos 8 BI-based solution.

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