CRM conceptual background and analytics

Dalia Kriksciuniene, VU KNF

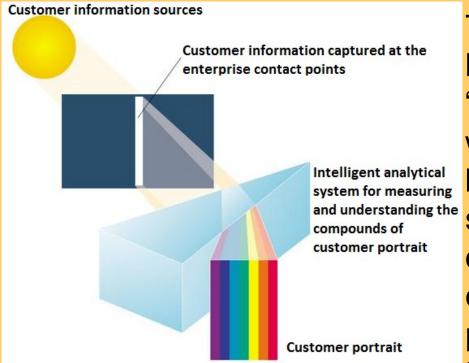
Customer Relationship Management

Customer relationship management (CRM) is a broadly recognized, widely-implemented strategy for managing and nurturing a company's interactions with clients and sales prospects

The overall goals are:

- to find, attract, and win new clients,
- nurture and retain those the company already has,
- retain former clients back,
- and to reduce the costs of marketing and client service (Pepper, Rodgers, 2004)

The spectrogram principle of the customer analysis



The success of the enterprise highly depends on the "prism" as analytical model which can convert "white light" of information to the swath of colours with different brightness: identify compounds of customer portrait by characteristics, their importance and effects to the financial results of the enterprise.

CRM- is a new philosophy of enterprise resource management (4+1 main types+1 external).

Traditional parts of enterprise resource capital:

- Financial
- Material
- Human
- Intangible
- Information

CRM explores new types of resource capital

- Knowledge & info
- Customer capital, where share of each customer is explored (different approach than market share)

Customer capital management goals

Get:

... Profitable customers

Keep:

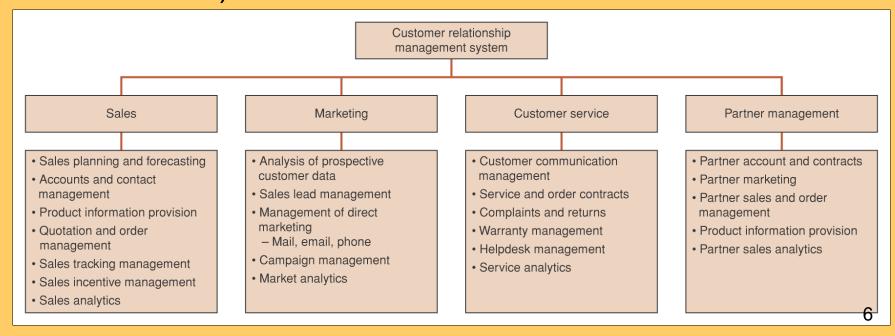
- ... Profitable customers as long as possible
- ... Win them back from competitors
- ... Convert notprofitable customers to the profitable

Enhance:

- ... incentives to get additional products
- Positive reference from existing customers to win new
- ... Customer service programs

Components of CRM Systems

- The software producers understand the structure of CRM differently
- You can find CRM, which mean different goals: sales module, communication module, performance of sales personnel, distribution channel analysis, loyalty "point" systems, etc. (what type is Sugar CRM?, MS CRM?, SAP CRM?)



Customer Relationship Management (CRM) Systems – general understanding

- Provide information on existing customers, their loyalty and churn
- Identify and target new markets
- Enhance customer's satisfaction
- Marketing: cross-selling, upselling, bundling
- Customer service
- Partner relationship management
- Internal marketing (making enterprise attractive for its workers for keeping their knowledge)

CRM information needs

	CRM goal	Information need	Capability of accounting systems to supply info
	Profitable customers	New and old customers Profit per customer	No, due to profit calculation per unit
	Keep profitable customers as long as possible	Communication history	Sales info is available Limited info about reaction to promotions
	Win profitable customers back from competitors	Customers of the competitors Who were won back	No
	Convert not-profitable customers to the profitable	Expenses per customer Sources for turnover	No
	Provide incentives to get additional products	Know individual needs	No
	Enhance positive reference	Opinion, referrals, impact	No
	Enhance customer service programs	Effectiveness of programs	No 8

IDIC model for CRM

D. Peppers ir M. Rogers (2004)

IDIC model

Analytic:

Operational:

Identification

Differentiation

Interaction

Customization

Information supply for the two tasks of managing CRM

OPERATIONAL CRM:

How to collect information about relationships

Surveys, registering calls, visual observation, loyalty cards, promotion responses

ANALYTICAL CRM:

Ho to evaluate and use information

Evaluation by creating meaningful CRM indicators

Reporting, statistical methods, analytic tools, intellectual computing

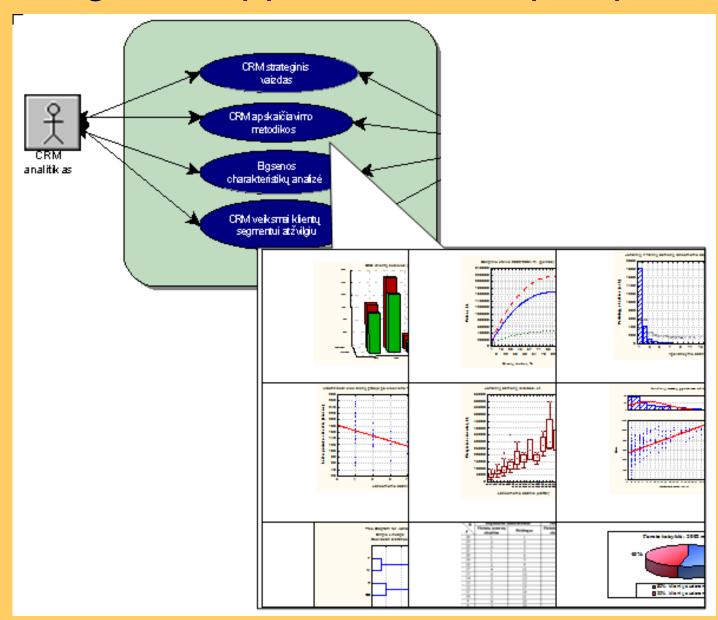
Application of IDIC model

- Identify customers- explore individual characteristics.
 Needs variables for identification: tel.no. address, email, psychographic characteristics, preferences, habits
- Differentiate customers- searching for different characteristics which enable segmenting. Definition of similar segments helps to focus attention to best (most profitable) groups, and create scenarios evoking specific behaviors
- Interact with customers- search for tools and technologies for creating perception of the enterprise to its customer in attractive way, get feedback, avoid information distortion due to attitudes (e.g. caused by resistance to spam, privacy breach)
- Customize treatment- maximize profit due to meeting individual needs

What is indicator?

- Indicator is a common language among managers
- Instead of evaluations "good", "bad", the numeric evaluations, rankings, graphical visualizations, etc. could be more effective
- Indicator is a lever which we have to envisage, and use proper impulse of sufficient power to make impact on it.
- Indicator reveals influences which affect enterprise. It is important to notice these influences, to know how they are created, what efforts are needed to make them serve to the enterprise needs.

Integrated approach- CRM perspective



Problems of getting right data for analysis

Accounting information is limited, there is need for contact points, where customer information can be recorded (loyalty cards, personalized access points, transaction terminals, call centres, web pages or social networks)

The best descriptive is qualitative data, but it is collected in inconsistent way (surveys), or stated by subjective judgments, or classified by subjectively extracting characteristics of communication

Therefore our challenge is to apply the historical purchase data, utilize information from access points and capture qualitative data consistently

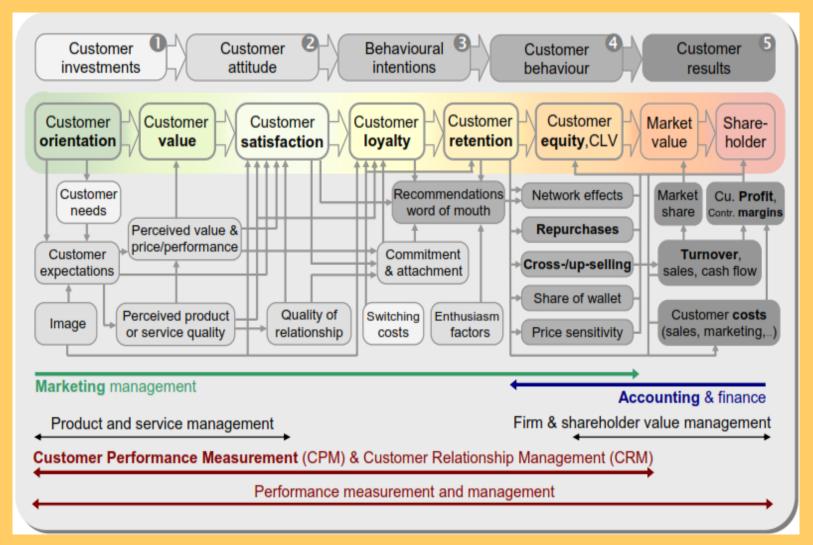
How to create indicators?

- Traditional commonly understood marketing indicators?
- What is missing? What direction should be followed in order to enhance power of indicators?
- How to understand gap?
- Common rules for creating indicators: absolute (turnover, profit), relational (EBITDA), percental (impact of marketing for "bottom line" in accounting), complex interpretation (RFM), formulas (LTV), ranking (loyalty)
- Analytical report types: summarization, queries, trends, anomalies, extremities.
- Textual, numerical, color, graphical

Information for evaluation

- CRM evaluation based on accounting information
- Defining loyalty and its relationships to sales
- Using non-financial information
- Balanced scorecards
- Internet technologies based indicators
- Social network analytics

Gap of the indicators



How to fill the gaps to final indicator

- Making qualitative indicators. Negative side- hard to transform to measurable
- Creating lead indicators which are going to influence factual results in (lag indicators). Negative side- some relationships between them are missing or misleading
- Proxy indicators try to created intermediate links leading to final values Proxy—Financial—Statistical
- Creating indicators similar to financial philosophy: Return on Customer Investment (ROCI); Return on Relationship (ROR); – similar to ROI (return on investment in finance)
- Longitudinal metrics involve dynamics
- Refining indicators by learning relationships philosophy

CRM variable types

- Simple transactional variables purchase value, frequency
- Derived variables- CLTV- customer lifetime value
- Survey-based: satisfaction, knowledge, preference
- Event-based: churn, complaint
- Expert-evaluation-based: loyalty
- Compound variables RFM
- Proxy variables- compound-weighted-ranking based
- Models: Pareto, Whale curve, custom designed models

Promising variable types

1) Profile data

Adress data

#, Name, address. e-mail, phone, etc.

Profile data

- Demographic data (age, civil & family status, education)
- Psychographic data (interests, lifestyle)
- Buying and payment behavior

2) Purchase data

- Dates of purchase
- Purchased products
- Purchased volume
- Heavy usage index

4

3

- Frequency
- Recency
- Monetary
- Ø order value
- Duration of RS

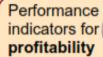


3) Customer Performance Indicators (CPIs)

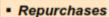
Customer relationship indicators



- Customer orientation
 - ⇒Subsection 5.1.5 📝
- Perceived product/ service quality
- Customer value
 - ⇒Subsection 5.1.6
- Customer satisfaction
- ⇒Subsection 5.1.7
- Customer attachment/commitment
- Customer loyalty
 - ⇒Subsection 5.1.8[™]
- Customer retention
- Customer Lifetime Cycle





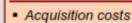


- ⇒Subsection 5.1.10
- Add-on-selling
- ⇒Subsection 5.1.11
- Share of Wallet
- ◆Chapter 5.1.12
- Price sensitivity
- Sales or turnover
- ⇒Subsection 5.1.13
- Contribution margins
- ⇒Subsection 5.1.14
- Customer profits
- Subsection 5.1.15

 ■

 Subsection 5.1.15
- Customer equity
- or Customer Lifetime Value (CLV)
- ⇒Subsection 5.1.16

Customer investment indicators



- Retention costs
- Recovery costs
- Administration costs

....

- Transaction costs
- Communication costs
- Service costs
- Contact costs
- (After) sales costs
- Total customer costs
- Marketing costs
- Return on's:
- sales (ROS)
- customer satisfaction
- customer (ROC)
- relationship (ROR)
- Marketing (ROM)
- Investment (ROI)

4) Service data

- General customer requests
- Demands of technical services
- Number and quality of complaints
- Number of returns

Contact data

- Date of contact
- Number, types, channel, intensity, costs of communication
- Frequency of actions
- Customer adviser



fc Inverse: promising performance indicators for fuzzy customer segmentation

Customer profitability metrics

- Cross-sell change
- Process and operation cost change
- Credit usage level

Change of number of customers and their structure:

- attrition,
- churn rate,
- Naming groups by character: "vintages", "cohort", "VIP"
- satisfaction changes according to survey data

Value of customer

- Evaluation in monetary terms by assumption that customer is the asset of enterprise
- NPV-net present value
- Potential value (IRR)
- Current and potential value according to survey data
- ROI return on investment to customer

Cycles among purchases:

- Cycle duration (shorten, lengthen, regularity)
- Buyer trajectory characteristics accumulated during purchase history

Evaluation of purchase structure:

- Large purchase buyers
- Petit purchase buyers
- Frequent purchase return makers

Grouping, segmenting metrics:

- Decile analysis (divide by 10% segments)
- Pareto principle
- Whale curve
- Share of customer (e.g. VISA uses share of wallet)
- Share of personal consumption, expenditures
- Customer satisfaction

Life cycle value

- Most valued customer segment- MVC
- Relationship value
- Relationship duration
- Migration

Loyalty metrics

- Specific behavior: "bought in past and will buy in future"
- Attitude, brand preference
- Tenure functions
- Ranking according loyalty strength

Loyalty categories —their variety

- Loyalty pyramid expresses levels of loyalties
- No loyalty— first level of loyalty when it is simply absent
 The user freely searches for product by changing
 suppliers, not bonding to them. If he bought during
 promotion period, the sales of this loyalty group return
 back to previous level
- False loyalty: customer does not feel any difference among products of suppliers, but he has no need to change them –behavior by inertia
- Hidden loyalty- customer has preference to some product or supplier but not always keeps buying it
- Real loyalty- the customer has clear preference and uses it even when there exists sufficient choice

Loyalty categories —their variety

Customer Loyalty - Four Kinds

Forced - Monopoly -

Ends With Choice

Habit - Purchase Without Thought

Bought - Bribe Offered For Not

Top Of Mind Choice

Emotional - Customers Return

Indefinitely Through

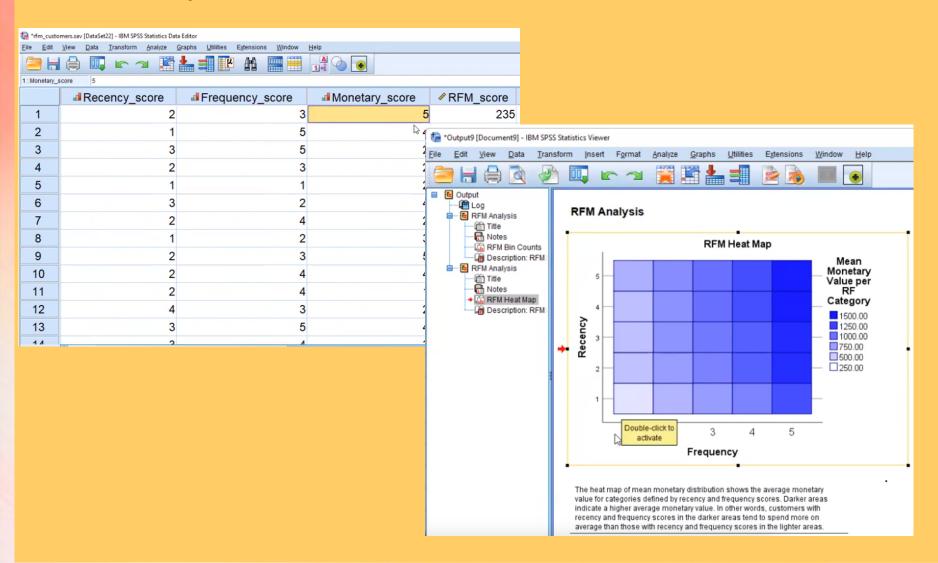
Emotional Engagement

Engaged customers spend more, generate higher margins and are passionate influencers.

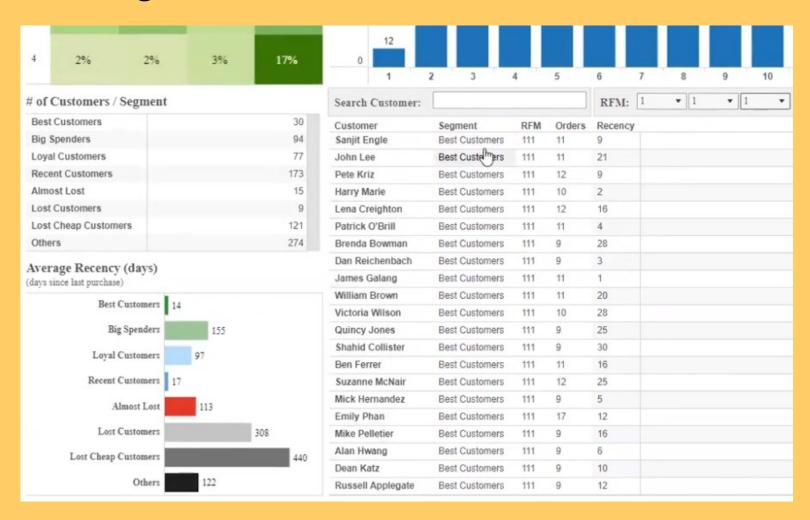
Compound variables – RFM

- Variable R (Recency) show the number of days since the last visit till the date set for analysis
- **Variable F** (Frequency) indicator is equal to the number of visits of the customer.
- **The M** (Monetary value) is equal to the total value of purchases during all the history of communication.
- CRM task lays in defining RFM combination matrix for decisions. E.g. how we treat recent customer who comes often, pays much? How do we treat if he comes rarely? Do we change opinion if he comes only during holiday time? If we waited for his holidays and he missed – did he chose competitor?

RFM by SPSS tool



RFM segmentation



"Whale curve" analytic visualization

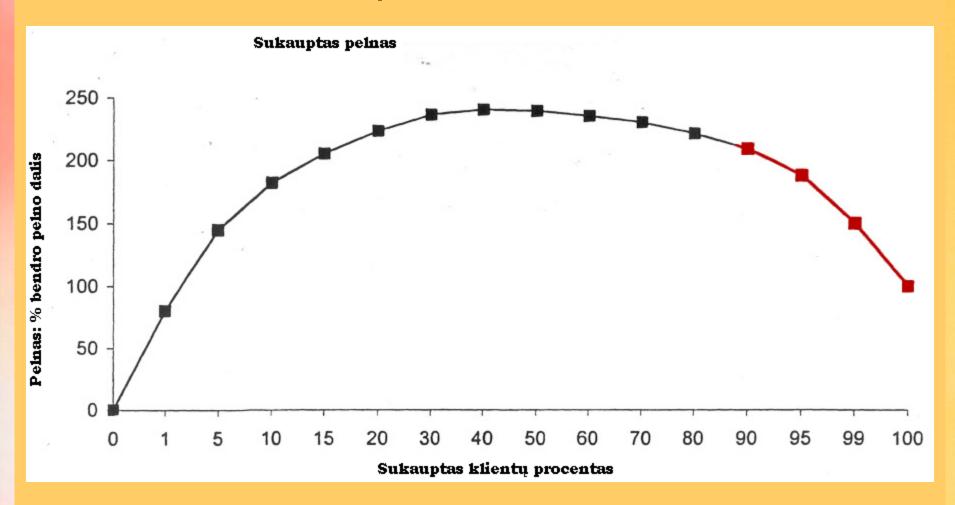
Customers are sorted by descending order of their turnover (or profit) values, in order to compute thier cumulative percent values and to plot to Y axis.

In X axis you plot the cumulative percent of the number of customers (e.g. if the enterprise has 10 customers, each of them makes 10% of the enterprise customers, second line will show cumulative of 2 customers which make 20 cumulative percent, etc.

The Whale curve shows what percent of total number of customers in X axis are able to generate their part of the total enterprise turnover (profit) (plotted in % in Y axis).

The final point of curve means total turnover by all customers

"Whale curve" of profit, red line denotes loss



Using "Whale curve"

Define visually the areas with same growth, split customers to segments accordingly

- Ask questions by analyzing behaviors of segments: what we can do in order to convert "second best" customers to the "best"
- How we can convert customers who bring "loss" to "profitable
- Do we have different rules and personnel for segments?
 We can split cumulative curve to "deciles" as well
 Pareto "law" is visible in "Whale curve" at 20% in X axis

CRM for changing customer indicators

- Cross sell- offering additional products, which are compatible to those already bought
- Up-sell- improvements of the product already bought
- Bundling- complex product /service/subscription
- "Churn rate" measurement. No precise methods to define.
 The goal is to elaborate indicators which could make early prediction of churn
- Mass customization- exploring customer choices, segmenting them and offering as most popular of them as standardized solutions for best-fit segments (improves costing, reduces waste and stock)
- Using strategic games for capturing rules of behavior (e.g. putting advertisements to Second life game)

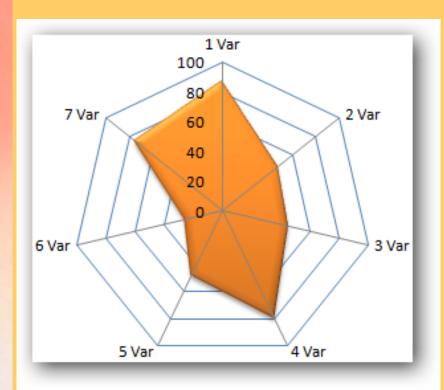
Proxy – creating cause-effect linked indicators

Indicator	Measure	Weight %.
Average income	Average of present and forecasted income	20
Change of income	Annual change	25
Relationship features	Duration of contract Tenure of history	15
Technologic involvement	System integration Reporting system Tele-Web Email	20
Parrnership value	Contact level Refferal Future value	10

Top 5 customers	Ranking by "proxy"	Ranking by monetary value	Rank difference
Α	1	1	0
В	2	22	+20
С	3	62	+59
D	4	4	0
E	5	3	-2

34

Customer portrait



Analytical aspects:

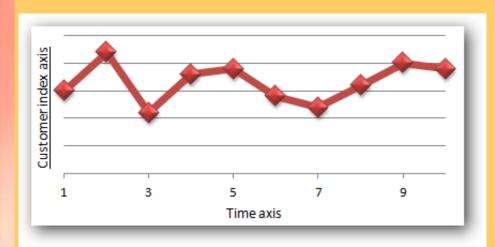
1 The percentage difference of each characteristics of the customer compared to the best value existing in the customer base of the enterprise.

2 customer portrait can be expressed as the area plot of the radar chart. Bigger normalized percentage values of each variable of the customer portrait form larger area plot, which can show, that the particular customer falls among the best customers of the enterprise.

3 possibility of tracking each customer over time by dynamics of each variable and the compound index as well.

Source: Kriksciuniene et al 2012

Customer index



Customer portrait index is computed as a mean value of all normalized variables included to the customer portrait

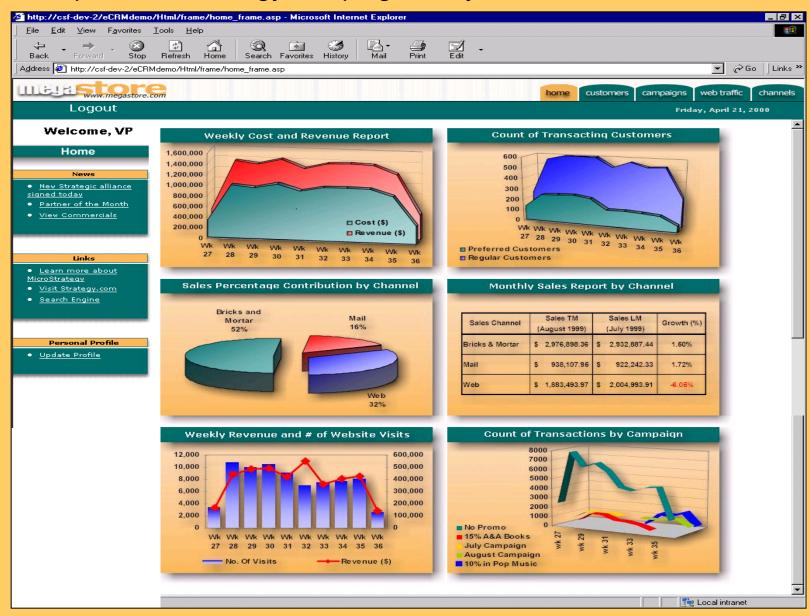
If we assume that each variable has different importance we include including weighting of the variables

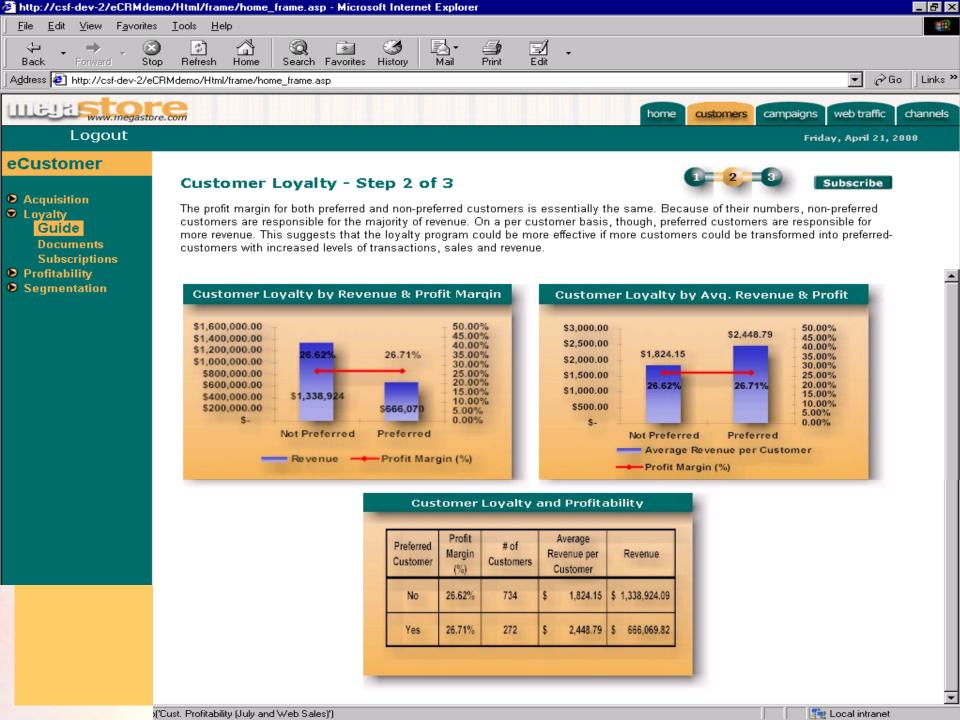
Source: Kriksciuniene et al 2012

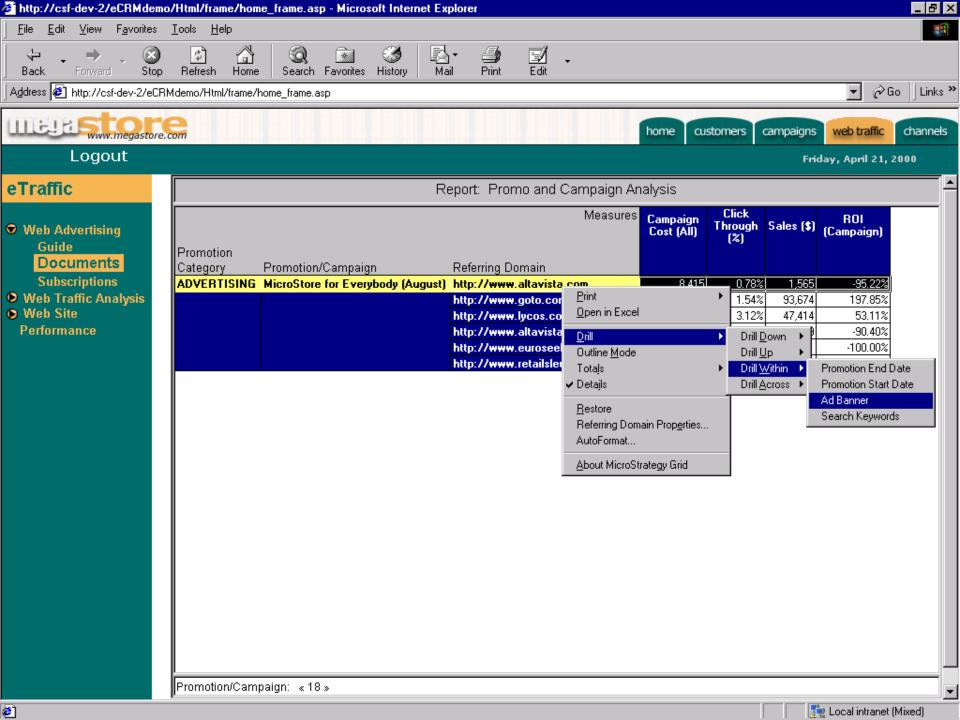
CRM campaign research (Microstrategy)

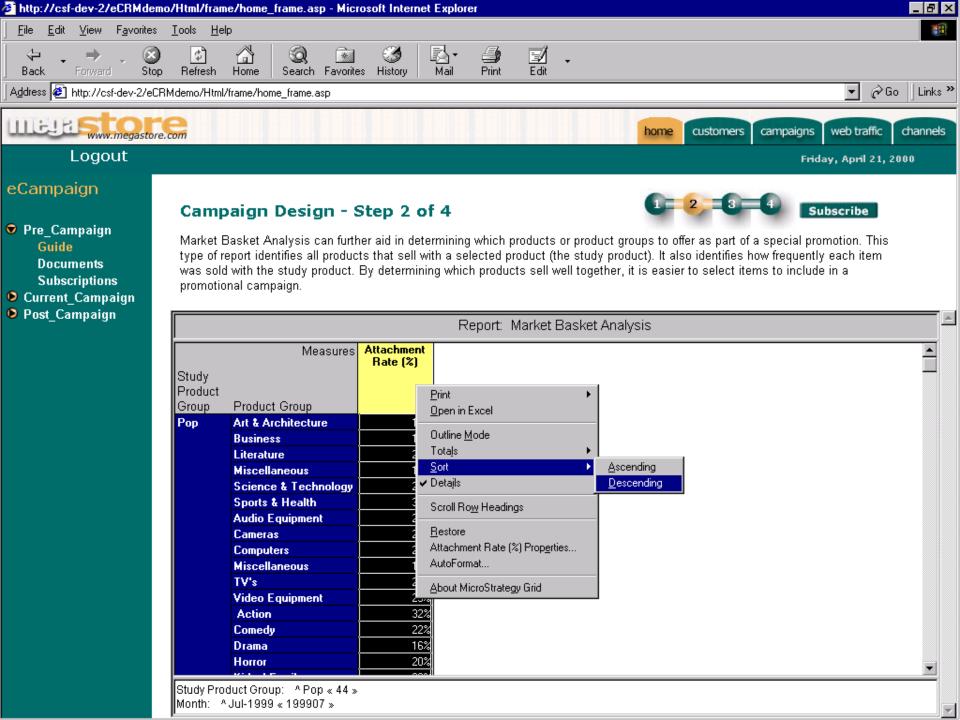
- Sales situation is evaluated
- 2. Loyalty level is evaluated
- 3. Problem is explored in detail (see the following example of wrongly selected promotion delivery channels (pre-campaign analysis)
- 4. Campaign is planned, the target group is selected by analytics
- 5. Post campaign analysis

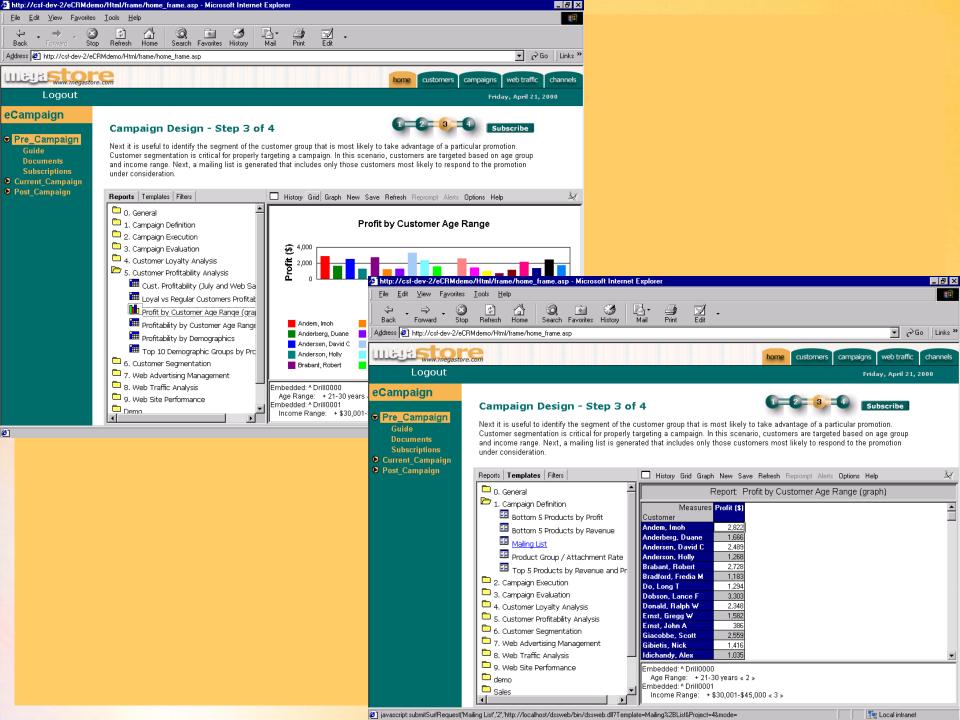
Example :microstrategy campaign analysis workflow









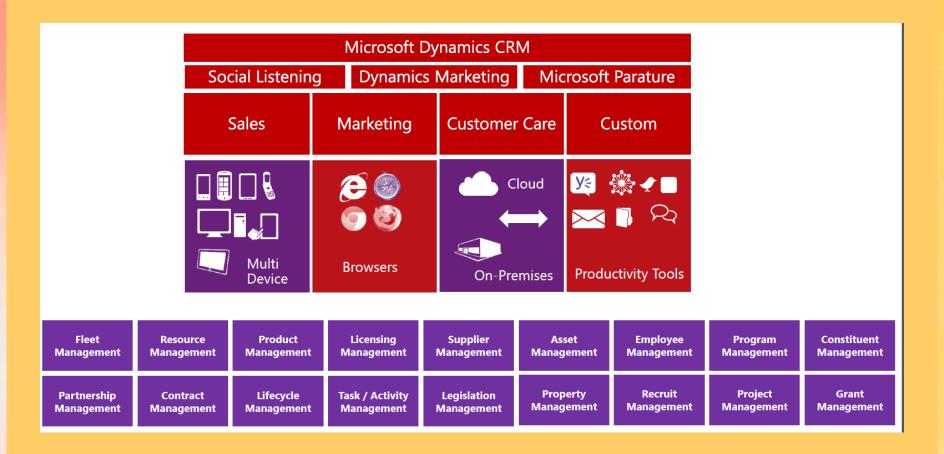


Specialized CRM systems and integrated solutions

- SAP
- Oracle
- Baan
- Microstrategy

- Microsoft CRM
- Microsoft NAV
- Microsoft Ax Dyn
- SAS
- Remedy
- Goldmine

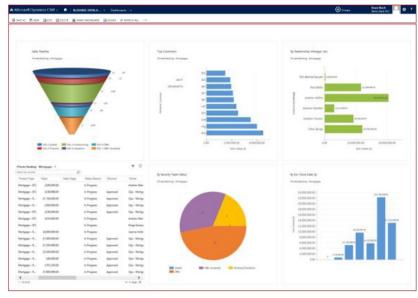
Microsoft CRM



MS CRM

Surface the right information and the right time

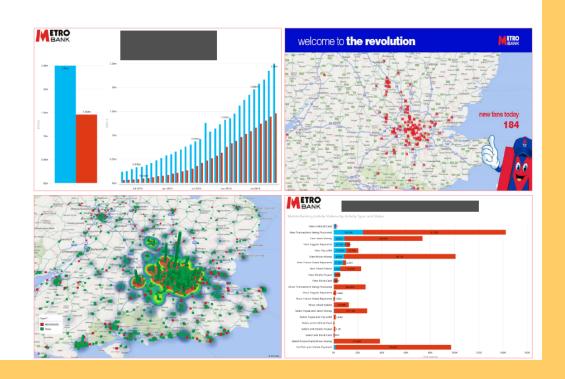




MS CRM

Data Visualisation

- Business Performance
- Operational SLAs
- Customer behavior
- Self service capability
- All in one place



Microsoft AX Dynamics- marketing IS embedded

Microsoft Dynamics AX | At-a-Glance

Retail | Manufacturing | Distribution | Services Industries | Public Sector

Retail

Point of Sale (POS) Centralized store management Omni-channel management Order management | payment processing Merchandizing and catalog management

Manufacturing

Lean, process and discrete manufacturing Product configuration Shop floor management

Sales, service & marketing

Sales force and marketing automation Lead and opportunity management Sales and case management Service management Microsoft Dynamics CRM integration

Procurement and sourcing

Direct and indirect procurement Purchase requisitions Supplier relationship management Vendor self-service portal

Supply chain management

Project accounting

Project accounting and invoicing Grants management Project cost control Work breakdown structure Interoperability with Microsoft Project

Financial management

and payables

Shared services and Cash and bank management Compliance management

Business intelligence

Standard and analytical reports with Microsoft SQL Server Reporting Services RoleTailored, pre-defined data cubes Dashboard views with KPIs Self-service reporting

Human capital management

Core Human Resource Management Talent management Workforce management Travel and expense

ERP in cloud (MS offer)

Platform Microsoft Azure

Microsoft Cloud for Business Productivity Partner Office 365 **Business Apps** Microsoft Dynamics Ecosystem

Industry trends for ERP (MS case)

Update to Microsoft Dynamics AX 2012 R3





- MPOS: Windows tablets and Phones, w UX enhancements
- Off-line and Caching;
- HW station / peripherals & shared shifts
- Payments; set-up & monitoring; e-Commerce;
- Enhanced Retail essentials

Supply Chain Management:

- Enhanced Warehouse
 Management capabilities [product variants in the warehouse, partial and batch reservations
- · Automatic order consolidation
- Optimization of the production planning

Azure laaS:

 Simplified deployment: dev/test, production, and disaster recovery scenarios

Microsoft Platform Support:

- VS 2013
- Office 2013 SP1
- Sharepoint 2013 SP1
- .NET 4.5.2

- Methodology Automation including SureStep
- ~800 documented business processes in BPM
- Simplify copy of system configurations between legal entities
- Frequent updates of rules in CAT, System Diagnostics, and upgrade analysis
- Cloud-powered support; enhanced support experience searching issues, support incidents, spin up a copy of your installation in the Microsoft datacenters

- Business Analyzer update Windows Tablets, iOS and Android
- Expense and Time iOS/Android based phone apps to support localization/globalization in the upcoming update.
- Windows Phone 8 expense and time app to integrate paystub [US only] integration capabilities.

MS key points for marketing applications

Marketing today starts at creating amazing brand experiences. This starts with the customer journey. Marketers have to deliver an engaging customer experience that is consistent, personalized and relevant across all channels. At the same time, marketers have to show impact on the business. They have to have an understanding how they contribute to revenue and pipeline, and they have to be able to provide detailed analytics of that contribution.

TALKING POINTS:

- The most progressive companies focus on the customer journey AND embed analytics in their day-to-day operations to understand where and how marketing investments pay off
- They plan and track all marketing assets and marketing programs and use customer insights to continuously improve their programs and to collaborate with sales.
- Marketing is a data-driven science
- Marketing is about using data to target audiences and create value. It's about adding business value

MS key points for marketing applications

KEY TAKEAWAY

What does that mean? It means ENGAGING CUSTOMERS in a consistent way across channels to create amazing customer experiences. It means aligning marketing and sales to BUILD a better PIPELINE. And it means tracking your Marketing ROI to DEMONSTRATE IMPACT.

TALKING POINTS

- You need to align the brand experience with the customer experience, and align your team around a single message.
- You need to engage with customers, in the way that they want, at the time they want, with the content they need in order to drive conversion and revenue.
- You need to be able to track your investments across channels and show your impact.

METRICS

Just to highlight a few metrics, it means an:

- Increase qualified leads
- Increase conversion rates
- Decrease time-to-market
- Prove ROMI
- We all know marketers aren't paid to plan they're paid to execute. With Dynamics Marketing, the plan
 is the campaign, allowing marketers to get all of the benefits of using a planning solution without
 wasting any time in the planning process. That means you can spend more time on the work that you
 love, and less time project managing.

MS newest modules for marketing



Marketing resource management

Marketing calendar

Align teams & plan around an integrated calendar for increased transparency & collaboration

Budgeting

Plan & manage marketing budget & spend across channels

Marketing workflow

Integrate extended marketing teams with automated processes & approvals

Digital asset management

Centrally manage digital assets with a powerful repository tied to campaigns & calendar



Multi-channel campaigns

Campaign design

Easily manage campaigns with drag & drop design across email, digital, social & traditional channels

Personalized engagement

Deliver one-to-one engagement with segmentation & targeting based on behavior & demographics

Email marketing

Easily design, test & launch contextual, personalized email marketing campaigns

A/B testing

Test marketing messaging & offers to optimize campaign performance



Lead management

Lead scoring

Determine sales-ready leads with flexible scoring based on behavior, demographics & time

Nurture campaigns

Foster prospect interest with multistage, trigger based nurture campaigns

Multiple scoring models

Accommodate different product & customer types with multiple lead scoring models

Lead imports

Enable leads from multiple sources with APIs for import from external lists



Sales collaboration

Marketing visibility

Empower sales teams with visibility into marketing calendar & campaigns

Outside-in view

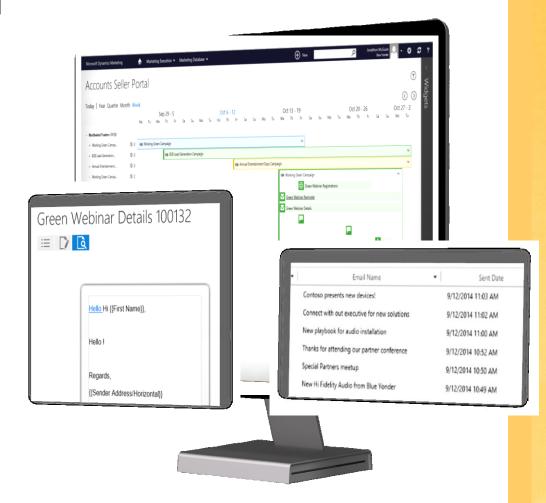
Provide customer view of marketing activities & interactions vs CMO campaign view

Targeting input

Allow sales to provide input into campaign targeting for key accounts

Marketing alerts

Subscribe to alerts about customer behavior as part of an integrated campaign flow



Social marketing

Social sentiment

Analyze sentiment with easy-to-read charts on the home page

Social amplification

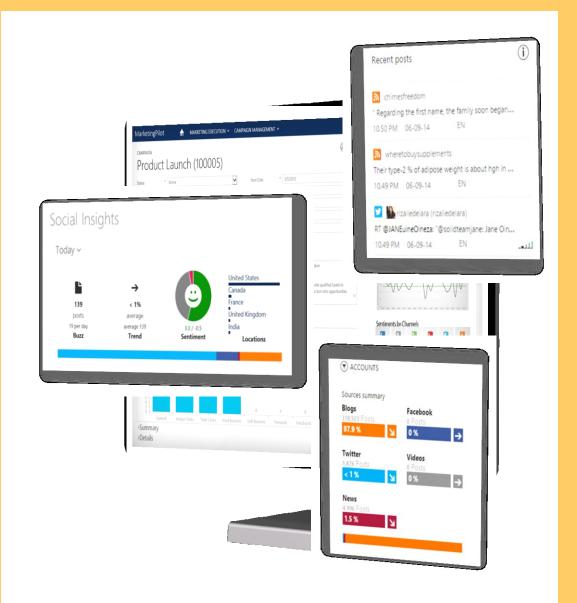
Amplify campaign reach by posting directly to Facebook or Twitter

Collaboration

Collaborate across internal & external teams with Yammer, Skype & Lync

Social curation

Curate social messages to ensure compliance with brand standards



Marketing Analytics

Reporting

View campaign performance, financials & resource management with out-of-the-box reporting

Rich analytics

Analyze in depth campaign performance & marketing impact with powerful, flexible analytics

Time-based analysis

Understand trends & get a complete picture of marketing ROI with time-based analytics



Microsoft Social Listening

Social Listening

Social Analytics

Social CRM

Social Listening

Powerful social listening

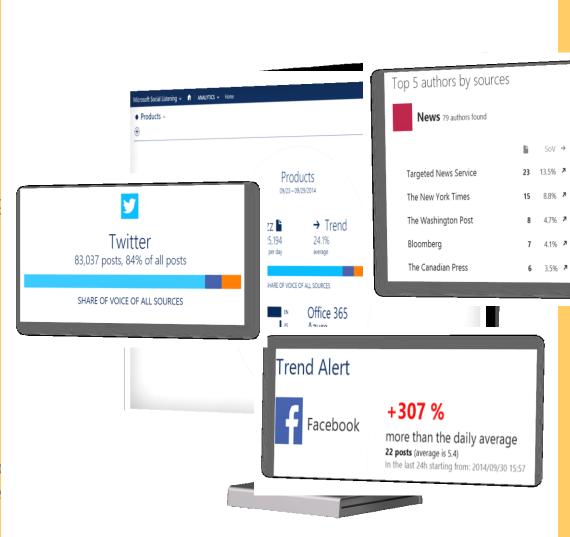
Listen to what people are saying globally across the social web in 19 languages.

Key influencers

Identify who is actively talking about your brand, products, or services.

Sophisticated alerts

Detect trends and listen for specific posts to keep you informed on the topics you care about.



Social Analytics

Global sentiment analysis

Gain a true understanding of your business, customers and topics that matter most.

Share of voice

Track and measure topics you care about across Facebook, Twitter, Blogs, Videos and news publications.

Advanced filtering

Flexible filters allow you to segment your data by source, sentiment, location, or author.



Social CRM

Social for Sales

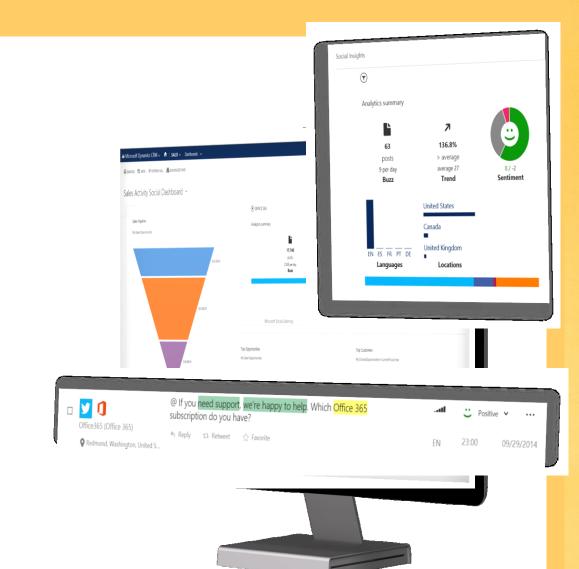
Watch for buying signals, monitor key developments and decision makers at your top accounts.

Social for Marketing

Manage your brand reputation, nurture influencers and measure campaign effectiveness.

Social for Service

See how happy your customers are and create alerts to identify any customer issues and trends early on.



SAP integrated system: CRM module

Module is composed of various functional blocks.



mySAP Customer Relationship Management - Enterprise

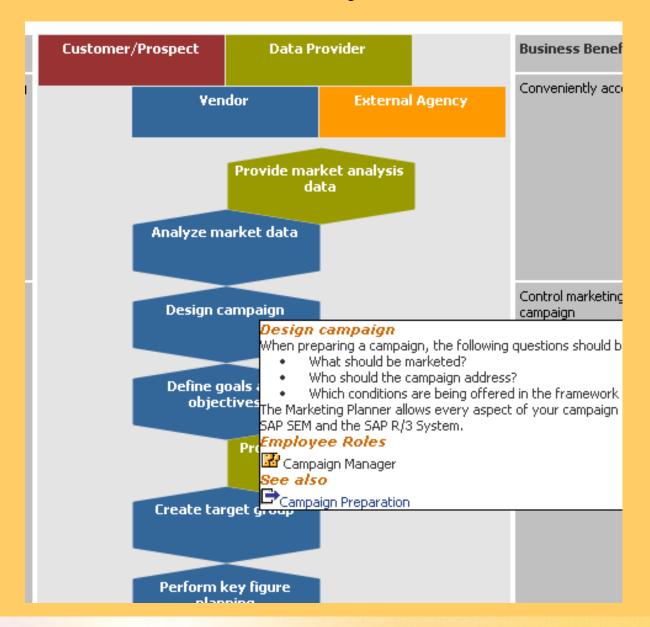
Marketing	Marketing Planning Customer Segmentation		Campaign Management		Trade Promotion Management		Lead Management		Personalization
Sales	Sales Planning Terr & Forecasting Manag	itory Account Gement Contac Managem	et Ma	Activity anagement	Opportunit Managemer	y `	Order Mar	Contra nagem Leasin	ent & Commission
Service	Service Planning & Forecasting	Customer Ser Support		& Resource Plannir Optimization		Service Operations Management		Pr	rofessional Services
Analytics	Customer Analytics P	Product Analytics	Marketin	ng Analytics	Sales Ana	lytics	Service Anal	ytics	Interaction Channel Analytics

Analytic scenarios

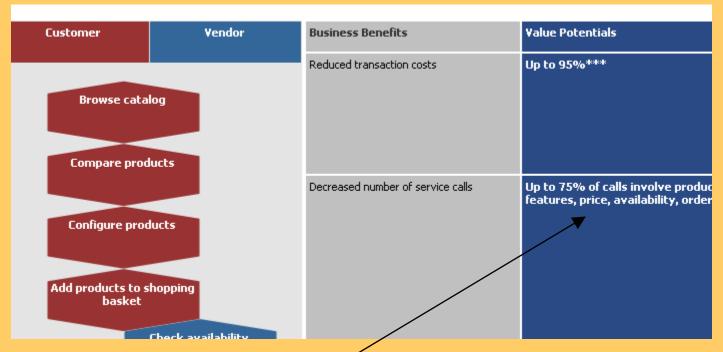
Analytic scenarios- multi purpose analysis

- Customer analysis value analysis per customer
- Product analysis observation of product, promotion optimization
- Communication channels analysis of regular and e-channels
- Marketing analysis- allows to select new markets. Cross-sell scenario design
- Sales analysis extensive reports "win or lose" analysis for competitive evaluation
- Customer oriented business management by differentiating approaches to customers

Structure of analytics scenario



"Best practice" application in SAP



 The analytic scenarios idea is to evaluate them at all enterprises which implemented SAP solutions.
 Successful scenarios are standardized and implemented.
 Benchmark of scenario effectiveness is provided

Solutions:

Interactive demo

https://www.microstrategy.c om/en/solutions/retail https://www.microstrategy.c om/en/solutions/video/delive r-personalized-customerexperiences-with-aclienteling-app





Customer Analysis Summary

Overview of Customer analytics



Customer Segmentation

Customers are divided into groups for effective marketing.



Market Basket

Identify product affinities to motivate buying behavior at stores or online, ensure big category grow bigger and fast products sell faster.



Opportunity Finder

Discover ways to increase profit and customers.



Web Analytics

Provides information about the traffic to a website.



Info Panel

Information about dossier.