Customer Relationship Management
June 2001

A blueprint for customer relationship management in the travel industry

Prepared for IBM Travel and Transportation

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Introduction

"...customers now take the basics for granted and increasingly want a company to desire to help them [and] to treat them in a personal, caring way."

This quote from Lord Marshall, the Chairman of British Airways Plc, is a common sentiment being expressed by the major travel operators around the world.

In the competitive travel industry, customer satisfaction no longer guarantees customer loyalty. Deregulation, increased parity of products, the availability of new and diverse direct distribution channels, industry alliances, and many other factors have combined to force operators in the travel industry to focus on new differentiators in order to maintain current and develop greater marketshare.

In response to this new environment, travel providers are undertaking initiatives centered on identifying, developing and retaining high-value customers, under the overall banner of customer relationship management or CRM.

CRM is the disciplined application of customer information to build customer relationships through:

- *Continually refining insights into customer needs, habits, and economics*
- *Developing targeted and tailored value propositions based on those inputs*
- *Strategically focusing business resources on activities that build long-term customer and economic value.*

This paper introduces the IBM approach to this new set of challenges within the travel industry and describes the solutions blueprint which frames the offerings from IBM in the market.

CRM initiatives

The overall strategic business objective of CRM is to build loyal customer relationships, where companies can anticipate their customers' needs and use information to personalize relationships, providing customers with confidence and trust in their dealings with the organization. Under this overall strategy, CRM translates into a multitude of specific projects or tactics, ranging from introducing new, diverse distribution channels aligned with people's changing lifestyles, to understanding customer value and using this to prioritize marketing and service resources. CRM focuses on three imperatives of customer relationships:

- ***Customer acquisition*** – *Who are the profitable customers and how do we attract them?*
- ***Customer development*** – *How do we deliver what the customer wants, how they want it, when they want it to optimize profits and revenue?*
- ***Customer retention*** – *How do we build and sustain customer loyalty?*

There are many means of achieving these goals, including:

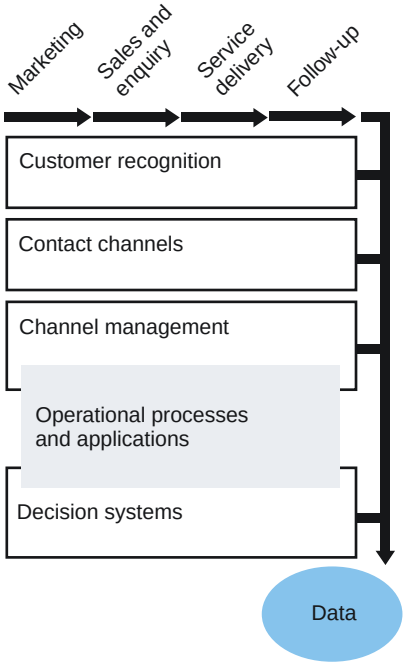
- *Understanding customer value and lifecycle to prioritize marketing and service resources*
- *Using customer information to target promotional offers and cross-selling activities effectively*
- *Using customer information in the design and development of products and services*
- *Recognizing customers as individuals at all customer-contact points*
- *Offering personalized or mass-customized service*
- *Utilizing multiple alternate channels for marketing, sales and service transactions in order to improve service and reduce cost*
- *Increasing the "share of customer" through greater penetration of travel-related products.*

The benefits of implementing effective customer relationship management practices and solutions are dramatic. Contrary to common misconceptions, CRM initiatives can result in reduced costs and increased profits. Loyal customers are typically less sensitive to price and therefore drive yields upwards rather than diminishing them. Marketing to loyal customers is also far more cost-effective than acquiring new ones. Research has shown that identifying and developing new customers is between four and ten times more costly than retaining existing ones. Distribution costs may also fall as distributing and marketing products through the optimal channel mix for the individual will optimize returns compared with promoting and using inappropriate and ineffective means.

CRM does not just mean differentiated service for high-value customers. Personalization, for instance, need not be limited to those customer segments. The availability of Internet channels such as the Web and e-mail reduces the cost of mass customization. Using these channels, travel providers can personalize service for the masses without incurring heavy overhead or developing personal, one-to-one relationships for large numbers of people.

Simulation exercises performed across many industries by Bain & Co.[1] have shown that CRM will be by far the greatest source of competitive advantage in the future; with only a 5% increase in retention resulting in a profit increase of up to 125%.

Figure 1: CRM blueprint.



An integrated, customer-centric approach

The benefits of CRM are unchallenged, but the development of integrated solutions and practices to deliver these advantages requires careful planning and consideration. IBM has therefore developed a blueprint to support the travel industry in moving to a more integrated customer-centric approach.

The blueprint consists of a functional architecture, solution components, a technical framework, and methodology. The overall architectural model for the blueprint is shown in Figure 1.

A number of organizations in the travel sector have already implemented many of these solution components. However, the true benefits of CRM will be realized only with integration and seamless flows of information and process among customer information systems, customer intelligence solutions, and customer access points.

IBM recognizes that the investments required to achieve the ultimate goals of relationship management are considerable in terms of time, solutions, processes and policies. The blueprint is therefore designed to support any number of entry points, allowing operators to position their existing environments within an overall framework to help develop a strategic vision and to prioritize investment to areas where the greatest rewards can be achieved. The three high-level components to the IBM CRM blueprint are customer information, customer intelligence and customer access.

Customer information is the foundation for any CRM initiative, and allows an accurate picture of customer needs and wishes to be built. Typically, this information is a collection of data elements acquired from backend operational systems, such as customer loyalty and reservations systems, and customer contact, complaint and feedback solutions. Information captured falls into the following categories:

- *Demographic profiles*
- *Loyalty membership information*
- *Service preferences*
- *Purchase and travel history*
- *Contact information*
- *Online behavior*

Customer information can then be exploited to provide customer intelligence, which translates raw data into true customer knowledge. It is this intelligence which allows travel companies to personalize operational workflow and begin the process of ongoing dialogue. The customer intelligence component includes such activities as data-driven customer segmentation, lifecycle modelling, prediction and scoring, targeting, and true customer value management. The intelligence layer also embraces the decision systems which influence the behavior of operational transactions according to any combination of customer-related criteria, allowing for operational processes to be modified to become "customer-centric."

The third area, customer access, relates to all customer transactions and "touchpoints." It encompasses selecting the correct mix of inbound channels to allow choice and convenience, and the most appropriate outbound channel to promote penetration of marketing efforts. Customer recognition, service personalization, and the results of any transaction must be consistent and seamless across all automated and assisted channels.

These high-level components can be mapped to a more detailed blueprint for each part of the travel industry.

Relationship management for a major airline or hotel

The architecture shown in Figure 2 applies to a typical large-scale scheduled airline operator or a large hotel chain.

Customer Information

The customer information layer collects customer attributes from any number of operational systems to allow the airline or hotel to develop a customer-focused model of its operations.

Airlines have typically used booking information as the primary entity to track activity, meaning that much of the information in backend systems is keyed by Passenger Name Record, or PNR. However, the PNR presents an incomplete picture, so the construction of a customer-based information warehouse is critical. Typically data may be collected from up to 30 operational systems to produce the complete view required to support effective CRM. This should include the following essential data sources:

- *Reservations system*
- *Departure control system*
- *Frequent flyer program*
- *Revenue accounting*
- *Customer contact system (call-center)*
- *Baggage management*
- *Web site*

A hotel will also collect data from many operational systems to produce a complete view, including:

- *Central reservations system*
- *Property management system*
- *Loyalty program*
- *Back-office systems*
- *Customer contact system (call-center)*
- *Food and beverage systems*
- *Web site*

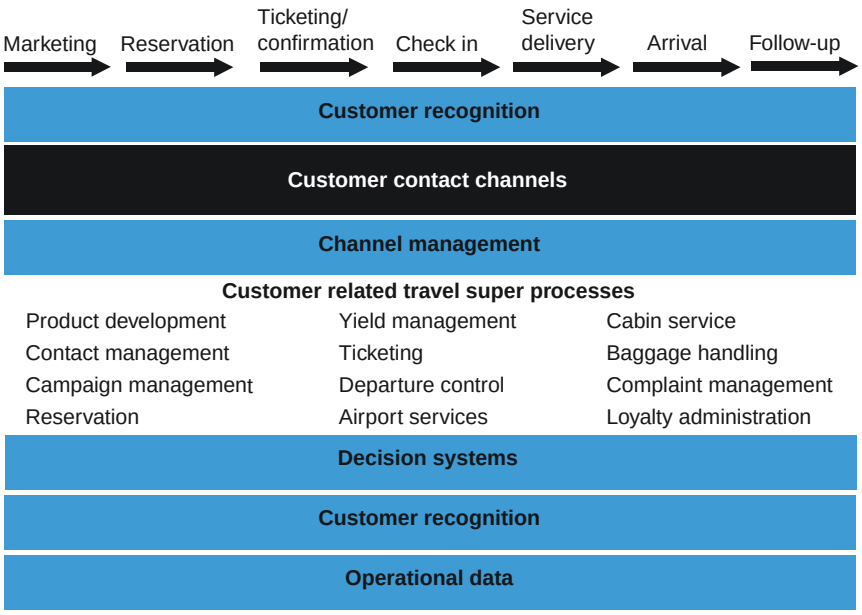


Figure 2: CRM architecture for a major scheduled airline. The architecture for a hotel will be similar, but the super processes will include shuttle services, guest services, food and beverage, and checkout instead of departure control, airport and cabin services, and baggage handling.

Airline check-in example

An airline passenger may check in through one of three contact media – telephone, kiosk, or face-to-face at a check-in desk. Whichever channel is selected, the process will be identical. The passenger will present the necessary information to the agent, kiosk interface or Interactive Voice Response (IVR) system for the booking to be retrieved from the departure control system.

Information from the customer service system and the frequent flyer application has been consolidated into the data warehouse. Business intelligence and data mining tools have categorized the passenger as a "valuable customer" with a predicted high lifetime value. In addition, the customer service system contains a report that the passenger recently travelled on a long-haul sector in a seat with a broken in-flight entertainment system. Extracts from the data warehouse are replicated in an online customer database designed specifically to support the decision systems in realtime.

At the time of check-in the passenger's identity is passed to the decision systems to identify any "special" action which needs to be taken. Due to the status of the passenger and in recognition of the customer services incident, it is decided that the passenger should be upgraded to first class. The decision system will automatically implement the upgrade via the departure control system and generate a prompt to explain why.

At the time of check-in the passenger is automatically upgraded to first class and is given the reason, either verbally by the check-in agent, as a prompt on the kiosk interface, or as a synthesized message generated by the IVR. To complete the customer service loop, a letter is automatically generated afterwards to apologize for the incident and reinforce the action taken.

In a similar way, should the passenger use Italian as their first language, the automatic check-in processes can be personalized to communicate in Italian. A customer-centric approach can be built up around all customer contacts and transactions, not just those in service recovery.

In both cases, the information captured will include the following:

- *Survey results*
- *Booking history*
- *Future bookings*
- *Travel information*
- *Revenue information*
- *Service history*
- *Mileage or loyalty points accrual and redemption*
- *Program membership*
- *Preferences*
- *Demographics*
- *Online habits*

The data is analyzed using industry-specific algorithms to provide the understanding necessary to make decisions and personalize the airline's or hotel's relationship with its customers. The results of this analysis activity will be stored in the information layer.

The analysis can be grouped into three main areas:

- ***Segmentation*** *– Grouping customers according to similar characteristics*
- ***Scoring*** *– Understanding customers' propensity to perform certain actions*
- ***Prediction*** *– Forecasting future customer characteristics*

Decision Systems

The decision systems comprise the following functions:

- *Lifetime value models*
- *Targeting rules for sales and marketing campaigns*
- *Service personalization rules and prompts*
- *Service recovery rules*

These functions will act upon the customer information using predefined criteria to determine the way in which operational transactions should be influenced.

For example, the decision systems may analyze contact histories to identify the most effective channel for targeting certain customers and target customers through the channel with the highest proven success rate. The decision systems may also analyze travel trends to segment those customers most suited to a specific promotion and use these as the target audience for a campaign. Complaint information may be used to instigate service recovery actions by offering additional rewards through the loyalty system, or by upgrading a traveller on their next flight or visit.

The decisions made have one common aim – to treat important customers as individuals by providing personalized, high-quality service.

Customer super processes

Existing customer processes will be modified and enhanced to become "customer-focused" based on the different rules and prompts dynamically derived from the decision systems. The processes in themselves are unlikely to change, but their behavior will alter. Examples may include:

- *Enabling processes for multiple channels*
- *Support for extended operating hours and changed operating environments*
- *Utilizing customer information to introduce priorities, recognition and personalization of service*
- *Integrated collection of customer feedback*

Channel management

The overall architecture operates on the underlying premise that each customer-related process can take place through any combination of contact channels, with consistency of response and experience being supported through active channel management techniques. Channel management will act as the gateway between the physical channel and the operational transaction, controlling the information provided irrespective of whether the channel is a reservations office, Internet booking facility, self-service kiosk, or any other medium.

Customer recognition

All of the systems and processes combine to optimize customer recognition. At all contact points, customers should be seen as individuals. They should receive personalized mailings and personalized greetings at check-in and other assisted contact channels. Their preferences for booking, payment, channel and service will be honored. Online forms should be pre-filled, and personalized messages and offers targeted to specific individuals. Ultimately service recovery actions will reward customers for their value and their continued loyalty.

In many cases the operational transactions will directly process the data held in operational systems using relatively static channels, although there are numerous instances when decision systems will dictate the course of action to be taken.

Hotel marketing example

Marketing may be performed through any combination of channels, using information stored in a customer data warehouse to personalize transactions and select appropriate products to be offered to potential customers.

One specific loyalty program member may have a history of regularly staying in a particular hotel between Monday and Thursday, over a prolonged period. Using advanced analysis techniques, this traveller may be segmented as having a profile typical of someone working on a temporary business assignment, where repetitive behavior is demonstrated over a finite period.

As with many business hotels, the hotel in question is promoting weekend breaks to address the problem of low weekend demand. The campaign management system receives information saying that this traveller is a likely candidate for a weekend break with their spouse. The contact management system is used to discover which communications medium the traveller most often uses to make bookings. This guest usually books through the hotel Web site. Since the traveller is a member of the hotel chain loyalty program and has entered his Internet e-mail address as part of the program registration, the campaign management system sends the traveller details of the offer in the form of a direct e-mail appended to the booking confirmation of the traveller's next business stay.

If the traveller had a history of booking directly with the hotel, then the campaign management system may have selected the hotel outbound call center as the chosen communication media, or may even have sent a text message to his registered mobile telephone or pager.

Additional information in the passenger's profile may result in the offer being communicated in the customer's natural language or even, in cooperation with a partner airline, may include convenient air travel information for the customer's spouse.

Physical architecture

A total CRM architecture of this type need not be implemented as a whole. CRM is a customer-centric approach to business rather than a fixed solutions architecture. In any situation, operators will possess many of the components shown implemented in a variety of forms. This means that there are many alternative architectures available to support the IBM blueprint, and IBM consultants work with many vendors' technologies to design the optimal solution for each client. Figure 3 depicts the generic architecture which will deliver the benefits of CRM through existing operational transactions. The generic architecture can be broken down into two discrete threads; the processing required to capture data from operational systems, building the data warehouse and adding value to that data through business intelligence; and the transaction system processing appropriate to the business function.

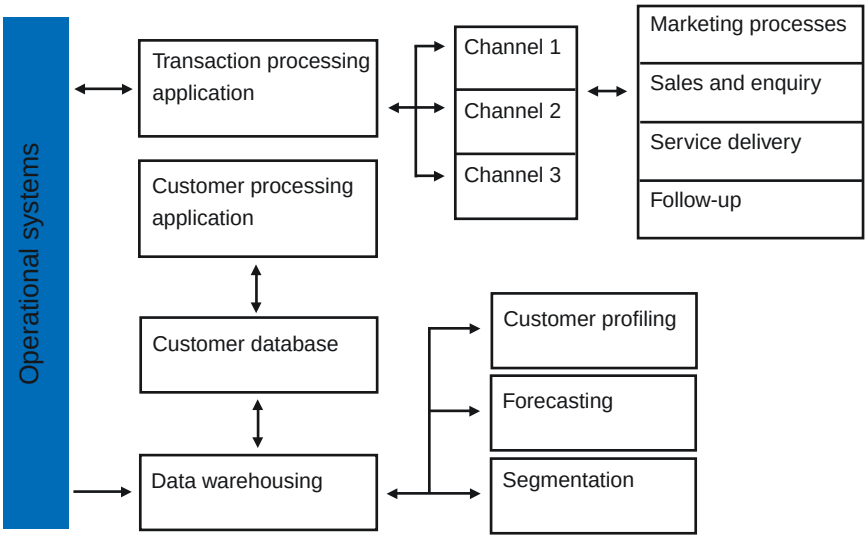


Figure 3: Physical architecture.

An extract of key attributes from the data warehouse will be replicated into an online customer database to provide realtime access to customer information for rapid decision making.

The operational transaction processing and the systems and channels which are involved will depend upon the process being supported. However, irrespective of the transactions being addressed, all channels should be coordinated by a common framework to establish consistency of experience, conduct and results.

Implementation of the decision layer will also depend upon the nature of the business process being handled. Direct marketing processes may use a campaign management tool to provide this function, whereas other service recovery processes may use a series of triggers and stored procedures in the customer database.

Methodology

IBM approaches the specification, design and implementation of CRM solutions using a specific methodology, which has been successful in numerous engagements. Figure 4 provides an overview of the methodology.

The methodology consists of a set of activities, tasks and deliverables designed to take business opportunities and evolve them into solutions that meet or even exceed the users' expectations. The sequence of these activities and tasks represents a logical flow of work aimed at producing tangible, short-term deliverables.

An overall CRM solution is usually composed of several, interlocked applications. The method is designed so that functionality may be delivered in an incremental way, as the business requires, rather then waiting for all the solution's components to be analyzed and delivered together. Each successive iteration capitalizes on the investments made earlier, and thus progressively reduces the effort needed to deliver later components.

All engagements normally begin with a business discovery phase, to promote an understanding of the current solutions environment and to specify clearly the business problems which need to be addressed. The result of this is designed to be a framework model based upon the IBM solutions blueprint, which will position the customer's existing solution(s) as part of an overall CRM vision. If appropriate, the business requirements prototyping phase can be used, as this is often the most effective way of capturing user requirements.

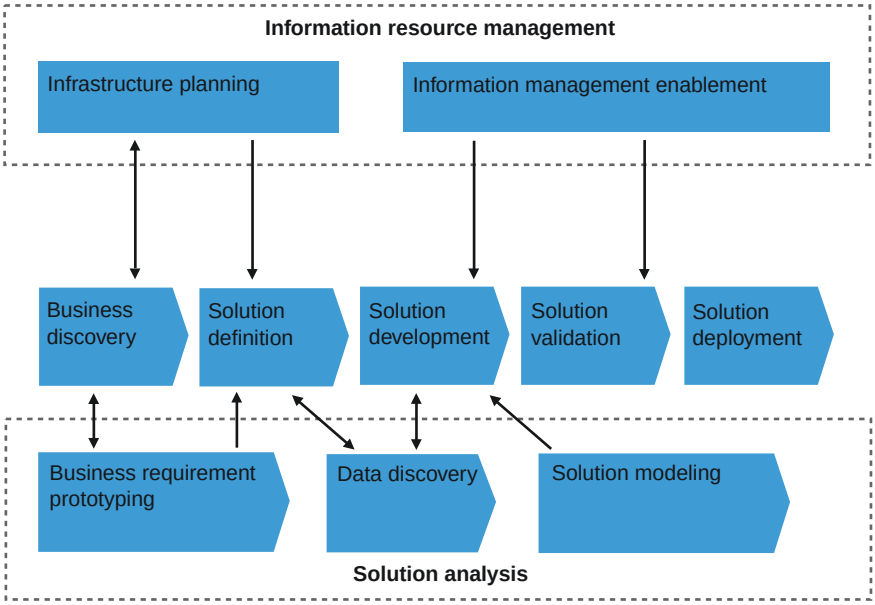


Figure 4: CRM deployment methodology.

When the solution requirements are confirmed, the Solution Definition phase can commence. This focuses on defining how the business requirements will be fulfilled, identifying preexisting components to be used, areas of new development required, data relationships, and so on. This is complemented by a data discovery phase, during which the data to support the information requirements will be mapped and modelled.

Following the definition of the solution, its realization can start. This comprises the development, validation and deployment phases, which are designed to ensure that a solution meeting the agreed business requirements is delivered as planned. The development phase may be complemented by iterations of the solution modelling phase to synthesize the results of business discovery, solution definition, and data discovery activities and to develop a model of the technical solution that addresses the client's business requirements.

About IBM Travel and Transportation

The IBM Travel and Transportation Industry Solutions Unit provides a broad range of products, services and integrated solutions to the travel industry worldwide, including airlines, global distribution systems, hotels, car rental, tour operators, travel agents, cruise lines, and rail operators.

Directly and in partnership with key industry solution providers, IBM develops, markets and supports industry-specific solutions, products and services. This includes key IBM products, technologies and services to enable reservation and property management systems; electronic ticketing; self-service devices such as check-in kiosks; and a range of e-business applications based on Internet technologies.

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[1] Reicheld, F. *The Loyalty Effect: The Hidden Force Behind Growth, Profits and Lasting Value*. Harvard Business School Press, 1996.

Further Reading

This paper is designed to provide a high-level description of IBM's approach to CRM within the travel industry. The following lists important works which address the overall issue of acquiring, developing and retaining loyal customers:

Gambel P., Stone M., Barnes B. and Woodcock N. *Up Close and Personal; Customer Relationship Marketing at Work*. Kogan Page, 2000.

Thompson H. *The Customer-Centered Enterprise*. McGraw-Hill, 1999.

Peppers D., Roger M. *One to One B2B: Customer Development Strategies for the Business-to-Business World*. Doubleday, 2001.

Seybold P. *The Customer Revolution*. Crown Publishing, 2001.

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