

## Featured Articles

## Collaborative Creation with Customers of Smart Branch Solution for Banks

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***OVERVIEW:** Along with the growth of “Internet finance,” the banking industry is under pressure from the increasing pace at which the industry is opening up and interest rates are being deregulated. Banks have come to place an emphasis on using business innovation to improve customer service and profitability. Working with partners in the finance sector in China, Hitachi has developed a smart branch solution for banks through joint innovation with its customers in the industry. The solution utilizes branch design and an IT solution to provide self-service tools, security plans, and precision marketing plans. In addition to improving the bank’s brand image, the efficiency of branch (outlet) operation, and marketing, these features also increase customer satisfaction.*

## INTRODUCTION

THERE has been rapid growth in Internet finance in recent years, with competition among private-sector banks in the traditional Chinese banking sector becoming more intense. The gathering pace of reforms to financial supervision and growing links to the outside world are forcing banks and other financial institutions to enter into partnerships. Banks are being forced to revise their past business model of providing branches and instead take the initiative in seeking to gain market share in the form of “peddler” services. They have also come to emphasize the use of business innovation to improve customer service and profitability.

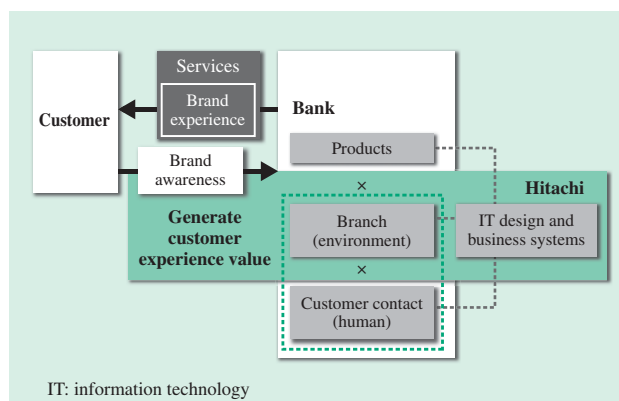
Working with partners in the finance sector in China, Hitachi has developed a smart branch solution for banks through joint innovation with its customers in the industry. The solution utilizes branch design and an IT solution to provide self-service facilities, security plans, and precision marketing plans. These increase customer satisfaction by making branches function more efficiently and improving marketing. Hitachi is supplying the solution to its customers in the Chinese banking industry and working on further development of new functions to satisfy customer needs through collaborative creation (see Fig. 1).

This sections below look first at the issues facing the Chinese banking industry, then at the use of collaborative creation with customers to overcome

them and an analysis of core technology. The final section considers plans for the future.

## CHALLENGES FACING BRANCHES

Bank branches are currently subject to major business pressures, with the biggest difference from the traditional branch model being that new branches place a greater emphasis on improving customer satisfaction and are being called on to switch from a “transaction-type” model to one of self-directed marketing. The main challenges to achieving this are described below.



*Fig. 1—Concept behind Smart Branch Solution for Banks. The solution improves the customer experience and creates new value by combining branch design and an IT solution to build new smart branches.*

## Business Transformation for Better Marketing

Most traditional bank branches are passive and functional, and along with the spread of practices such as mobile and Internet banking, the functional aspects of branch operation are being incrementally replaced. Accordingly, self-directed marketing of the financial products offered by banks is one of the major features of this branch transformation.

## Eliminating Branch Efficiency Bottlenecks

The way most traditional bank branches operate is to have the bulk of transactions take place over the counter, creating a bottleneck due to problems that include complex forms to be filled out and long waiting times for customers at branches in busy business areas. While attempts to improve the situation have included management practices or new equipment, these have failed to satisfy the need for things like encouraging marketing or making efficiency improvements.

## Extending Branch Coverage

User behavior is changing along with the emergence of new Internet models such as electronic commerce (EC) and online-to-offline (O2O). The inability of traditional branches to satisfy various user needs due to their only providing counter services for eight hours a day means that they need also to provide self-service with longer opening hours. In spatial terms, it is not possible to satisfy customer needs simply by building branches and waiting for the customers to come. To overcome this, the “peddler” model (of improving marketing by having customer managers cover a wide area of the community) needs to become a major policy.

## HOW TO GO ABOUT COLLABORATIVE CREATION WITH CUSTOMERS

To overcome the business pressures on the banking industry, Hitachi uses collaborative creation with customers to deliver innovations through close cooperation with its customers and other partners (see Fig. 2).

## Winning Customers

Hitachi has established close collaborative relationships with Chinese partners in finance and IT based on its automated teller machine (ATM) business platform. A joint in-depth investigation into customer needs in collaboration with local operations was undertaken in the early stages of solution development. This started

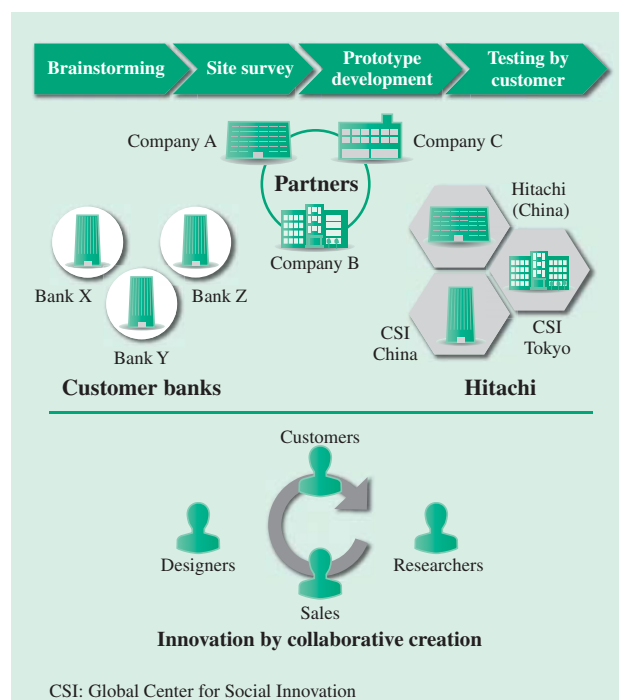


Fig. 2—Innovation through Collaborative Creation with Customers.

Researchers work with designers, sales staff, and customers to uncover needs, then develop a prototype and trial it at the customer site.

with financial equipment and identified what it is that customers want from smart branches. To respond promptly to customer needs, Hitachi sees financial solutions as a new direction for customer collaborative creation and it has established the infrastructure for its solution business through internal collaboration.

## Proposal-based Joint Innovations Involving Different Perspectives and Roles

Solution development by Hitachi has involved engaging in a series of joint innovations with its customers in the banking industry (customer collaborative creation).

### (1) Brainstorming with experts

Teams made up of designers, technical support staff, researchers, and business managers from Hitachi have undertaken frequent brainstorming sessions with customer banks, including presenting depictions of future designs, and determining the overall goals that customers have for the construction of smart branches in order to offer opinions and proposals.

### (2) Multifaceted site surveys

The site surveys included not only visits to branches and observation of existing business processes, but also visits to other banks and similar

service facilities. They reviewed things like current operational bottlenecks and customary user behavior and proposed ideas for how best to go about branch and IT design.

### (3) Early prototype development

This involved combining the best aspects of the technologies they had built up based on customer feedback and business needs. The plan concepts were clarified by utilizing visual effects, such as the design of branch functional diagrams and equipment layout plans, and the early development of models for the customer queuing assistant system, precision marketing support system, and so on.

### (4) Trials at customer sites

The prototype systems were deployed at a number of branches so that users could trial the IT systems and provide feedback. Three-dimensional simulation was used for branch designs to give customers a sense of how the changes to branches would work.

### (5) Solution development and deployment

The development group developed a solution in accordance with the customer needs based on the post-testing prototype and technology, and system deployment and handover were completed with assistance from local partners. The aim is to supply the solution to a large number of banks. Hitachi currently supplies the smart branch solution to banks, including large banks in China.

## Summary of Work on Collaborative Creation with Customers

In going about collaborative creation with customers, Hitachi invariably contributes in a variety of roles

and takes the initiative in considering matters from a variety of perspectives to uncover the latent needs of the customer as it develops the prototype system and core technology. The initial concept and model system are revised based on customer trials, finally producing and deploying a systematic solution. Along with supporting problem solving by the customer, Hitachi gains their trust by understanding the needs of Chinese customers in regard to schedules and the future direction of the project, and seeking actively to align concept and rhythm.

## OVERVIEW OF SMART BRANCH SOLUTION

Hitachi's smart branch solution for banks has its origins in the experience of the customer and reforms to banking practices, and it has earned a good reputation for both societal and economic benefits, transforming branches from a "transaction-type" model to one of self-directed marketing through innovation and optimization of services, marketing, branch design, and IT (see Fig. 3).

### Branch Design

Having built up experience in branch design at banks in Japan, Hitachi focused on the specific needs of Chinese customers to conduct surveys of bank branches, including those of large Chinese banks, and of past smart branch projects, coming up with the idea of smart branches being places that maximize the value of customer experiences. It also established its core concepts for branch design (see Fig. 4).

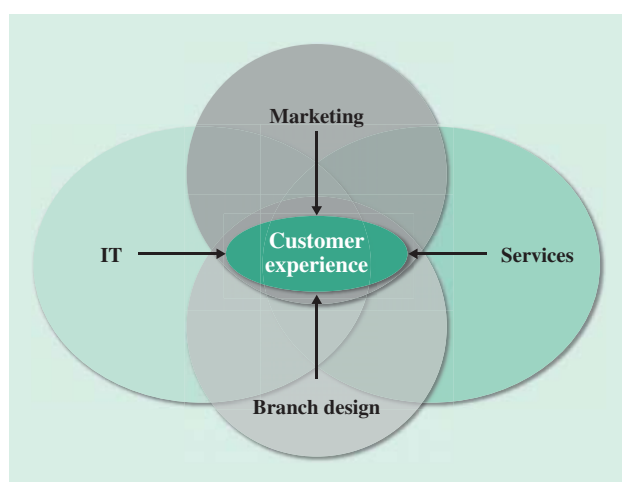


Fig. 3—Aspects of Smart Branch Solution.  
The solution combines branch design, IT, services, and marketing to improve customer experiences as far as possible.

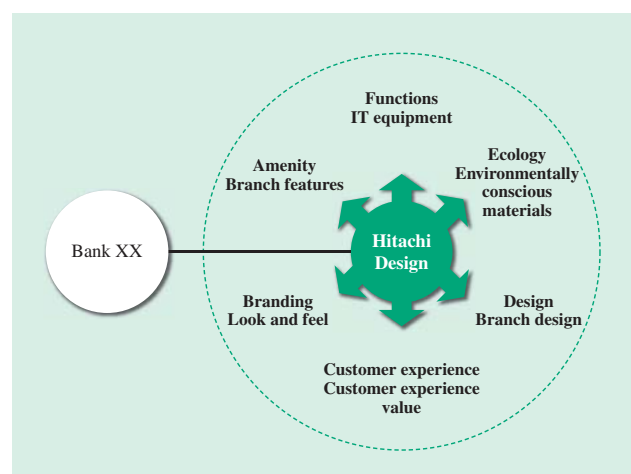


Fig. 4—Core Concepts of Branch Design.  
Hitachi's design concept considers a variety of elements, including a branch features, brand image, customer experience, design environment, and functions.

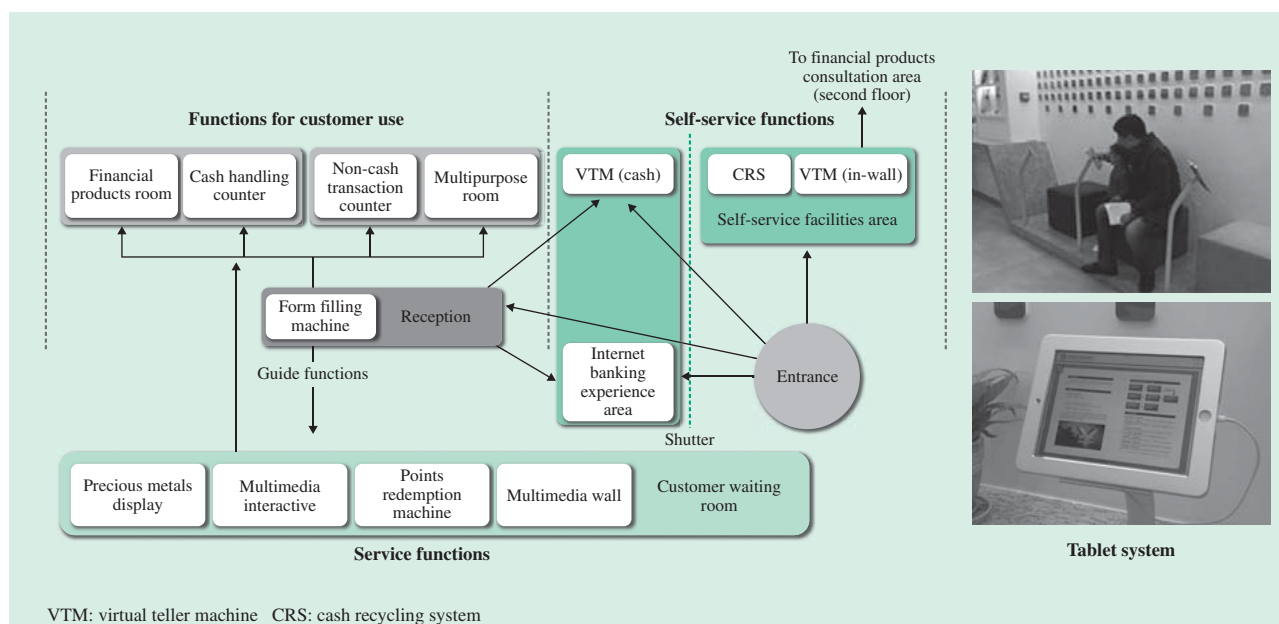


Fig. 5—IT Solution Concept and Benefits of Installation.

The solution improves operational efficiency and the customer experience by adopting the right IT equipment and solutions for the function.

These core concepts are expressed by the following measures.

- (1) Establish brand image as a service industry
  - (a) Strengthen image differentiation between bank and other companies.
  - (b) Make greater use of a distinctive brand color and represent financial services as part of a specific design.
  - (c) Customize services in accordance with the specific needs of users and tailor marketing to users.
- (2) Treat services for users as the basis for compartmentalizing space and designing traffic flow
  - (a) Focus on the current situation in the branch and design traffic flows that make sense to both users and staff so that branches are easy to navigate
  - (b) Improve ease of use through the rational compartmentalization of space and highly efficient business processes
  - (c) Provide protection for privacy in accordance with user needs
  - (d) Encourage customers to visit by improving visual transparency. Make branches places that people feel comfortable entering and visiting
- (3) Satisfy customer needs through a range of routes
  - (a) Combine design elements and IT with convenient information transmission
  - (b) Introduce new equipment and satisfy customer needs in various different ways by establishing a range of routes

## IT Solution

The design concept established for the IT solution involves being based on the new features and operational needs of smart branches, being secure and controlled, offering highly efficient self-service, being self-directed and accurate, and covering a wide range of times and places (see Fig. 5).

### (1) Highly efficient self-service

This means installing a number of facilities for self-service banking to reduce the over-the-counter workload. The current design calls for installing Hitachi ATMs, cash recycling systems (CRSs), and virtual teller machines (VTMs) with banknote recognition modules to significantly increase banking efficiency and free up staff for self-directed marketing by automating 90% or more of over-the-counter cash handling.

### (2) Secure design

To improve the security of staff work areas, financial product (investment product) areas, and cash handling areas, the smart branch solution uses Hitachi finger vein authentication technology to identify individuals.

### (3) Precision marketing system

The smart branch solution also includes a data mining platform to improve marketing effectiveness and the ability of staff to identify customers by themselves. By linking this platform with the queuing system and customer relationship management (CRM) system, this can calculate customer preferences

for financial products through the comprehensive analysis of data such as their purchase histories. This can improve marketing at the branch by notifying the lobby manager at an appropriate time so that products can be recommended to customers that match their preferences.

#### (4) Mobile solution

To improve branch coverage and the coordination of work at the branch, the smart branch solution provides smart tablets and a suite of applications. The tablets enable the lobby manager and customer managers to be kept informed of the latent needs of customers, and can provide functions such as for branch management or for guiding them through procedures or products. The actual functions provided are as follows (see Table 1).

##### (a) Financial product inquiry system

This provides advice on financial products based on the customer's circumstances.

##### (b) Product information

This helps give customers a broad understanding of bank products.

##### (c) Procedure information

This uses video to explain procedures to customers

##### (d) Call up waiting customers

Provides realtime information on the place of customers in the queue.

Customer managers can use the tablet to provide a traveling banking service to the community to expand branch coverage and improve the efficiency of banking.

## PRECISION MARKETING TECHNOLOGY

Against a background of branches designed for marketing, this involves utilizing the highly efficient integration of data banks to dig deeply into the latent

TABLE 1. Applications for Branch Tablets

*Applications are available for a variety of functions for the lobby manager, financial products sales staff, and customers.*

	Lobby manager's tablet	Financial products manager's tablet	Customer tablet
Precision marketing	○	○	
Financial product inquiry	○	○	○
Information on products	○	○	○
Information on procedures	○	○	○
Call up waiting customers	○	○	○
Card procedures			○
Fill out forms in advance			○
Branch management	○		

needs of customers to build up information based on things like their core attributes and life stages, demographics, and activity histories (see Fig. 6).

Using data mining and quantitative models, this technology is used to support precision and cross marketing by customer managers by identifying customer needs and the type of tailored financial products that they will be interested in and can be sold. Through system implementation, it encourages the effective use of data mining to support precision marketing while also making the collection of customer information more efficient and convenient.

The implementation of the smart branch precision marketing system by Hitachi is based on the principle of moving ahead simultaneously on advanced capabilities, openness, high efficiency, and security, with adequate study having been undertaken from considerations of overall technology configuration and middleware selection.

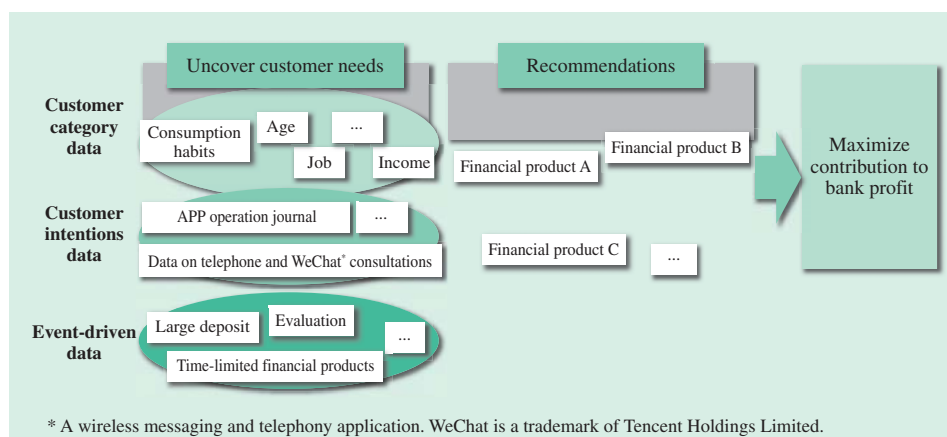


Fig. 6—Data Resources for Precision Marketing System. Information such as basic customer attributes and activity records is analyzed to recommend financial products to customers. This helps improve bank profitability as well as marketing success rate.



## Precision Marketing Calculation Techniques for Bank Branches

Hitachi has adopted a mixed model for the mining techniques to use at smart branches (event-driven model and user profile model).

### (1) Event-driven model

This uses existing CRM data as a basis and specifies different rules for each event in response to user event data. Examples include recommending financial products to users at appropriate timings such as when they make a high-value deposit, have an existing financial product mature, or have their rating upgraded.

### (2) User profile model

A user profile model is built by combining existing CRM data (customer attributes and account transactions) with operation intention data for various customer devices (such as APP). The user profile is utilized for joint filtering recommendations and to make recommendations by performing a coupled analysis across images and products.

The system incorporates a variety of recommendation parameters into a range of models and then performs a

weighting calculation to obtain the final weighting for a recommendation. In this way, marketing can better satisfy banks' expectations for work.

## CONCLUSIONS

Hitachi has utilized collaborative creation with customers to develop a smart branch solution that suits the needs of Chinese customers. The solution delivers the following main benefits.

- (1) Enhanced brand image and better marketing through precision marketing
- (2) More efficient branch operation through the rational compartmentalization of areas by function and the provision of self-service facilities
- (3) Use of tablet and other smart applications to expand the coverage area of a branch

The solution draws on strengths in design, development, software, and hardware to demonstrate Hitachi's core technologies for data processing. Hitachi believes that this comprehensive solution that is in tune with trends in the mobile Internet will serve as a template for future smart branches.

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