

SAP White Paper

ANALYTICAL **CRM**

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EXECUTIVE SUMMARY

“Deep customer relationships represent a continuing stream of income and a critical platform for new growth. They also represent a powerful and defensible barrier to entry.”

(Jay Curry, The Customer Marketing Method, The Free Press, 2000)

What differentiates companies in today's hyper-competitive and demand-driven markets is their ability to address their customers' preferences and priorities. This means more than simply knowing and understanding their customers better than their competitors do. It means strategically implementing this customer knowledge in every area of the company, from the highest management level to all the employees who come into direct contact with customers.

Establishing and strengthening long-term relationships with your customers is the key to success. It's the focus of a well-structured and coordinated process of customer relationship management (CRM).

CRM involves far more than automating processes in sales, marketing, and service and then increasing the efficiency of these processes. It involves conducting interactions with customers on a more informed basis and individually tailoring them to customers' needs.

Your company's success depends heavily on your ability to intelligently manage sales, marketing, and service processes and to draw mutual advantages from your understanding of your customers. To help you maximize the strategic value of your CRM initiatives, SAP provides a comprehensive analytical solution as an integral part of its mySAP Customer Relationship Management (mySAP CRM) solution: SAP's Analytical CRM.

This document helps you gain a deeper understanding about how analytical CRM in general and SAP's solution for analytical CRM in particular can contribute toward improving the way you measure and optimize your relationships with customers. The following sections cover three major areas:

- Sections 2 through 4 explore the challenges in today's market and outline the scope analytical CRM must have in order to meet those challenges
- Section 5 gives an overview of the SAP solution and explains how the integrated suite of analytical applications solves the business problems discussed in the prior sections
- Section 6 examines the main market trends that will have an impact on future analytical CRM.

MANAGING CUSTOMER RELATIONSHIPS IS KEY IN THE NETWORKED ECONOMY

THE NEED FOR CUSTOMER CENTRICITY

Today's saturated and demand-driven markets confront you with an array of new challenges. Differences in price and product are becoming increasingly negligible, and you can no longer attract customers by offering standard products or services. Open and deregulated markets, which are rapidly changing from sellers' markets to buyers' markets, mean intensified competition and compressed marketing cycle times. The Internet opens up a wealth of information 24 hours a day, seven days a week, thereby heightening the transparency of the markets. Customers use the Internet to quickly shop around and see what your competitors can provide - the next supplier is only a mouse-click away.

As a consequence, the attention span of customers has decreased, and customer loyalty is subject to new laws. Your customers are looking beyond products to assess whether the overall solution you provide addresses their individual needs and priorities. Your customers - and your knowledge of your customers - is one of your company's most important assets. Customer-oriented approaches and customer focus are the main pillars for competitive business models for the twenty-first century. You must continually reinforce the value your company provides to your customers. The period of time between a new customer request and its fulfillment is also decreasing. This means that, if you don't react quickly enough, your customers will find someone who can.

THE IMPACT OF TECHNOLOGY

Technology has also paved the way for a new dimension of customer relationship management.

The Internet

The Internet has made markets more transparent, but it is also dramatically changing intercompany relationships and the way companies collaborate with suppliers and sales partners. The Web has brought about unprecedented real-time connectivity, which empowers companies to work together within a network and extend their operations beyond the conventional boundaries of the organization. The increasing importance of pervasive computing devices will rapidly extend the same capabilities to the field and to mobile users.

Seen from another angle, the Internet offers a tremendous opportunity to strengthen customer relationships. No other shop in the world so accurately and completely documents your customers' preferences as the Web shop. Your Web shop becomes an invaluable source of information that you can use to capitalize on a deep understanding of your customers and to deliver personalized offers.

Additional IT Developments

The falling costs for computing power and the arrival of new software tools for capturing and analyzing mass data have provided the main thrust behind the increase in importance of analytical solutions in general. Powerful hardware and software give you better ways than ever before to understand and leverage your customer relationships.

Appreciate ERP and Data Warehouse Implementations

Starting in the 1990s, companies successfully integrated back-office processes and information flows enterprise-wide by replacing function-oriented legacy systems with a single ERP system. The payoff for significant investments in ERP and reengineering the processes comes in the form of streamlined transactions, better quality of information, and better decision-making processes within the enterprise. More recently, companies have been implementing supply chain management (SCM) and CRM to optimize end-to-end operations. They have capitalized on the Internet to tighten collaboration with other companies, strengthening connections with their value chain partners. This diverse mix of technology solutions has resulted in a complex system landscape and tough new integration challenges.

ERP provides an essential foundation for the evolution of your IT infrastructure. You need a robust, tightly integrated ERP system to handle at speed the high volume of transactions generated by successful e-business and to share accurate information with business partners in a timely manner. Some companies have progressed toward integrated enterprise reporting by using a data warehouse to bring together data from ERP, SCM, and CRM systems and to deliver associated key performance indicators (KPIs).

ERP and data warehouse investments constitute an excellent prerequisite for intelligently managing the performance of business processes within an enterprise. E-business challenges call for full application-to-application integration at the business process level within a company – and beyond company boundaries.

CHALLENGES FOR YOUR BUSINESS MODELS IN THE TWENTY-FIRST CENTURY

Intelligent Collaboration in the New Customer Economy

Companies need to rethink their business models to accommodate Internet connectivity and the collaborative methods of e-business. This rethinking process will intensify as mobile devices acquire greater significance.

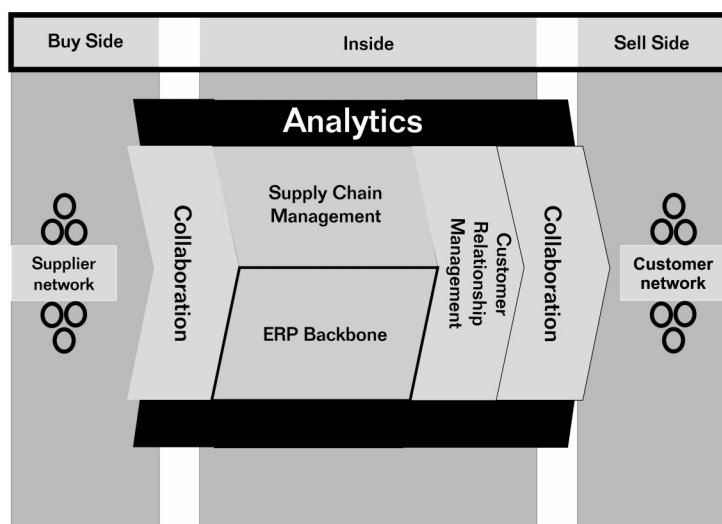


Figure 1: Spinning the Network for Externalizing the Business

Source: META Group

To better support intercompany relationships, many companies are linking internal, buy-side operations to suppliers using SCM applications. CRM applications, such as marketing, sales, and service automation, facilitate sell-side connections to customers. In the Internet economy, companies generate value as part of a network, and they can no longer rely on their own resources to compete effectively. Thanks to real-time collaboration via the Internet, people with different functions from several different companies can work together as if they belonged to the same company, and purchasing and sales processes can

merge seamlessly with one another. This heightens the significance of performance management and gives it a new goal: analyze and optimize the entire process across and beyond company boundaries.

Because Web-based connectivity enables information to be exchanged reliably and rapidly, it is also fuelling the establishment of outsourced service providers. A growing number of outsourcers can handle non-core processes beyond the conventional boundaries of an organization. And electronic marketplaces are an emerging platform for business collaboration.

This ongoing process of externalizing business engenders totally new forms of collaboration between companies.

Correspondingly, the type of collaboration between companies is evolving from the batch-type, point-to-point exchange of data of EDI into truly collaborative processes that are based on sharing information and granting partners access to common data in real-time. Some companies have progressed even further toward true application-to-application integration on the process level between enterprises, leveraging the information to streamline interactions between partners. This new type of collaborative process engineering, combined with professional data management that meets the demands of data quality, protection and privacy, represents a decisive success factor, affording such companies a competitive edge.

The same can be said for both business-to-business (B2B) and business-to-consumer (B2C) scenarios. The borders between these models are becoming increasingly blurred. To what extent the collaboration and behavior models need to be formalized, structured, and automated ultimately depends on the number of customers your company serves.

Optimizing the Commerce Chain

Innovative solutions empower companies to manage their overall supply chain by integrating the right partners and suppliers in a virtual network of companies and with their internal processes – optimized in recent years. Customer relationship management means placing your customer at the heart of those processes. The preferences of individual customers now

form the starting point for customer-specific supply chains that link together to form a network around a customer-oriented provider. Cultivating customer relationships and optimizing logistics can no longer be regarded as two unrelated processes.

Partners throughout the supply chain have to share the relevant information in real-time and on the process level. This information includes such things as demands, forecasts, inventory availability, and available-to-promise manufacturing capacities.

An optimal exchange of information between all partners involved in the business process is critical for managing the performance of those business processes as a whole. Just as important, the information from the different channels and customer touchpoints needs to be fully integrated. The ability of a CRM solution to measure, predict, and optimize customer relationships is directly proportional to the degree of information you provide your analytical solutions. Ideally, you need to strive toward a 360 degree view of your customers.

LIFE-CYCLE MANAGEMENT

You can only prosper in such a competitive environment if you establish and deepen long-lasting relationships with your profitable customers. Acquiring new customers in profitable market segments is the true key to lasting success.

Many companies fall into the trap of viewing the success of the company purely from a period perspective. It is far more important to manage your customer relationships from a lifetime perspective, as illustrated in Figure 2. It shows the entire series of interactions between an organization and a customer throughout the lifetime of that customer relationship. The heavy engage interactions in the acquisition phase typically have a negative impact on customer profitability. By improving the customer relationship, your sales and service revenues lead to a positive bottom line throughout the life cycle of the customer.

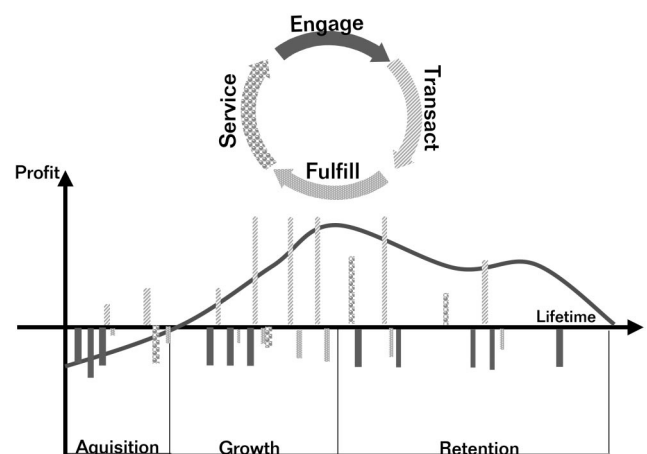


Figure 2: Interactions during the Lifetime of a Customer

Source: META Group

One of the central tasks of CRM is to manage these customer interactions to optimize the value of the customer relationship. There are two essential aspects to managing customer interactions. First, individualized and personalized communication strategies are the key to building customer relationships. Businesses must turn every transaction into a highly personalized, meaningful customer interaction and then forge these interactions into a firm relationship that induces customers to make more purchases. Second, you must remain focused on the effects of customer interactions and on maximizing the return on customer relationships. A customer relationship is genuinely profitable only if positive results are sustained throughout the customer life cycle.

The customer life cycle encompasses four continuous patterns in which businesses interact with customers across multiple channels and touchpoints. mySAP CRM integrates the right employees, partners, processes, and technology to optimize relationship management across all four patterns within a customer life cycle:

- Engage: Recognizing potential customers and converting them into (first-time) buyers
- Transact: Getting the customer to make a purchase
- Fulfill: Providing the product
- Service: Providing customer care and service across all channels

INTRODUCING ANALYTICAL CRM

CUSTOMER-CENTRICITY CALLS FOR NEW ANALYTICAL SOLUTIONS

The efficient and automated management of customer interactions is only part of the story. Companies also need to analyze the performance of those relationships, uncover trends in customer behavior, and understand the true value of their customers to the company.

Analyzing customer relationships from a lifetime perspective is critical for success. Figure 4 shows the development of your customer base from this point of view.

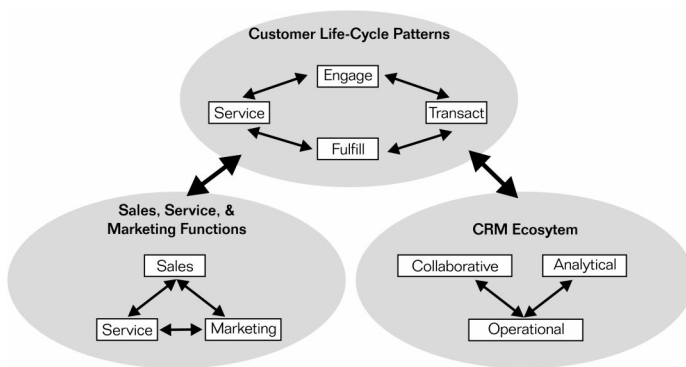


Figure 3: Evolving to Customer Life Cycle Management
Source: META Group

“Customer life-cycle management is a three-domain business system, aligning business processes (marketing, sales, and service), CRM technologies (operational, analytical, and collaborative), and the customer life cycle phases (engage, transact, fulfill, and service). To fully realize the potential of CRM, this business system must be optimized around the customer life cycle, where the customer is central to the design.”

(META Group, To CRM and Beyond, Research Note ADS 805.)

For companies that have grasped this concept, CRM is not a passing fad. It is a new paradigm for gearing all activities to customer needs to identify suitable marketing opportunities and to mine the profit potential of a customer over the long term.

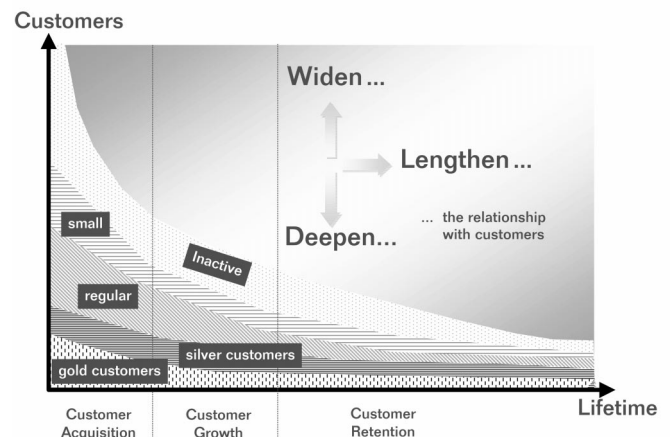


Figure 4: The Business Question at Hand

The crux of the business problem resides in achieving the following:

- Widening the relationship with customers by acquiring new and profitable customers
- Lengthening the relationship with your top customers by targeting existing resources and strengthening the foundation of those relationships
- Deepening the relationship with customers by transforming minor customers into highly profitable ones. An additional step is increasing your share of sales revenue (and hence your share of wallet), or recognizing cross-selling or up-selling opportunities with current customers and making the right offers.

Achieving these tasks involves extensively analyzing your customer data. This type of analysis is one of the major purposes of Analytical CRM in mySAP CRM.

To widen your customer relationships, you need to be able to answer questions like:

- Which kind of customers would you like to acquire?
- Which kind of customers will drive your growth in future?
- Which new customers are likely to be interested in your products?

To lengthen your customer relationships, you need to answer these questions:

- Which customers in particular do you want to keep?
- Which customers will drive most of your profits?
- Which customers might switch to your competitors and why?
- Which customers are dissatisfied with your services and products?

Intensifying and deepening your customer relationships also require you to answer essential questions, such as:

- With which customers can you increase the share of wallet?
- Which products and services interest a particular customer?
- Which products are typically bought together? Which cross-selling opportunities should you consider?

The changed market situation therefore means that knowledge about the value of a customer or a customer segment is decisive for your company's success. Once you have this knowledge, you can use it to allocate resources more efficiently to the most desirable customers and to reengineer the unprofitable ones. Your customer information must be kept consistent throughout, and it must be available across all the touchpoints where your company interacts with your customers. Decisions about how to develop a relationship with a particular customer should be reflected in all interactions and planning with customers.

DEFINITION AND BUSINESS ARCHITECTURE OF ANALYTICAL CRM

To manage your interactions and processes with your customers most efficiently, you need to apply a consistent metric that helps you improve the value of your customer relationships. Capturing your learning on a continuous basis, you gain a deeper understanding of your customers and empower your employees to optimize customer relationships across all channels and points of interaction with your customers.

Analytical CRM is a consistent suite of analytical applications that help you measure, predict, and optimize customer relationships.

To address these business issues, analytical CRM includes a sound analytical infrastructure that allows you to gather all the relevant information about your customers and organize it consistently. You can thereby achieve a 360-degree view of your customers, which then forms the basis for wide-ranging analytical methods that help you measure and build truly interactive, mutually beneficial, and profitable relationships.

Figure 5 illustrates the analytical applications that constitute the suite of analytical CRM. They all play an essential role in gaining greater insights about customers and customer relationships and in applying this knowledge consistently during all customer interactions.

A distinction needs to be made between the different types of analytical applications. Some applications focus on customers and yield a deeper understanding of customers' needs, behavior, and value. Applications for marketing, sales, and service analytics provide the information you need to better understand, plan, and value the effectiveness of your life cycle patterns (engage, transact, fulfill, service). Channel analytics provides you with answers for channel-specific business questions, such as Web analytics, analytics for customer interaction center, or sales funnel analysis.

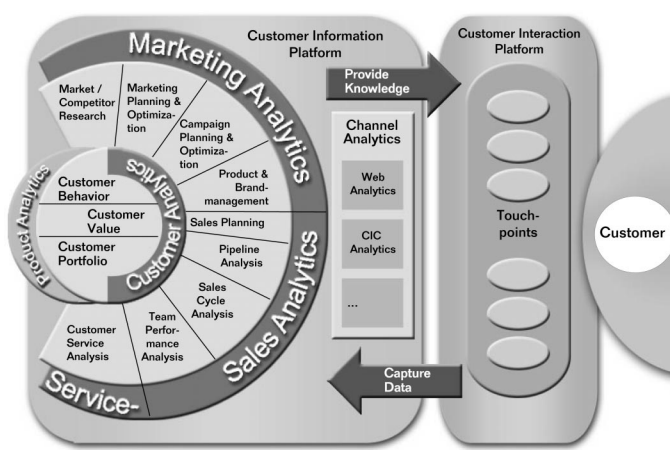


Figure 5: The Business Architecture of Analytical CRM

Mastering the following is key for a successful analytical CRM solution:

- Capturing all relevant customer information from different sources, channels, and touchpoints and then integrating it into a customer knowledge base with a 360° view
- Applying a comprehensive set of analytical methods to measure and optimize customer relationships and answering all relevant business questions
- Deploying analytical results to improve the CRM processes, your interactions with customers, and your business planning with customers
- Integrating customer value with shareholder value and your strategic enterprise management

The following sections discuss how analytical CRM helps you solve these business issues.

THE VALUE ANALYTICAL CRM ADDS TO YOUR BUSINESS DESIGN

What does your company stand to gain by implementing analytical CRM? First, analytical CRM can make a considerable contribution toward providing the answers to numerous business management questions and thereby support a whole range of business decisions. The analytical capabilities allow you to identify new trends in the markets most important to your company and then to channel your investments in these markets. They also help you gain further insights into customer needs and preferences by identifying patterns to:

- Acquire new profitable customers by cloning your best customers
- Improve your relationships with existing customers by addressing their individual needs
- Optimize cross-selling and up-selling opportunities
- Improve customer loyalty and reduce customers' propensity to churn

Analytical CRM also enables you to gear all the processes of your company toward customer-centricity and thereby:

- Aim your resources at high-value customers and build more profitable customer relationships by:
 - Targeting your investments in marketing, sales, and service
 - Directing your attention and services more effectively toward such customers
 - Forcing internal efficiencies and process improvements
- Automate and personalize customer interactions based on sound customer knowledge
- Integrate your enterprise strategy with your strategies in marketing, sales and service.

As analysts, such as the Gartner Group, have pointed out, some companies can increase profits by as much as 100% by retaining an additional 5% of their customers. By some estimates, it costs four to seven times more to replace a customer than it does to keep one.

THE SCOPE OF ANALYTICAL CRM

CAPTURING ALL RELEVANT CUSTOMER INFORMATION

Building an integrated customer knowledge base represents a formidable challenge. In the past, information was distributed across the entire company and its different departments in silos. This information had to be harmonized from both the business and the technical point of view.

Customers can interact with your company in a number of new ways, and this generates a whole new range of data sources for you. Therefore, analytical solutions must do more than provide a reliable platform for constructing your customer knowledge base. It is equally decisive that these solutions flexibly and consistently integrate all data from the broad variety of interactions with your customers across all touchpoints, rather than basing your assessment of customers on individual channels. Consequently, you benefit from a consolidated view, which should include, for example:

- Your customers' response to your marketing campaigns
- Your customers' priorities in your Web shop
- The requests for information addressed to your customer interaction center

You should also incorporate external sources of information, such as:

- Market data on your customers
- Enterprise data on competitors dealing with your customers
- Web surveys to supplement your customer information with details about customer satisfaction and customer preferences
- Data from communities or clubs with a common interest

Finally, don't forget integration with your back office, where billing and shipment data together with your customer-related activities are valued from a financial perspective and consolidated into a coherent picture of financial success and customer profitability.

In all, your customer knowledge base needs to encompass a comprehensive range of data, as Figure 6 shows.

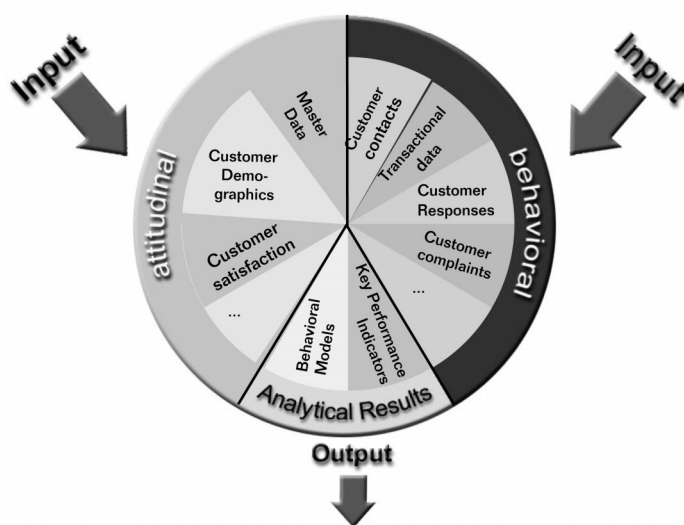


Figure 6: The Customer Knowledge Base: a 360 Degree View

Successful analytical CRM solutions integrate customer data and, ultimately, deliver this data smoothly in a broad range of heterogeneous analytical applications. Such a customer knowledge base generates new insights for a company with every new customer interaction, offering invaluable competitive advantages.

MEASURING AND OPTIMIZING CUSTOMER RELATIONSHIPS

Performing a sound analysis of your existing customers is often the best way to develop a customer-oriented strategy for marketing, sales, and service. The reason for this is found in a fundamental marketing maxim: the more you know about your customers, the more easily you can provide the goods and services they're looking for. Successful companies anticipate customer needs and, ideally, shape those needs.

- Informed investments in your portfolio of customer relationships cannot be made without knowledge about:
- Your customers' behavior (such as preferences, priorities, and activities)
 - Your customers' value in terms of customer profitability, customer lifetime value, and potential
 - A clear understanding of the composition of your customer portfolio and how you can optimize it

CUSTOMER BEHAVIOR MODELING

With customer behavior modeling, you can understand who your customers are by observing their behavior and identifying relevant patterns via profiling and scoring. Then, you can use this information to create predictive models that help you acquire, grow, and retain attractive and profitable customers.

Customer behavior modeling helps you:

- Define homogeneous customer segments and use them as the basis for your decisions in marketing, sales, and service. Analytical methods, such as clustering, customer scoring, and proven techniques like recency, frequency, monetary (RFM) analysis are invaluable tools now made easily accessible to the business user.
- Acquire the best customers using profiles of your existing top customers. Analytical methods, such as customer scoring and decision trees, help you identify the most profitable customers to address in your campaigns.
- Grow your customers by making offers best suited to their needs. Analytical methods, such as association discovery, help you exploit cross-selling and up-selling opportunities. Retain your profitable customers by understanding the patterns of their purchasing behavior. Analytical methods help you to detect trends and patterns in purchasing behavior, which then allow you to interpret signals of customer churn. Data mining methods, such as decision trees, are especially designed for these kinds of business analyses and are an ideal way to obtain insights.

The business value of analytical CRM strongly depends on pre-fabricated, out-of-the-box models, templates, and methods that help you answer your business questions. Key figures, such as

satisfaction index, loyalty index, retention rates, share of wallet, and response rates, help you measure and influence these aspects.

CUSTOMER VALUE ASSESSMENT

Customer valuation is central to analytical CRM. It helps you focus limited resources most efficiently on the best and most valuable customer relationships. This typically involves considering customer profitability, customer lifetime value, and customer ratings.

Customer Profitability

Customer profitability is one of the most important and frequently used key figures for valuating your customers. In its most basic application, it is the difference between revenues and costs per customer. Many CRM providers offer margin reporting under the misconception that this suffices for a sound analysis of customer profitability.

Figure 7 illustrates what customer profitability should really be about.

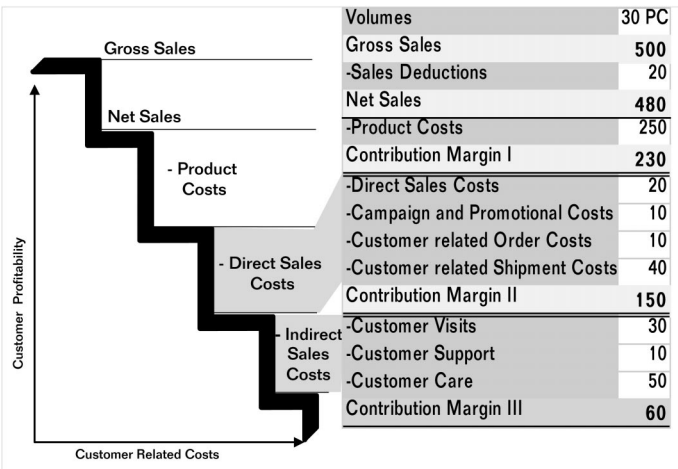


Figure 7: Customer Profitability

Sound profitability analysis requires an integrated business model for contribution margin analysis that combines various types of revenue, product costs, and sales costs to produce a coherent picture of your customer profitability. Today's software solutions can integrate activity-based costing with your customer profitability with a minimum of manual effort.

As a result, it is extremely simple to allocate customer-related costs (such as customer visits, customer support, or campaign costs) to the respective customers. Of course, customer profitability does not replace product profitability, which is still indispensable to your company's success.

Customer Lifetime Value

Your most valuable business asset fails to appear on your balance sheet: your customer list. And it probably doesn't reflect the hardest and most expensive sale: initial sales. Once you have earned a customer's trust, the door to many more sales and referrals suddenly opens. You must see your customers in a different light and consider them as investments to be decided upon, valued, and ultimately protected.

In contrast to customer profitability, customer lifetime value is an appropriate measurement of how much you would or should be willing to invest to acquire a customer. By customer lifetime value, we understand the net present value of the profit that a company could realize with the average new customer within a given customer segment during a given number of years. This is the true value of a customer to be considered in this kind of investment decision.

Customer Profiling and Scoring

Customer profiles, such as ABC analysis, provide insights into customer structures. Customer scores, such as the assessment of the overall attractiveness or satisfaction of a customer, offer an ideal way of forging different aspects into a common statement. In this way, you can weight different aspects to perform integral customer assessments. You can use the results of this assessment to allocate your resources in marketing, sales, and service to the right customers.

Although subjective judgments also come into play with this sort of overall valuation, the main advantage is that it allows you to value customers quickly and efficiently for immediate application in your customer interaction center or in your service areas. This type of key figure also lends itself extremely well as the basis for portfolio considerations.

CUSTOMER PORTFOLIO OPTIMIZATION

For strategic decisions in marketing, sales, and service, you usually don't examine the characteristics of individual customers. Instead, you examine what makes up your customer base. Your customer portfolio is a key tool for analyzing and optimizing the composition of your customer base. By using key figures, such as customer lifetime value, customer ratings, or strength of the customer relationship, you can assess customers or customer groups more effectively and determine the most appropriate policy for winning over customers, providing them with the right kind of service and retaining their business.

For example, you can divide customers into different categories (as Figure 8 shows) on the basis of key figures, such as customer attractiveness or the strength of the customer relationship.

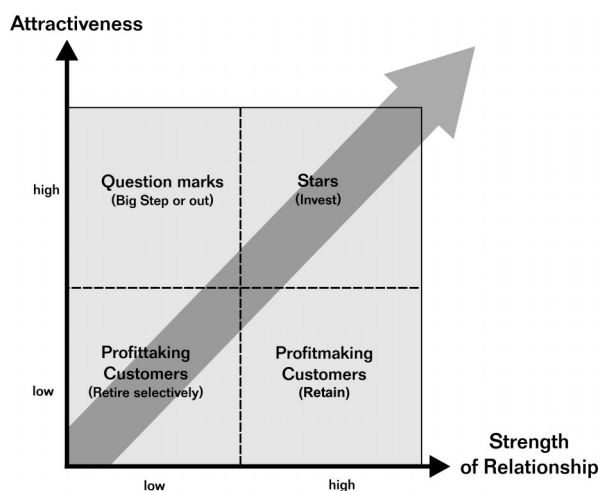


Figure 8: Customer Portfolio

DEPLOYING ANALYTICAL RESULTS TO IMPROVE PLANNING AND CUSTOMER INTERACTIONS

Many CRM initiatives automate marketing, sales, and service through front-office suites. Operational CRM is indispensable because it empowers your sales staff to efficiently serve your customers and synchronizes your customer interactions across all channels. To ensure that these efforts attain the desired result, you must integrate operational and analytical CRM.

The purpose of analytical CRM extends well beyond obtaining analytical results. The knowledge gained about customers and customer relationships must be made seamlessly available to the relevant employees and systems as well as accessible during all appropriate processes.

To empower your employees to improve and optimize the processes in marketing, sales, and service, a process flow like that shown in Figure 9 must be in place. A deep understanding of your customers will only be of value to your company if you are in a position to apply these insights effectively in your day-to-day business. This requires you to deploy your analytical results with two main aims: to optimize planning and forecasting and to optimize the performance of customer interactions.

Only those companies that effectively implement their customer knowledge and constantly build upon this knowledge using a feedback loop will be the leading enterprises of tomorrow.

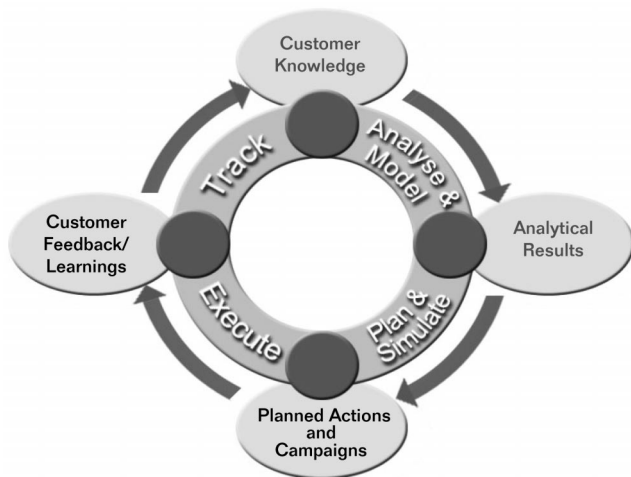


Figure 9: Closing the Loop

Deploy Analytical Results to Improve Planning and Forecasting

It is an inescapable fact of life that market share, profits, and sales all depend heavily on one factor alone: customer performance. For this reason, the main aim is to implement in the areas

of marketing, sales, and service combined planning that revolves around acquiring and retaining the right customers while increasing the profitability of existing customers. The art of achieving this optimally entails using analytical means effectively to transform company goals into customer goals. Simulating and planning your actions with your customers throughout the life cycle helps you convert your existing customers into top customers and identify which of your prospective customers show promise of becoming profit-making customers. By supporting bottom-up planning and supplementing it with appropriate planning for customer contacts and activities, you can implement the surest way of building up and deepening specifically sought-after customer relationships with long-lasting effects.

Connecting analytical results with planning in marketing, sales, and service based on customer life-cycle patterns (engage, transact, fulfill, and service) is a key stepping stone toward drawing the greatest business dividends from an analytical solution. Furthermore, modern software solutions also enable you to incorporate this type of planning vertically with strategic planning and horizontally with the different subplans in your company, all within a single platform.

Deploying Analytical Results to Improve Planning and Customer Interactions

- Equipping your direct sales and the customer interaction center staffs with ratings on customer creditworthiness, attractiveness, and satisfaction
- Optimizing the target group of a marketing campaign by applying patterns on expected response rates
- Offering a personal product proposal or special offers for certain customers in your Web shop
- Routing service calls to the appropriate contact person in the call center, depending on customer rating and customer value

In all these instances, knowledge about customer preferences and priorities as well as that about customer value can contribute a great deal toward approaching different customers in appropriate ways and channeling limited resources toward the most attractive customers.

First, it is of utmost importance that the information gained is made available to all relevant employees in marketing, sales, and service to support their decisions in real time. This calls for an information sheet that is appropriate to the individual tasks involved and that contains analysis results for the customer that are consistent throughout the company and across all customer touchpoints. Furthermore, the processes must be supported so that the relevant information is readily accessible for transactions in operational CRM or in the call center, for example. You could use traffic lights, exceptions, or symbols for an immediate and clear interpretation. A portal solution that places this information at the fingertips of your employees is a prerequisite for making customer knowledge available company-wide.

This forms a firm basis for intelligent interaction management with which to automate customer interactions even further. In the Web shop in particular, you can use comprehensive knowledge about customers and their behavior to establish business rules that optimize and personalize dialogs with customers. Applying customer knowledge this way allows you to adapt your product proposals to the needs of individual customers.

You can't just optimize channels one at a time, such as the Web site or your customer interaction center. The goal of interaction management is to better integrate and optimize the overall channel mix. As Figure 10 shows, for some customers, it works to conduct the “engage” phase over the Internet and then later on integrate other channels in the “transact” and “fulfill” phases in order to better serve your customers.

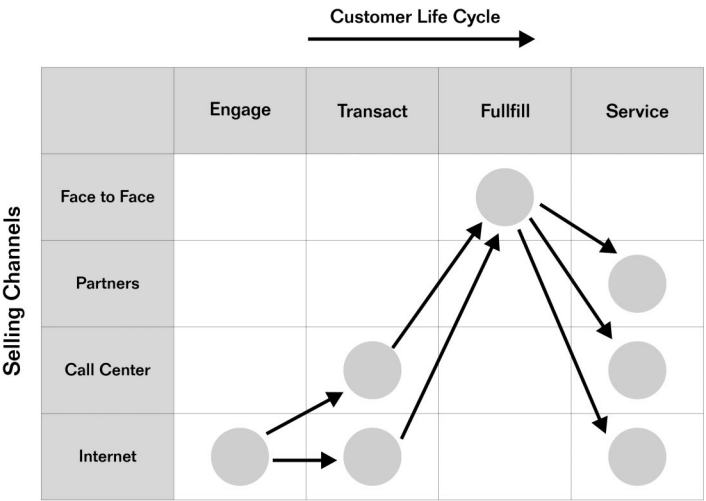


Figure 10: Transferring Traditional Channel Models in CRM Life Cycle Patterns

Source: META Group

Once your channel mix simultaneously meets the your customers' needs and maximizes the cost-efficiency of your customer service, your company will have advanced considerably toward securing unbeatable competitive advantages.

CUSTOMER-CENTRIC ENTERPRISE MANAGEMENT

“Companies do not win in a highly competitive market just by focusing on market share and revenue growth. A great business design combines superb knowledge about customers and profit together with great imagination.”

(A.J. Slywotzky and D.J. Morrison, The Profit Zone, Random House 1998)

The intrinsic link between customer value and shareholder value is borne out by the fact that a company's market value depends largely on the value of its customer base. Companies must develop a new vision of how they will acquire and retain customers in hyper-competitive markets. Every organization must learn to successfully implement customer-centric strategies and translate its visions into actions without delay.

The Balanced Scorecard, developed by Robert Kaplan and David Norton, is a methodology for translating an organization's strategy into terms that can be understood, communicated, and acted upon. Once a Balanced Scorecard has been set

up to describe strategy, it serves as the organizing framework for the management system. Because customer-related measures like customer satisfaction and customer lifetime value are important drivers of future performance, this kind of measure plays a significant role in today's strategy implementation.

To implement a coordinated and consistent approach toward translating company targets into concrete marketing, sales, and service strategies and, ultimately, operational objectives, the following steps are supported by modern software solutions:

- Gap Analysis and Scenario Planning
- Formulating transparent strategies
- Communicating the strategy within the entire enterprise
- Coordinating the enterprise strategy with the goals of the employees
- Linking objectives with the annual budget
- Identifying and coordinating strategic initiatives
- Conducting regular performance reviews with feedback and adjusting strategies where necessary

The implementation of a strategic management system combined with analytical functions and key figures from analytical CRM is a formidable approach to synchronize your business management with your strategies.

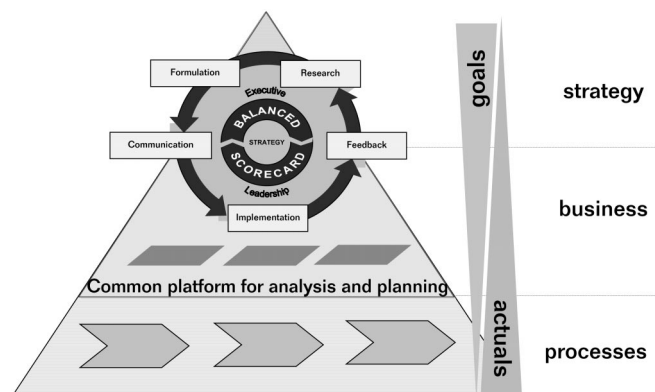


Figure 11: Integrating Analytical CRM with Business Performance Management

To withstand the high pressure in your markets, your analytical CRM solution has to be closely integrated with business performance management. This applies to the numerous key

performance indicators from analytical CRM, which support a global assessment of the business and customer situation and of the achievement of your strategic goals. Different plans in marketing, sales, and service are also consolidated into a common planning platform of business planning, the main prerequisite for enterprise management in dynamic markets.

THE HOLISTIC APPROACH: SEVEN STEPS TO PROFITABLE RELATIONSHIPS

By now it should be clear that analytical CRM is not merely a collection of CRM-related analyses. It is a systematic approach to help you measure and assess customer relationships and develop them into mutually profitable and beneficial relationships in day-to-day business. This is best illustrated by considering the dependencies in Figure 12:

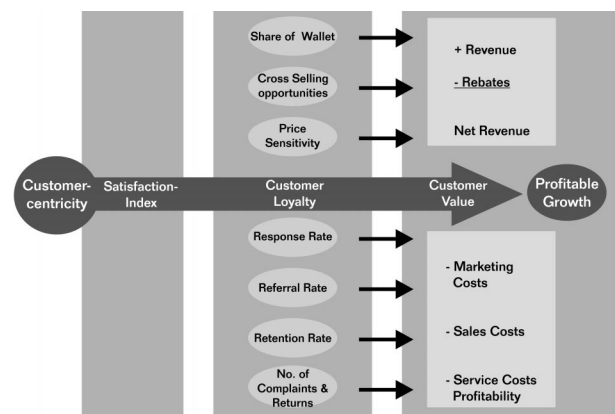


Figure 12: From Customer-Centricity to Profitable Growth

The cause-and-effect chain in Figure 12 shows that customer relationship management is about to embark into a new era of analytical applications whose purpose extends far beyond that of reporting. These applications help you understand the depicted relationships between cause and effect and - more important - shape them.

For example, customer satisfaction influences share of wallet and the cross-selling opportunities, and, therefore, on the revenue growth that can be achieved from a particular customer segment. Analytical CRM is not restricted to simply making these correlations transparent by producing key figures or data mining results. It provides employees with the right insights

and supplies business processes with the necessary information so that the knowledge your company has gained generates sustainable profits – clearly affecting your bottom line.

Assessing these insights lays the foundations for CRM that includes the following aspects:

- Taking the analyses into account during customer-oriented planning
- Empowering your employees with consistent and accurate customer information
- Formulating the analytical results so that they can be applied to optimize the relevant marketing, sales, and service processes and to drive intelligent interactions with your customers
- Balancing customer value and shareholder value by integrating your plans in marketing, sales, and service with strategic plans

Figure 13 summarizes the fundamental steps in analytical CRM.

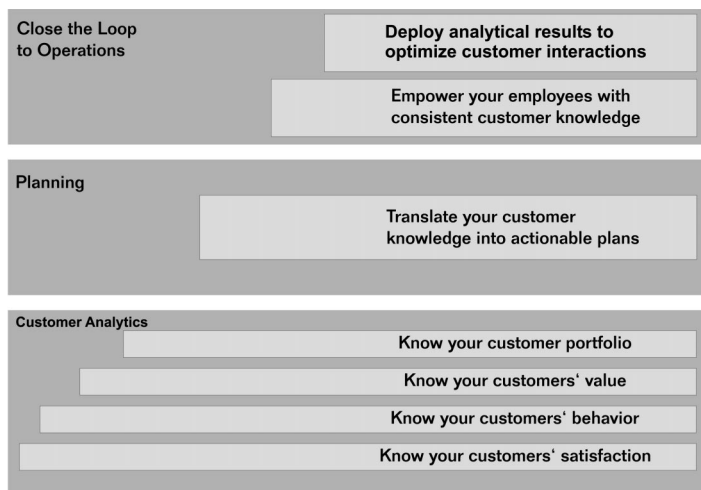


Figure 13: Seven Steps to Profitable Customer Relationships

If this seems too good to be true, we suggest you read on to learn more about the solution offered by SAP for performing analytical CRM.

SAP'S ANALYTICAL CRM OFFERING

ANALYTICAL CRM AS PART OF mySAP.COM

SAP's solution for analytical CRM provides a sound and open analytical platform that is embedded into SAP Business Information Warehouse (SAP BW). SAP BW pools and integrates all relevant customer information from a broad range of varying sources using an extensive set of data extractors. A suite of analytical applications leverages this customer knowledge base with out-of-the-box business methods, data mining techniques, as well as interfaces to third-party products, for all types of analytical operations.

You benefit from a browser-based portal solution – mySAP Workplace – a user interface that meets specific user requirements and allows easy access to all analytical results, exceptions, and related functions. This goes hand in hand with proven data management that satisfies the greatest demands of data quality, security, and privacy.

As an e-business provider offering a comprehensive software solution, SAP combines its expertise in the areas of CRM, e-business, business intelligence, and financials to produce an outstanding solution for analytical CRM. The well-devised interplay of business intelligence, including data mining procedures, with proven business models for financials (such as the calculation of customer profitability, activity-based costing, or customer lifetime value) generates an exceptional understanding of your customers' priorities and customers' value. This is reflected by the broad spectrum of key performance indicators that you can draw upon with this solution to assess your customer relationships.

Fully embedded into an integrated framework of analytical applications, which SAP refers to as Business Analytics, as well as SAP's Strategy and Enterprise Management (SAP SEM), the Analytical CRM solution therefore provides a comprehensive answer to all issues of customer-centric enterprise management. A strength of this solution lies in combining CRM aspects and financial aspects on a common platform, which adds real value by analyzing, planning and optimizing business performance across departments, functions and channels. Planning in marketing, sales, and service is a good example of

how the common platform easily integrates your business and activity plans with your strategic goals and synthesizes them into the overall picture of business planning.

Another strength of SAP's analytical solution lies in its integration not only to operational CRM but also to collaborative CRM. The solution's numerous closed-loop scenarios allow you to automate your marketing, sales, and service operations and help you assess the results. Consequently, unlike analytical CRM solutions from other providers, which concentrate essentially on standalone solutions or on partial aspects, SAP's solution provides an open and all-embracing analytical infrastructure that captures and integrates data, incorporates a suite of analytical methods, and integrates the analytical results in operational CRM.



Figure 14: The mySAP.com Solution

SAP'S ANALYTICAL CRM: AN INTEGRATED SUITE OF ANALYTICAL APPLICATIONS

Analytical CRM in mySAP CRM is an integrated suite of analytical applications that help you transform your customer data into strategic information so you can measure and optimize your customer relationships. These analytical applications consist of more than just prepackaged, ready-to-run reporting applications and flexible, customizable OLAP analyses. Whereas such analyses often deal with the past, analytical methods frequently need to concern the future and predict purchasing

behavior or customer lifetime value. In this way, they can contribute much toward gaining insights for current decision-making.

SAP's suite of analytical applications is based on an open, flexible business architecture and provides a complete and integrated answer to the business issues discussed here.

360° Customer Knowledge Base

The customer knowledge base combines all relevant information about your customers and is embedded in SAP BW. SAP BW's shared data model guarantees this information is available for analytical applications.

SAP's analytical CRM offers an excellent platform for analytical CRM and integrates the data from the following sources:

- Customer interactions across all channels and touchpoints
- Internal systems (CRM, SCM, back office, and so on)
- External sources (market data, competitor data, Web surveys, and so on)
- Analytical results

Customer Analytics

Customer analytics offers a variety of methods to analyze and mine your customer knowledge base to derive insights from your data. Depending on the business problem, the SAP solution offers an extensive suite of methods, ranging from generic procedures to ready-to-run business solutions. Customer analytics provides comprehensive answers for customer behavior modeling, customer value assessment, and customer portfolio analysis to create an accurate understanding of your customers.

Marketing Analytics

Marketing analytics offers a variety of analytical applications:

- Market and competitor research helps you discover new market opportunities and understand their potential.
- Marketing planning and optimization tools help executives and marketing management measure and plan marketing performance by time, territory, distribution channel, and so forth.

- Campaign planning and optimization tools extend across planning campaigns, simulating their outcome, and monitoring their success once carried out. You can measure this using response rates, contribution margins per campaign, conversion rates, campaign ROI, and so on.
- Product and brand analysis functions deliver a full range of product-related planning and analysis tasks that enable you to control and optimize performance with individual products or product groups.

Sales Analytics

Sales analytics provides answers to numerous business questions:

- Sales planning tools provide a comprehensive environment to plan, predict, and simulate your sales volumes and profits.
- Sales pipeline analysis helps you analyze and predict the pipeline of opportunity, quotes, and contracts in order to better manage anticipated selling opportunities.
- Sales cycle analysis helps you gain insights into all aspects of your sales process across the overall sales cycle, starting with the leads, then the opportunities, and right through to sales order processing.
- Team performance analysis helps you discover how your sales organization, sales channels, and sales territories are performing as well as understand the ROI of your sales activities and promotions.

Service Analytics

Service analytics delivers a whole spectrum of answers to all questions related to service, ranging from customer satisfaction, product quality, and trends related to complaints, right through to key figures like resolution quotes and workload in your service organization. Detailed analysis of service revenues and costs helps you optimize the performance of your service organization.

Channel Analytics

Channel analytics supports you with analytical capabilities that are tailored to the needs of specific channels, like the Web or your customer interaction center. Related information on customer interactions is equally integrated into the customer knowledge base.

Web analytics includes Web traffic and performance analysis, which reveals what happens on your Web site and indicates what areas of your Web site met with customer interest. More importantly, it also includes e-commerce analysis, which enables you to understand the buying behavior of your Web customers and provides you with different metrics, such as conversion rates, number of unique visitors, and Web site frequency. Customer interaction center analytics helps you gain a clear picture of the performance and workload of your customer interaction center.

AN ARCHITECTURAL VIEW OF SAP'S ANALYTICAL CRM CAPABILITY

To fully demonstrate the real power behind SAP's analytical CRM solution, we will look at the technical aspects that underpin the analytical applications outlined above.

As Figure 15 shows, all the analytical applications discussed in this section are based on shared metadata and technology transparently managed by SAP BW. The customer knowledge base integrates a multitude of customer information in a unified and consistent fashion so that the various analytical methods all use a common analytical infrastructure to process specific data with direct access. The analytical infrastructure consists of generic analytical engines, such as data mining methods, which can easily be enhanced by third-party products (such as the Intelligent Miner from IBM). The applications server enables you to build preconfigured applications that address the specific business problems described above. In this regard, an analytical application controls and optimizes the performance of the business process using a predictive model based on different analytical engines, such as data mining tools, predefined analytical business models, or even a simple ad hoc query. In its role as information provider for analytical methods and to meet the real-time demands of front-office applications, SAP's analytical infrastructure delivers high-speed access to the requested information.

The analytical results achieved in this way are expressed as behavioral models or key performance indicators. You can use them to shape your interactions with customers for maximum efficiency.

You can use prepackaged business content right out of the box to apply the information gained about your customers, just like the delivered analytical methods and reporting scenarios. You can scale up these templates or starter models with growing business or analytical needs, and you can do this without time-consuming data capture and data harmonization because the delivered extractors ensure seamless data collection. This applies not only to transaction data but to customer interactions, responses to campaigns, and customer behavior in your Web site.

The business methods delivered with the SAP solutions, as well as the parametrizable data mining methods or open interfaces to third-party products, allow you to call up the processed information with ease and to access the customer knowledge base to supplement the classifications, key figures, and analytical results.

Since analytical CRM and operational CRM are integrated closely by design, analytical results can be applied within operational CRM as well as forwarded as success measurements for closed-loop marketing, sales, and service.

ADVANTAGES OF THE SAP APPROACH

IT developments are racing ahead, and you're lucky if you have a secure platform on which to develop your Internet-based management strategies without repeatedly having to switch to completely new solutions. You need strong IT partners with the expert skills required to manage this revolution and help you make a smooth transition into the e-business world. The ultimate winners will be the far-sighted solutions, and these will set the standards for the great expansion in Internet business that is yet to come.

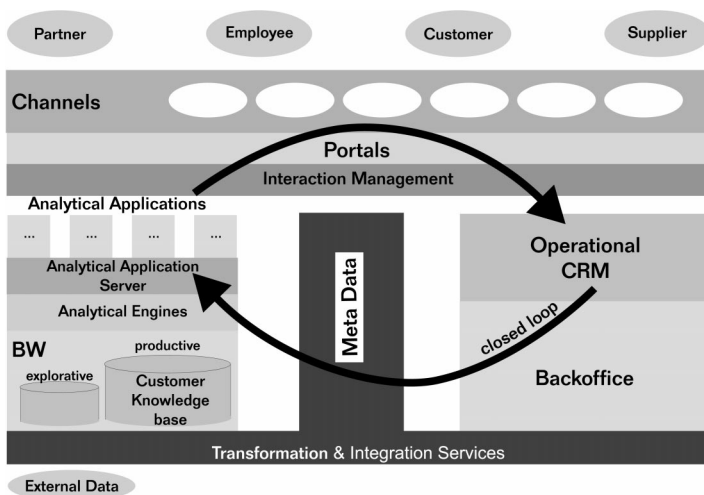


Figure 15: Architectural View of SAP's Analytical CRM

The table lists the clear advantages offered by SAP's approach.

Feature	Advantage	Benefits for the User
Analytical application architecture	Analytical CRM is built on a powerful, consistent, reliable, and open analytical infrastructure embedded in SAP BW, an excellent platform for analytical applications.	<ul style="list-style-type: none"> · Flexible · Maintainable · Extensible · Start simple and scale up
Common metadata	SAP BW's common metadata model ensures the integration and harmonization of all customer-related data from all touchpoints and channels.	<ul style="list-style-type: none"> · Transparent · Homogeneous · Easy to use
Openness	SAP's architecture is open to third-party solutions, which you can use to enhance SAP's analytical solutions.	<ul style="list-style-type: none"> · Extensible by third-party solutions
Data integration and data transfers via data extractors	An extensive set of data extractors pools and integrates all relevant customer information from a broad range of varying sources and channels.	<ul style="list-style-type: none"> · Quick implementation · Low costs for interfaces and maintenance
Close Integration to Operational CRM	Close integration with operational CRM helps you deploy analytical results and optimize your customer interactions. Prefabricated business scenarios can be used out-of-the-box to support closed-loop marketing, sales, and service.	<ul style="list-style-type: none"> · Improved profitability via intelligent and automated customer interactions
Integrated planning	Embedded into SAP BW, the SAP analytical CRM solution provides a comprehensive planning platform that integrates your plans horizontally with other plans as well as vertically with strategic plans on enterprise level.	<ul style="list-style-type: none"> · Speeds up the planning cycle · Provides prompt reactions to market dynamics
Strong back-end integration	SAP's strong back-end systems consolidate your actual data from a financial perspective and contribute a detailed and multidimensional view of your company's profitability.	<ul style="list-style-type: none"> · Consistent business metrics · Low ownership costs · Built-in data quality · Reliable
Balanced Scorecard approach	The Balanced Scorecard approach connects your strategic goals with your business management systems in marketing, sales, and service.	<ul style="list-style-type: none"> · Accelerates and focuses your strategy implementation
Personalized and role-based portals	Portals provide single point of sign-on and single point of control, getting the right information to the right user at the right time.	<ul style="list-style-type: none"> · Ease of use · Single point of control · Total cost of ownership
Prefabricated business content	Prefabricated business content and templates for business solutions represent the best business practices and can be used as out-of-the-box solutions.	<ul style="list-style-type: none"> · Appreciate best practices and foster competitiveness by quick implementation of individual customer metrics

KEY MARKET TRENDS

Customer relationship management has become a major agenda item for CEOs and CIOs. But in striving for the greatest impact with CRM, many companies have concluded that individual measures and isolated applications stop short of effective CRM. According to META Group, “Enterprises will incrementally construct CRM technology ecosystems integrated across four strategic dimensions – operational/analytical, front/back office, internal/external, and cross-channel” (META Group, Putting Marketing Wheels to the Customer Life Cycle, Research Note ADS 886). The extent to which CRM is extending beyond exclusively front-office issues makes it essential for companies to upgrade to a Web-enabled, integrated platform equipped to meet the challenges of the future. This trend is strengthening clear analytical and strategic needs, shifting CRM away from a departmental initiative and toward an enterprise initiative.

The need for a holistic approach for CRM will become more pronounced as market trends observed by Gartner Group – greater customer expectations, increase in the complexity of customer relationships, and a shift from mass production to mass customizing – come to the fore. The revolution brought about by the Internet is now in full swing. The Internet offers a great deal of yet unexploited potential for interacting with customers and coordinating your intercompany relationships. It is a tremendous marketing opportunity. The penetration of mobile applications and devices will accelerate this trend. Future analytical CRM solutions will be heavily influenced by the following key trends:

- Customer analytics evolving into relationship analytics
- Traditional marketing evolving into real-time marketing
- Analytical CRM gaining in importance for business performance management
- Net market analytics

CUSTOMER ANALYTICS EVOLVES INTO RELATIONSHIP ANALYTICS

The clear trend toward business networks via the externalization of business processes and intercompany collaboration creates an increasing need for analysis capabilities that reach beyond the confines of your company. To meet your customers' needs while improving your profitability, it is necessary to command an overview of the entire value chain, from the

solution through to service. In addition, cooperation beyond company boundaries demands that you share information with your partners and suppliers. This type of cooperation creates a win-win situation for all the links in the supply chain because the competitive advantages surpass those achievable by optimizing individual companies on their own.

From this angle, you must include your suppliers, partners, and employees in your analyses as the customer focus alone is too narrow. This perception has clearly gained greater significance for increasingly interlinking company networks, and you stand to benefit enormously from SAP's foresight in having taken these requirements into account in its CRM architecture from the very beginning. Making common master data, for example, available to business partners represents one of the major prerequisites for expanding customer analytics into enterprise relationship analytics. Combining this with the all-embracing SAP BW and its homogeneous metadata forms an ideal foundation for meeting this challenge.

FROM TRADITIONAL MARKETING TO REAL-TIME MARKETING

As marketing systems advance, they develop from database marketing, pass by traditional campaign management, to reach a new marketing approach that is interactive and addresses the individual needs of your customers. Correspondingly, marketing is shifting away from being a data-driven, outbound, batch process toward becoming real-time, event-driven interactions (META Group, Real-Time Marketing, Research Note ADS 909). The momentous changes in technology enable companies to perform interactive marketing in real-time, canvassing targeted customers with offers and products tailored to their individual needs. In this way, every interaction between the enterprise and a customer can be seized as a marketing opportunity.

The channel-independent repository of analytical results and behavioral models provides an excellent foundation for driving personalized interactions with your customers. Relative to the amount of information that customers give about themselves, Web pages or the customer dialog in your customer interaction center, for example, can be dynamically adapted and personalized to your customers' individual preferences and interests.

Automating this type of marketing calls for intelligent interaction management that dynamically utilizes existing analytical models real-time to pinpoint the optimal marketing interaction.

ANALYTICAL CRM GAINING IN IMPORTANCE FOR BUSINESS PERFORMANCE MANAGEMENT

As CRM is evolving from a departmental to an enterprise initiative, Analytical CRM is receiving more attention from senior executives, who, along with financial managers, are now looking to CRM metrics as a leading indicator of financial performance (Henry Morris, Analytic Application Market Forecast 2000-2004). The integrated Balanced Scorecard solution fully equips companies for these challenges.

With the arrival of more dynamic markets, planning methods in marketing, sales, and service have also entered a period of transition. Planning will shift away from instantaneous and retrospective budgeting tasks toward a rolling and continuous predictive modeling. For example, behavioral patterns witnessed using past data are being used to predict future behavior. The integration with planning and predictive modeling in SAP's solution will undoubtedly gain in significance as awareness of this transition grows.

THE INCREASING IMPORTANCE OF NET MARKET ANALYTICS

Collaborative e-business places high demands on the integration of information from customers, partners, and suppliers. Commerce Web sites, marketplaces, and exchanges will continue to evolve and drive the externalization of business processes. The increasing need for optimizing business processes across the entire supply chain will consequently drive information sharing between partners and between corresponding analytical solutions. Emerging solutions for marketplace analytics will play a greater role in the analytical CRM solutions of tomorrow. The numerous marketplaces that SAP is currently implementing together with its partners are already uncovering new analytical challenges, and these groundbreaking pilot projects allow examples of such collaboration to take shape.

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