

# Exploiting Customer Relationship Management for Taiwan's Banking Industry

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## ABSTRACT

Customer relationship management (CRM) is not only one of the most important IT applications, but is also the key strategy to electronic commerce (EC) success. Some investigations in Taiwan show that CRM is the issue that enterprises care about the most, but are short of knowledge and professional support. Most CRM projects are highly fragmented and lack customer focus, and then they fail to meet their objectives. Embracing CRM requires architecture to conduct changes in many aspects. The banking industry is one of best beneficiaries of the CRM explosion in all sectors, but studies seldom explore it from an industry-specific perspective with action plans. This paper employs a four-strategic context to review the best practices of CRM in leading banks to puzzle out the CRM architecture, including contact channel management, enterprise-wide management on integrating and streamlining front-office and back-office systems, customer data management on implementing database and customer analysis, and information technology management. Taiwan's banking industry can follow it to respond to the revealed internal and external challenges in this study, as well as to develop and examine its own CRM initiatives. Hopefully, this study also benefits future researches into CRM readiness.

**Keywords:** Customer Relationship Management, EC, Taiwan's Banking Industry, Strategic Management

## 1. Value Discipline on Customer Relationship

The performance of Taiwan's banking industry was worse than before in 2002, with most having the highest ROE and EPS being foreign banks. In 2003 and 2004, the island's economic condition was better than previous years, and foreign banks still held the lead (Taiwan's Banking Industry, 2004, 2005). A survey has shown that their strength is in CRM (customer relationship management) related activities, including front-office and back-office automation and integration, customer segmentation, and service (Shive, 2004, 2005). A study in the U.S. banking industry also reported that those banks which develop a customer-centric strategy get higher profits (Lamparello, 2000). Banks maintain substantial competitiveness for their good CRM (Gandy, 2000; Melnick, Nayyar, Pinedo, & Seshadri, 2000), but in Taiwan only 11% of firms in the financial industry adopted CRM in 2003 (NICI, 2004: 198).

Electronic commerce (EC) is breaking the traditional concept and rules of operations, transforming the way enterprises do business and making them confront a new competitive edge. Only organizations which can recognize the power of customers

and satisfy their needs will move toward sustainability (Murphy, 2000: 19-28; Power at last, 2005). Before all this, the core competitive advantage was on the internal part of the enterprise and then the relationship with suppliers and collaborators was added. However, for the Internet age the aforementioned cannot be a success without CRM. Customer relationship should be viewed as a valuable asset and be managed well in order to switch the focus from the view of marketing into the development of “customer relationship value” (Wayland & Cole, 1997). Companies establish their sustaining competitive advantage by creating customer intimacy (Peppers & Rogers, 1993; Treacy & Wiersema, 1993).

Instead of treating customers as exploitable sources of income, businesses are now viewing them as long-term assets to be nurtured through CRM. CRM is both a business and information technology (IT) discipline that uses information systems to integrate all of the business processes surrounding a firm’s interactions with its customers in sales, marketing, and service (Laudon & Laudon, 2004: 62-63). It seeks to understand customers (for example, who are they, what do they do, and what do they like?) from a multifaceted perspective, and it is a source of competitive differentiation (Kalakota & Robinson, 1999: 109-135). It is an integration framework and business strategy which establishes and integrates contact channels with IT applications, provides customized services by analyzing customer’s data, makes target customers connect easily and pleasurably with companies, and then makes they become one of the participants in the value creation of the enterprise.

Financial service can be characterized by the large number of customers and the private, fast and personal needs of them, such that the way a firm delivers them is relevant to its EC development (Seybold & Marshak, 1998: 193-213). With this point, how banks initiate their services, satisfy customers’ needs, strengthen the relationship with customers, and develop their CRM-oriented EC are the sources of competitive advantage (Lamparello, 2000). Banking industries in the United States and Europe in general are ahead in responding to opportunities provided by the Internet and best practices show that they are beginning to come to fruition from customer-centric EC. By contrast, domestic banks in Taiwan are now grappling with some perceptual issues and are not in the face of worldwide competition yet; moreover, lacking sophisticated applications and professional support, their CRM adoption is progressing at a slower pace compared with foreign banks (NICI, 2004: 198; Liu, 2003). How to develop the Taiwan’s own unique and sustainable customer intimacy is an important issue in the era of EC and CRM.

Most CRM projects are highly fragmented, lack customer focus, and then fail to meet their objectives (McDonnell, 2001; Brown, 2000: 3-5). This paper is an exploratory study by employing CRM and EC literature to review best practices in the banking industry and then to puzzle out the strategic architecture for further study and development of CRM action plans.

## **2. The Age of EC and CRM**

EC is a business methodology with the buying and selling of information, products, and services via computer networks (Kalakota & Whinston, 1997). It involves digital or electronic contacts or activities. Customer intimacy is an essential strategy on EC and CRM is the key discipline of it (Reynolds: 2; Tracy & Wiersema, 1997: chapter 8). The concept of CRM was derived from “contact management” in the 1980s about collecting all the information when customers come in contact with companies. Lacking a widely accepted definition (Knox, Maklan, Peppard, & Ryals, 2003: 1), CRM is the

business strategy, process, and IT that enable a company to optimize revenue and increase value through understanding and satisfying the individual customer's needs. Local, small-town stores provide a CRM-like service, anticipating the needs of customers based on the intimate knowledge of their circumstances and preferences, and treating different customers in different ways.

Due to advances of IT today, the ideals of a one-to-one relationship and mass customization are now possible, and they enable merchants to provide customized product or services and to increase their commercial activities. However, there are many definitions of CRM as there are firms offering services to implement it (Molineux, 2002: chap. 2) and this has confounded the business since its inception. Hence, constructing a business' own CRM architecture and functionality is fundamental.

Some of the benefits that a company can attain from CRM are shown in improved customer retention, more cross-selling and up-selling, improved campaign management, sharper sales targeting, higher sales configuring, better channel sizing, and reduced support costs (Reynolds: 68). In many industries, CRM is not only one of the most important applications of EC, but also the key success driver (Badgett, Ballou, & LaValle, 2004; Bielski, 2000; Knox et al., 2003: 3; Romano, 2003; "The cart pulling", 2005).

## **2.1 Customer-centric Development of EC**

EC in its initial stages emphasized putting the rough information of a product on a website — called "brochure-ware". A few years ago, EC stressed on the setting of a transactional function to increase business transactions and customers could have a simple and easy way to deal with a company, but face-to-face connections between companies and customers were decreased, too. Nowadays, EC is not just a strategic operation, but also a necessary platform on operations. Businesses should focus on customers and highlight the instantaneous interaction relationship with customers to satisfy the specific needs of the individual (Seybold & Marshak, 1998: 8-18). Moving from efficiency to effectiveness represents a big shift in business emphasis and is one of the drivers behind the surge of attention and investment in CRM.

## **2.2 CRM and Information Technology**

CRM puts emphasis on the improvement of product quality and marketing function, and then stresses on cross-selling and providing product or services quickly and precisely. Well-known IT applications are the call center and sales force automation in this extent. Business sales programs and effectiveness, campaign management, channel integration and optimization, product optimization and management, loyalty and retention, cost reduction, customer service, and after-sales support now fall under the IT applications in the CRM deployment. Almost 50% of responding companies estimate that their CRM initiate(s) will reach breakeven in one to three years in a global study conducted by IBM (Badgett et al., 2004).

IT strengthens the function of CRM and makes it be the basis for EC's success. Today, CRM-related IT with its operational, analytical, and collaborative support systems complements the processes involved in all aspects of customer-facing interactions. It integrates marketing, customer services, and diverse contact channels and provides customized products or services by modeling a customer's behavior so as to maximize the value of the enterprise. IT on the Internet has not only provided a completely new communications channel, but has forever changed the role and function of customer interaction. Seeing that EC has such a great impact on CRM, professionals have created a new term: eCRM (electronic CRM) or ECCRM (electronic commerce CRM). The concept of these new words and CRM are similar, but stress the impact of

IT in CRM.

### **2.3 CRM to EC Success**

CRM is taken seriously, because the cost of acquiring a new customer is six times more than keeping an old one, such that the longer the customer is retained, the higher the profits are that the company earns (Dyche, 2002: 4; Reichheld & Sasser, 1990). A profit impact of a 5% increase in customer retention can have a significantly bearing from 25% to 55% in industries (Reynolds, 2002: 15; Tynan, 2000). This has motivated businesses to try to maximize their existing customer relationships. CRM is the driving force that enables the delineation of and increase in customer value, and the correct discipline by which to motivate valuable customers to remain loyal. It is about more than simply managing customers and monitoring their behavior. It has the potential to change a customer's relationship with a company and increase revenue in the bargain (Dyche, 2002: 4). By contrast, domestic businesses (including banks) in Taiwan are still struggling with some perceptual issues of CRM (Chen et al., 2001; Liu, 2003).

### **2.4 Banking Industry and CRM**

All services in the banking industry can be managed theoretically by IT applications on the Internet. Instead of a physical offer, most finance merchandise is delivered in the digital form (Gartner Group, 2000). In terms of EC development, all financial goods, flow path of deals, and transportation can be implemented.

Many studies have reported that banks which develop a customer-centric strategy get higher profits (Formant, 2000; Lamparello, 2000; Melnick et al., 2000). Starting from the early service of ATMs, the banking industry then began to offer telephone banking, network banking, customer care centers, etc., which have gradually increased the investment of front-office systems, which itself is directly related with customers. It is apparent that the key point of IT applications has been transferred to the customer side, because the development target of EC is now all customer-oriented (Gandy, 2000). In the near future, a customer's requirement will lead the direction of every kind of financial channel and service.

## **3. Exploiting Customer Relationship Management**

A strategy means the action program which enterprises adopt in order to reach a goal. The CRM strategy for the banking industry in this study includes the action or plan for adopting EC to facilitate customers to contact with businesses more conveniently and intimately. One survey among the biggest 2,000 enterprises in the world reveals that most of them think very highly of CRM, but lack correct knowledge, especially a corporate-wide strategy (Knox et al., 2003: chapter 1; Meta Group, 2000, as cited in Brown, 2000: 3-5).

Some investigations in Taiwan also show that CRM is the issue that enterprises care about the most; but they are short of knowledge and professional support (Chen et al., 2001). The concept that customer relationship is the foundation toward sustainability has been a consensus for a long time. Using the Internet and applying related IT strategies gradually carry out the ideal of mass customization and one-to-one relationship by best practices.

Research about CRM is at the infant stage in the literature (Romano & Fjermestad, 2003). Studies are from the aspects of function, operation, technology, case studies, initiative, and strategy (Brwon, 2000; Dyche, 2001: xix; Freeland, 2003; Reynolds, 2002; Rosenoer, Armstrong, & Gates, 1999; SCN Education, 2001: 23-26; Swift, 2000), but they seldom explore it from an industry-specific perspective and provide action

plans.

### **3.1 Exploring CRM Context**

Knox et al. (2003: 19) addressed that CRM is a strategic approach designed to improve stakeholder value through developing appropriate relationships with key customers and customer segments. CRM unites the potential of IT and relationship marketing to deliver profitable, long-term relationships. It involves an enterprise-wide marketing strategy, technology platform, and relationship management system (Lamparello, 2000). Peppard (2000) studied the CRM and EC issues of financial institutions from the enterprise-wide perspective and emphasized the importance of the integration of contact channels and front-office and back-office systems. Brown (2000) also mentioned the importance of the integration of processes, techniques, organization, and 3W (web, work flow management, and data warehousing).

Table 1 highlights that channel management, a customer-centric strategy with streamlined processes, and IT are the success drivers for CRM. If an organization wants to let all functions connect tightly and run smoothly, the CRM requires five types of integration, including customer content, customer contact information, end-to-end business processes, the extended enterprise or partners, and front-office and back-office systems (Kolakota & Robinson, 1999: 122). Melnick et al. (2000: chapter 1) stressed further that the value created in finance is from the processes and the interactive connection of the customer-centric strategy, the service processes, and the application systems (transactions analysis in customer loyalty, customer life-long value, etc.).

### **3.2 CRM Initiatives**

CRM starts at contacting customer through contact channels (or media) to provide goods or services, which is the content of “contact channel management” in this study. An enterprise-wide database then collects and integrates the data, i.e., “customer data management,” from the front-office system (data of customer activities with the channel) and the back-office system (data of the internal part in the enterprise and the external part with collaboration). The enterprise can analyze its situation and make its strategy precisely with data mining from the database.

The activities of contact channel management or customer data management should be guided with the strategy of being customer-centric in order to integrate the systems between front-office and back-office, to make use of data from the customer, and to convert the data into the meaningful information for improving customer relationships. These actions that involve the enterprise-wide perspective and re-engineering of business processes are in the content of “enterprise-wide management.” All the three contents above are based on a fourth content, “IT management,” which enables the activities in the other contents to be efficient. Therefore, the contents of CRM development should be included as follows.

#### **3.2.1 Contact channel management**

EC represents a new business channel for reaching and serving customers. Every contact between a bank and its customer is a chance for the business to learn more about the customer and to deepen the relationship between the two. Many companies fail to provide consistently high standards of service across different contact channels. The quality of a company’s service is only as good as the weakest link in its multi-channel contact service mix, and one bad experience at any of these transaction points could scupper the whole relationship. Banks contact customer with the activities of selling and

providing services and all of these activities are recorded as customer data from the front-office system. These data are transferred into the database of the back-office system for further integration. This management can thus provide a decision support system to select the best market access on suitability, distribution structure, and integration of contact channels (Knox et al., 2003: 26-29; Pritchard & Cantor, 2000).

Table 1. CRM Context

Professional	CRM Development
Brown (2000)	<ul style="list-style-type: none"> <li>(1) Customer strategy: Identifying the target customers and their key requirements</li> <li>(2) Products and marketing channels: The coordination of customers, goods, and channels</li> <li>(3) Infrastructure construction: The integration of processes, techniques, and organization</li> </ul>
Knox et al. (2003)	<p>A cross-functional activity:</p> <ul style="list-style-type: none"> <li>(1) Strategic development: Business strategy and customer strategy</li> <li>(2) Value creation: The value the customer receives, the value the organization receives, and the customer retention and its economics</li> <li>(3) Channel and media integration: Channel and media suitability, channel and media structure, and multi-channel and multi-media integration</li> <li>(4) Information management: Data repository, IT systems, and front-office and back-office applications</li> <li>(5) Performance assessment: Shareholder results, cost reduction, and performance monitoring</li> </ul>
Lamparello (2000)	<ul style="list-style-type: none"> <li>(1) Enterprise-wide marketing strategy: Producing the goods with high profit and retaining the targeted customers</li> <li>(2) Technology platform: The integration of various channels</li> <li>(3) Relationship management system: Providing differentiated services upon different customers</li> </ul>
Peppard (2000)	<ul style="list-style-type: none"> <li>(1) Relationships: Building on service excellence, value, and convenience</li> <li>(2) Management of the total enterprise: Total front-office and back-office process integration</li> <li>(3) Channel management: Enhancing integration, interaction and friendliness of contact channels</li> <li>(4) Integration: Integrating business activities by IT</li> </ul>
Reynolds (2002)	<ul style="list-style-type: none"> <li>(1) Strategy and culture: A customer-centric business strategy by recognizing customers as part of a product/service delivery continuum</li> <li>(2) Process: Delivering customer-centric functionality efficiently</li> <li>(3) Technology: Operational (front-office), analytical (back-office), and collaborative (cross-business) tools for CRM</li> </ul>

### 3.2.2 Enterprise-wide management

A successful, useful, and profitable CRM initiative always starts with a business strategy that can serve to drive change, including customer-centric culture, within the company. CRM is essential when a key strategic thrust of a business is customer intimacy. A customer's needs and preferences are available to anyone in the business working at the customer interface, and a customer is treated consistently regardless of which channel. Everyone in the company can improve the behavior, satisfaction, and profitability of the customer. Banks should integrate their front-office and back-office systems from the customer's point of view and redesign business processes from the outside in. They should start by identifying the end customers, streamline the process from the end customer's viewpoint and for key stakeholders, continuously improve the process based on customer feedback, and give everyone involved a clear view of the

CRM strategy and business process (Formant, 2000; Seybold & Marshak, 1998: 33-34, 139). This management drives the move away from searching for an operation excellence or a product leadership toward a customer intimacy (Treacy & Wiersema, 1997).

### **3.2.3 Customer data management**

Agarwal and Chisholm (2000) claimed that the key to CRM success is translating the raw data from the customer-end into the analytical information in order to increase customer loyalty and business profits. This part is so important, but does not carry weight in the literature (as shown in Table 1). Understanding and managing customer relationships depend on the proper integration of a wide variety of data sources. An approach to define data requirements starts with what a company knows, defines what it wants to do with the gathered information, and then defines what it does not know (Parke & Porter, 2003). Enterprise-wide business data are collected from customer data in the front-office, the internal operational data works inside the back-office, and the external data from collaboration goes with others. This data management platform, as an enterprise's most valuable asset, enables firms to access the data to fill in the gaps in the customer knowledge and to gain new insight into their customers through a variety of analysis methods. All the activities in implementing a customer's data architecture to support business operations, business intelligence, and business management are involved in the customer data management strategy (Reynolds, 2002: 169-185).

### **3.2.4 IT management**

CRM requires firms to invest in IT infrastructure and specialized software to record, track, and analyze customer interactions. IT management is critical when putting the aforementioned management strategies into practices, including contact channels, management, enterprise-wide management by integrating front-office and back-office systems, customer data management by implementing database and customer analysis. For instance, CRM uses sophisticated voice and online media routing hardware/software to direct customers to staff or to an IVR (interactive voice response) system or web-based self-service information to get answer to questions, fulfill orders, take comments, etc. Redesigning an underlying technical infrastructure into place helps provide an enterprise-wide view and customer value-focused information systems.

### **3.2.5 Processes as CRM assets**

Relationships depend on processes that cover both the routine and the exceptional. Business processes determine the nature of a company's capabilities and its core competencies for CRM. A process is primarily a matter of first prioritizing and then sourcing processes, using a combination of: (1) software to convert what used to be done by people into an interaction at the website, (2) electronic links to partners, and (3) people, workflows, and software that provide exceptional handling of the situations that make or break the customer relationship (Keen & McDonald, 2000: 5). Some processes are major business assets (for example, Priceline.com's patented pricing processes), and some may be a key part of the company's very identity (for example, Federal Express's on-time delivery). Any process that is the key to the customer relationship must be treated as a priority and made an asset or identity. The issue is not whether to make the investment, but how to source the process in a way that best generates value and is most cost efficient. It has to be looked at as a critical part of enterprise-wide management strategy.

## **4. CRM Best Practices in the Banking Industry**

Best practices can be the groundwork when constructing a correlated CRM (Laudon & Laudon, 2004: 316), but this study perceives that CRM lacks industry and best practice examples in Taiwan. Banking industries in the United States and Europe in general are ahead in responding to opportunities provided by the Internet. Best practices are shown that they are beginning to come to fruition from EC (Peppard, 2000). Banks like Wells Fargo, Wachovia, and Bank One in the U.S., Royal Bank of Canada, and Merita-Nordbanken in Finland are viewed as the role models of the banking industry (Brown-Humes, 2000; Formant, 2000; Gandy, 2000; George, 2000; Huff, Wade, Parent, Schneberger, & Newson, 2000; Knox, 2003, Laudon & Laudon, 2004; Rosenoer et al., 1999; Seybold & Marshak, 1998; Swift, 2000; Turban et al., 2002). The best practices of other leading banks are reported, but the depth and width of cases are insufficient or similar for analysis and are not quoted by this study.

### **4.1 Wells Fargo (<http://www.wellsfargo.com>)**

In 1852 Henry Wells and William Fargo founded Wells, Fargo & Co. to serve the American West. Almost 140 years later it brought in on-line services in 1989, banks services via the Internet in 1995, and it has become the prime exploiter of Internet services and the largest Internet banking (iBanking) entity in the world. Now Wells Fargo is the most extensive banking franchise in the U.S. and has 16.4 million customers with 3,076 banking stores in 23 states.

Wells Fargo prides itself on leading the pack in customer service and convenience. It has halved its cost per transaction and reduced customer defections by 50% for its online customers business. It also enjoys higher average balances per customer.

Focusing first on serving its high net-worth customers better, Wells Fargo pulls together all customer information and applications so that customer sales and service representatives can provide one-stop shopping for any banking service or transaction. It can quickly leverage that infrastructure to provide one-stop shopping via the Internet for all its customers. Wells Fargo's online banking services are the fastest-growing part of its business.

### **4.2 Wachovia Corporation (<http://www.wachovia.com>)**

The former Wachovia (founded in 1879) and First Union (founded in 1908) merged in 2001 to create Wachovia Corporation. Wachovia with over 95,000 employees and 2.6 million active online customers is the third largest U.S. full-service brokerage firm based on client assets and the fourth largest bank holding company in the United States based on assets. It is well-known for its CRM strategy with PRO (profit, relationship, and optimization) and with its cross-analysis and segments of evaluating the existing and potential profits of customer instead of existing profits of a company. PRO is a combination of customer profiling, customer targeting, marketing engine, and sales contact planning. Wachovia has commenced a program geared to developing specific channel and product offerings to all groups within its customer base (for example, the preferences of new technology) so as to analyze the value of individual customers and to estimate how much to invest. It has increased the customer retaining rate by one-third with applications of customer information and technology.

### **4.3 Bank One (<http://www.bankone.com>)**

Bank One is part of the new JPMorgan Chase created on July 1, 2004 upon

completion of the holding company's merger between JPMorgan Chase & Co. and Bank One Corporation. Bank One, before it merged with First Chicago NBD Corp in 1998, has built itself into the fifth-largest bank in the U.S. by making more than a hundred acquisitions over the years. It is famous for its "Service Quality".

The bank is renowned for its CRM strategy. It takes its value discipline as the financial institution which provides omni-bearing services, and adjusts its strategy to develop CRM and the Internet from mergers and acquisitions. Furthermore, it has built up its virtual organization with strategic alliances and collaborative relationships (Intel, Metro Group, Merchants Group, etc.) to find out and satisfy the customers' needs quickly and directly. It has expanded its services with the promise of "no satisfaction, no charge" and multiple brands (FirstUSA, WingspanBank).

#### **4.4 Royal Bank of Canada** (<http://www.royalbank.com>)

Chartered in 1869 as the Merchants' Bank of Halifax and renamed The Royal Bank of Canada (RBC) in 1901. RBC is one of North America's leading diversified financial services companies and Canada's largest bank as measured by assets and market capitalization. In total, it serves more than 12 million personal, business, and public sector clients worldwide from offices in more than 30 countries.

Installing the first computer in Canadian banking in 1961, the RBC began collecting customer data in 1978 and by the early 1990s had implemented client segmentation in its data warehouse, dividing its customers into distinct profitability segments and hundreds of micro-segments. It has expanded its Internet business by purchasing Security First Network Bank (SFNB) in 1998 and then developed a CRM system and media interactive technology to integrate the transactions to offer their services more quickly and conveniently. The bank uses five criteria to analyze customer information, including net interest revenue (income, expenses, and risk), other revenue (fees, commissions), direct expenses (variable costs), indirect expense (overheads), and risk provision. The customer data also allow it to move from assessing current customer value to potential value, by taking into account such factors as lifestyle change. RBC has moved towards its objective of one-to-one marketing to establish what works and what does not, and it tests refinements on an ongoing basis. One of the immediate gains was discovering from recalculating customer profitability that its previous measurement metrics had been inaccurate for as many as 75% of its customers. The customer response rate has improved by about 40% and the profits of the company have grown by more than 10% every year.

#### **4.5 Merita-Nordbanken Bank** (<http://www.meritanordbanken.com>)

Merita-Nordbanken, Northern Europe's largest bank from the merger between Finland's Merita Bank and Nordbanken of Sweden in 1997, is arguably the most developed electronic bank in the world. It offers customers an array of e-banking access devices, a multitude of customer-centric financial offerings, and has developed its business strategy to leverage its existing 15 million customers. It was awarded the "Best Online Business Strategy" and the "Best Multi-channel Banking" from The Banker. It launched telephone banking in 1982, PC banking in 1984, and a mobile payments service was added to the overall mix. Its opening of EC networks took place in 1996, and then e-billing and Internet TV were added. The bank has developed a set of electronic identification and signature codes whereby 5 millions of Internet customers can now use across multi-platforms.

Directed by CRM, Merita-Nordbanken has developed multi-contact channels of e-banking, which is convenient for customers, through the application of WAP (wireless

application protocol), such as ATMs, telephone, GSM mobile, PC, and web TV. It has created the service of “A single service agreement and password over all devices.”

#### 4.6 Synergizing CRM Action Plans

This study employs a literature search on the relative concerns, initiatives, industry-in-depth, news, and reports about the aforementioned leading banks from the databases of Academic Universe, China Times (in Chinese), Lexis-Nexis, and United Daily News (in Chinese) and other studies from the view of CRM development in order to explore the action plans for four management strategies as shown in Table 2.

Table 2. Action Plans of CRM Best Practices in the Banking Industry

Bank Strategy	Wells Fargo	Wachovia	Bank One	Royal Bank of Canada	Merita-Nordbanken
Contact Channel Management	<ul style="list-style-type: none"> <li>- Setting omni-bearing services</li> <li>- Securing transaction environment</li> <li>- One-stop shot</li> <li>- Updating service on needs</li> <li>- Enhancing channel convincing</li> <li>- Setting up call center to integrate the channels</li> </ul>	<ul style="list-style-type: none"> <li>- Recognizing the customer's preference of channels</li> <li>- Offering differential channels on customers</li> <li>- Integrating channels dynamically</li> <li>- Closing old branches and strengthening IT applications of new branches</li> <li>- Centric call center</li> </ul>	<ul style="list-style-type: none"> <li>- Endeavoring to develop electronic channels</li> <li>- Offering differential services upon the customer</li> <li>- Centric call center</li> </ul>	<ul style="list-style-type: none"> <li>- Reshaping channels for CRM</li> <li>- Improving the quality of channels continuously</li> <li>- Centric call center</li> </ul>	<ul style="list-style-type: none"> <li>- Concentrating on mobile channels</li> <li>- Speeding up transactions</li> <li>- Centric call center</li> </ul>
Enterprise-wide Management	<ul style="list-style-type: none"> <li>- Customer's benefits first</li> <li>- Establishing the interactive trust</li> <li>- Redefining the business goal, rules and objectives</li> <li>- Integrating the customer data/applications systems</li> <li>- Integrating by customer centric</li> <li>- Developing a Customer Information Viewpoint system</li> </ul>	<ul style="list-style-type: none"> <li>- Reviewing the customer relationship from an enterprise-wide perspective</li> <li>- Redesigning the service outside-in from the view of customers</li> <li>- Benefiting the customer first</li> </ul>	<ul style="list-style-type: none"> <li>- Building the virtual enterprise by strategic alliances</li> <li>- Multiple brands marketing</li> <li>- Quality first with consistent services</li> </ul>	<ul style="list-style-type: none"> <li>- Integrating the viewpoints of the technical staffs and the users</li> <li>- Automatic operations</li> <li>- Integrating all functions with event-driven evaluations</li> <li>- Putting efforts on the R&amp;D of EC</li> </ul>	<ul style="list-style-type: none"> <li>- Redefining the business value disciplines, rules and objectives to integrate the front-office and back-office</li> <li>- Active in innovation and IT applications</li> <li>- Using WAP as the core competence</li> <li>- Emphasizing on the long term profits of IT investment</li> </ul>

Customer Data Management	<ul style="list-style-type: none"> <li>- Segmenting customers</li> <li>- Analyze the profits of each segment</li> <li>- Expanding the customers on the Internet</li> <li>- Segmenting the high-profit customers</li> <li>- Collecting the customer data from automatic billing</li> </ul>	<ul style="list-style-type: none"> <li>- Segmenting customers with potential profits that they bring</li> <li>- Evaluating the existing &amp; potential profits with the establishment of criterion, models, and systems</li> <li>- Customizing/ personalizing customer's needs</li> </ul>	<ul style="list-style-type: none"> <li>- Examine the needs of customers proactively and timely</li> <li>- Analyzing the profits and preferences of customers</li> <li>- Assisting customers to have financial services suitable for them</li> <li>- Offering personalized services and advice</li> </ul>	<ul style="list-style-type: none"> <li>- Narrowing the customer segmentation on channels and behaviors</li> <li>- Establish the measurement of existing and long-life values of customers</li> </ul>	<ul style="list-style-type: none"> <li>- Approaching customers with the mobile services</li> <li>- Integrating the customer data across functions and departments</li> <li>- Offering personalized services and advice</li> </ul>
Information Technology Management	<ul style="list-style-type: none"> <li>- Constructing the objectives model with the same platform</li> <li>- Integrating and automating the processes from front- office and back-office with object agents</li> <li>- Constructing comprehensive IT framework</li> </ul>	<ul style="list-style-type: none"> <li>- Developing the decision support tools to target the customers</li> <li>- Developing profit-relationship-optimization system to support decision making</li> <li>- Implementing data warehouse</li> </ul>	<ul style="list-style-type: none"> <li>- Developing the Internet technologies of channel marketing</li> <li>- Adopting the technologies of channel marketing</li> </ul>	<ul style="list-style-type: none"> <li>- Applying and integrating software packages</li> <li>- Developing intelligent CRM</li> <li>- Constructing centralized interactive technology</li> <li>- Implementing data warehouse</li> </ul>	<ul style="list-style-type: none"> <li>- Applying IT to develop and integrate the contact channels and front-office and back-office systems</li> <li>- Adopting WAP, data mart, data warehouse, and data mining</li> </ul>

## 5. The CRM Architecture for the Banking Industry

Based on the content of CRM development and the best practices, the architecture is constructed so as to guide the action plans for each CRM strategy. It focuses on the sustaining the value discipline of customer intimacy with the streamlined (arrowed) business process as shown in Figure 1.

### 5.1 Contact Channel Management Strategy

This strategy focuses on contact channel unification and concentrates on strengthening channels through value-added services. Most successful firms deliberately restrict channel access and only recruit customers who are willing to connect through a specified channel. This strategy should reflect where and when the customer wants to connect with the bank from a streamlined process perspective. It is not necessary to allow access any time, any place, and anywhere.

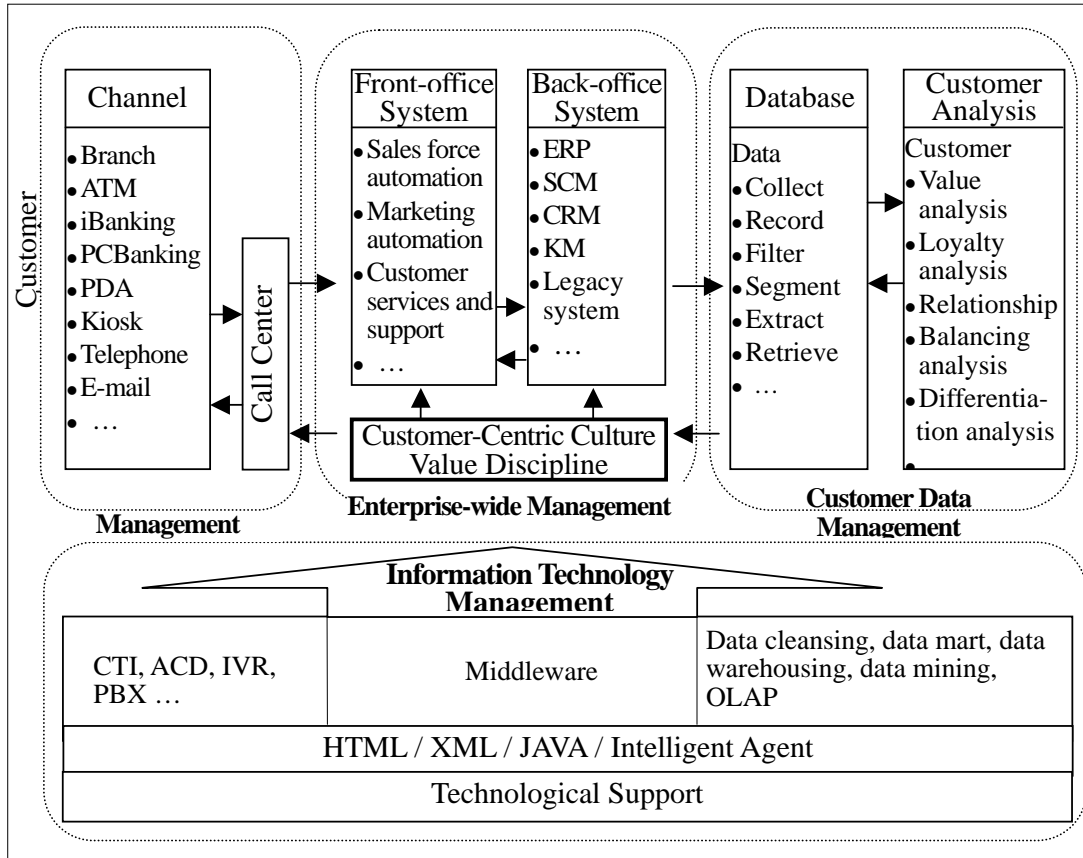


Figure 1. CRM Architecture in the Banking Industry

Banks should improve the security and convenience of their contact channels and expand their services with the richness of financial information so as to create a friendly process for customers when they connect to banks through various channels. Banks need to recognize the characteristics and advantages of each channel and offer services suitable to customers by catching onto the customers' preferences of channels. Banks can allocate their resources efficiently if they can provide those channels that have different levels of services depending on the actual contribution of customers. Banks should integrate all the contact channels with a customer-centric perspective and build SOP (standard operation procedure) among various channels to process and integrate customer data. Finally, they should endeavor to develop their services on the Internet and WAP to shoot for the great needs and benefits of end clients.

### 5.1.1 Building a convenient way for customer to connect with business

Banks should build various channels, such as branches, call centers, ATMs (automatic teller machines), IVR, iBanking, PCBanking (personal computer banking), FEDI (financial electronic data interchange), PDA (personal digital assistant), digital net-meeting, websites, Kiosks, telephones (wired, GSM, or WAP) and so on, to connect to customers and improve the convenience of all the channels. The critical channels in the future will be websites and mobile devices.

### **5.1.2 Integrating and utilizing various cost-effective contact channels**

The integration of contact channels begins with the integration of customer data. The more consistency there is between processing customer data and various channels, the more information there will be that all channels can share, and the more business resources that can be used. Each channel has its own characteristic and comparative advantage, and so there are differentiations between the services each channel has. Banks should recognize and utilize their cost-effective channels.

The call center is a place to reduce operating expenses and provides a necessary service for bank customers. However, only a few perceive it as a profit center (Holliday, 1977). Call centers, the major integrated connection point between banks and customers, are now the focal point to integrate all contact channels. They have moved to the heart of customer services and sales operations, resulting in high growth in both minutes and equipment sales (Yankee group, 2000).

## **5.2 Customer Data Management Strategy**

The best way to retain customers is by establishing a closely interactive relationship with them. This involves the collection, integration, and analysis of customer data. Banks have to integrate all the customer data as database so as to support customer analysis and decision making. When banks build up a proactive database, the customer data can be updated automatically. It also can segment customers multi-facetedly, and interpret the difference among customers (for instance, the profits, costs, preferences, loyalties, etc.).

Most banks evaluate the profits that customers bring in depending upon the current operation data. If they can establish a criterion and system to measure the potential revenue of customers, then they can identify the target customers more precisely. Furthermore, customer analysis on the basis of the individual unit is contributive to offering personalized services.

### **5.2.1 Collecting and integrating customer data**

Banks have to collect and integrate various sources of customer data, such as customer activities from channels, the internal operation data of enterprise, and external data from collaboration with the database. This is done so the enterprise can analyze its situation and decide upon its strategy precisely with the data mining from the data. With some internal data it is possible to use data cleansing tools to standardize and validate the data or to drive new data that provide additional capabilities to analyze customers.

### **5.2.2 Analyzing customer data**

If banks want to construct and improve their relationship with customers, they must recognize the preferences and behaviors of customers and satisfy the needs of individuals. The approach includes evaluating the actual value of customers brought in to the company, evaluating their loyalty by estimating the degree of customer satisfaction with goods and services, identifying the targeted customers to balance the relationship, and calculating the cost/revenue/actual contributions of each customer.

## **5.3 Enterprise-wide Management Strategy**

Banks should construct a friendly transactional environment and keep a good customer relationship to attract new customers and retain old ones. This is critical for CRM's success. Banks also have to create a business strategy in the value discipline of

customer intimacy and put the benefits of customers first. They can then re-engineering their business processes in the view of customers and integrate all the systems and all the contact channels by unifying the business goals, rules, and objectives.

Because the output of each process is difficult to integrate without an extensive consideration, the enterprise-wide strategic perspective is very important for transforming into customer-centric enterprise solutions from data-centric solutions. The extensive consideration is comprised of the business strategy based on customer intimacy, the integration of front-office and back-office systems, and the re-engineering of business processes.

### **5.3.1 Formulating a customer-centric strategy**

Banks should move from operational excellence or product leadership to a customer-centric method and manage unitedly the customer data so as to allow every unit (person or department) in the enterprise to use the integrated and consistent information.

### **5.3.2 Integrating front-office and back-office systems**

The connecting activities with customers in the front-office can be divided by their function into sales force automation, marketing automation, and customer services and support. Three parts of customer activities can be integrated into the customer data of front-office systems. Customer data produced from the Enterprise Resource Planning (ERP), Supply Chain Management (SCM), and legacy system are the data of internal operations and external collaboration from the back-office. If banks are unable to integrate their front-office and the back-office systems, then the problem of a mismatch or inconsistency will cause great losses to the enterprise from customer retention.

### **5.3.3 Re-engineering the business processes from a customer's view**

Business processes were redesigned from inside-out in the view of product lines to improve efficiency, but this is not profitable. If banks do it from outside to inside in the view of customers, then the increase in transactions create more profits than before.

## **5.4 IT Management Strategy**

Embedding business rules in IT applications provide scalability and increase asset efficiency. A comprehensive CRM architecture is founded upon the IT infrastructure and the other applications when banks put into practices their contact channel management, customer data management, and enterprise-wide management.

The banking industry should set up a sophisticated IT infrastructure, including HTML (Hyper Text Markup Language), XML (Extensive Markup Language), JAVA, websites, call centers, and computer telephone integral systems. An integrated auto feedback system is implemented by using data cleansing, data mart, data warehousing, data mining, and OLAP. It also needs to integrate the front-office and back-office systems by object-oriented techniques having the same platform. Subsequently, CRM sets customer service as a business core and employs middleware to seamlessly integrate all application systems of contact channel and front-office and back-office systems.

### **5.4.1 IT-related contact channel management**

The IT applications involved in contact channel management are telephone centers, Automatic Call Distribution (ACD), IVR, Private Branch Exchanges (PBX), and so

forth. Computer Telephony Integration (CTI) is another important one to integrate computers, telephones, fax lines, and the Internet.

#### **5.4.2 IT-related customer data management**

The collection, integration, and analysis of customer data is founded technologically upon database technology, including data cleansing, data mart, data warehousing, data mining, and OLAP. XML has passed from the early adopter phrase and now into mainstream acceptance and may become the primary syntax for all enterprise data development. The primary use of XML is for data exchange between internal and extend organizations and it plays the role of interoperability mechanism.

#### **5.4.3 IT-related enterprise-wide management**

The technology related to the integration of messages between front-office and back-office covers FEDI, CORBA, COM/DCOM, RMI, and other transmission technology with middleware.

#### **5.4.4 IT infrastructure**

IT infrastructure is the basis to develop CRM, such as various programming language and multimedia language. Middleware is also an important part of infrastructure technology to switch these languages.

### **6. CRM Agenda for Taiwan's Banking Industry**

As mentioned before, the foreign banks still have a lead on ROE and EPS for many years in Taiwan's banking industry and have strengths in CRM-related activities. What the Taiwanese banks should be thinking about in planning their own CRM strategy is providing one-stop shopping, keeping everything the bank knows about its customers, ensuring that everyone in the company has access to the complete customer profiles, and putting an underlying technical infrastructure into place to provide an enterprise-wide view. These major CRM activities are described with the business processes and illustrated with the architecture in Figure 1.

The marketing share of the top three domestic banks is less than 20%. Comparing to the aforementioned leading banks, domestic banks are relatively small and medium-sized (Shive, 2005). This limits their investment in CRM and also makes them less competitive on scalability. For every US\$1 that a bank spends on a CRM system, it also spends between US\$2 and US\$5 on implementation and maintenance. This may sound costly, but the investment could be worth it and does not necessarily need to be a budget-buster. A survey found that almost 50% had CRM projects in the works with budgets of less than US\$500,000 (Reynolds, 2002: 20, 26).

CRM can be both a revolution and an evolution, from process automation, rationalization, and re-engineering to paradigm shifts, or it can be initiated from simple contact management software to enterprise-level e-business suites. The pre-implementation (evaluation, presentation case, mapping strategies), solutions selection (self-development, software packages customization, outsourcing, or hosted solution), the implementation and development, and the costs vary greatly from bank to bank and are dependent upon the type of CRM solutions. A point solution or pilot project within the CRM architecture that does not require an integration of sundry systems will usually costs less than a project that requires more integration effort.

Finding the right fit on the architecture is meeting a bank's specific business

requirements (including marketing issues, functionality needed, and the needs from the company's IT staff, the marketing manager, the sales or call center employees, and any other end users), understanding the corporate culture and value disciplines, and applying the above-mentioned management strategies currently in place and after (CRM initiative). The CRM team should then determine which competencies, skills, and technology are needed to deliver the customer and marketing messages effectively and profitably. A best-of-breed CRM delivers all the customer information needed to achieve greater ROI from IT technology by enriching customer data with attitudes, awareness, and preferences and then seamlessly integrates it with the overall solution.

For a strategy to be successful, it must be consistent with a bank's goals and values, resources and capabilities, structure and systems, and be within the environmental context of the banking industry. The SWOT (strengths, weakness, opportunities, and threats) framework is a well-known approach to the design and evaluation of business strategies. However, it is difficult to distinguish internal strengths from weaknesses and external opportunities from threats. Therefore, an approach based on a simple classification of internal and external factors is better to individuals (domestic banks) for further analysis followed by an appraisal of their implications (Grant, 2002: 15).

Many studies on Taiwan's banking industry (Chen, 2003; Liu, 2003; NICI, 2004, 2005: 200-202, 254-256; Shive, 2004, 2005; Sung, 2002, Taiwan's Banking Industry, 2004, 2005) provide a review of the internal and external challenges to CRM development in Taiwanese banks.

### **6.1 External Challenges in Taiwan's Domestic Banks**

About 56% and 29% of Taiwan's domestic banks reported competitive treats from other financial firms and cross-industry/globalization, higher than that perceived by foreign banks and financial holding companies. The establishment of financial holding companies locally has boosted integrated operations to a higher peak in Taiwan's banking industry. Over 82% perceived that they must expand their service and customer base via mergers and acquisitions (M&A). This impacts their CRM development in the enterprise-wide strategy. Foreign banks already exercise customer-centric strategies and systems integration to streamline the business processes by orchestrating extensive organizational change. Few domestic banks put forth such efforts in the enterprise-wide management. They only understand and continuously set service automation at slow-moving, slow-changing and little risk pace, rather than radical changes by re-engineering or paradigm shifts with high rewards and substantial chance of failure.

Foreign banks have more advantages than domestic banks in B2B (business to business) for many years. In B2C (business to customer), they intend to almost double what they did in 2004, but by contrast, domestic banks only hope to keep what they have done so far. The contrast between the two is remarkable and reveals that foreign banks are more aggressive to customer intimacy.

Forty-seven percent of domestic banks remark their strength is in dense physical branches, but a study reports that the more physical branches a bank has, the higher its cost inefficiency is. About 80% and 50% of them have applied for Internet banking and 24/7 call center, respectively, under contact channel management and continuously enforce these functions. Nevertheless, they must integrate both as part of multi-channel contact management within a CRM architecture based on a respectable (scalable) customer database and differentiated channels so as to take advantage of cross-selling and up-selling opportunities that arise during customer service contact. More than 60% of them have implemented a customer-centric database, but foreign banks have put more richness in customer data management by sophisticated IT applications.

The national-level e-Taiwan Construction Plan has been allocated funding of NT\$36.6 billion from 2002 to 2007. Action plans of Promote e-Commerce (a program of the e-Taiwan Plan) include the establishment of R&D and design systems, strengthening the supply chains and logistics management mechanisms, expanding international marketing channels and financial and customer services, and paying more attention to user-oriented B2C applications. The domestic banks should benefit from the Promote e-Commerce if they can keep up with enterprising involvement.

## **6.2 Internal Challenges in Taiwan's Domestic Banks**

A survey of Taiwan's financial holding companies revealed that the top-five rewards from M&A are cross-selling, resources sharing, business integration, organization re-engineering, and information integration. All these activities are involved in the CRM architecture. From the same survey, 55% and 19% of respondents perceived their opportunities and threats, respectively, from EC. Based on the integration of front-office/back-office systems and customer data analysis from customer databases, banks should define their value proposition in terms of customer experiences and expand their operations scale via M&A or strategic alliances, and then streamline the business process.

Customers are increasingly astute purchasers of goods and services in the era of EC. CRM systems typically consolidate customer information from a variety of systems into massive data warehouses and use various analytical tools to slice up into tiny segments to understand who they are, what they do, and what do they like from a multifaceted perspective for one-to-one marketing. While 60% of domestic banks still struggle with some perceptual issues of CRM, 51% of them responded that the change in customers' behaviors gives little opportunity to businesses. If a trend or a behavior analysis can not get anything from data management or is staff workers are not able to respond to that information, then the banks will lose their customers.

Training is the most important to any CRM implementation and deployment. Staff workers should be trained to collect all relevant customer information and insights. Only 15% of domestic banks provided duty-oriented on-the-job job training, compared with 56% of foreign banks. Furthermore, 64% of the domestic banks note that they have the advantage of customer service, slightly lower than 67% of foreign banks. Actually, foreign banks take the lead in customer profitability in many surveys, as 83% of them report an advantage of customer segmentation, but 53% of domestic banks are supposed to have this strength. The reason why may be that the domestic businesses (including banks) are still struggle with some perceptual issues of CRM, but irregardless of this, domestic banks need to put forth more efforts to educate their staffs about CRM.

## **7. Moving Ahead**

CRM is not only one of the most important applications of EC, but also the key success driver to substantial competitiveness. Some investigations in Taiwan also show that CRM is the issue that enterprises care about the most. Studies about CRM just start from the aspect of functions, operations, technology, case studies, initiatives, and strategies, but scholars or professionals seldom explore it from an industry-specific perspective with action plans.

IDC reports that the banking industry will be the one of three best beneficiaries of the CRM explosion among all business sectors. Lacking sophisticated applications and professional support, CRM's adoption in Taiwan's banking industry is progressing at a slower pace. Most CRM projects are highly fragmented and lack customer focus, and

then they fail to meet their objectives. Embracing CRM means a bank must transform its focus from a product-centric view to a customer-centric view, which requires architecture to conduct changes in organizational culture and operations as well as have a closer cooperation between the CRM systems and stakeholders. This paper employs studies in the CRM and EC literature, reviewing best practices in the banking industry and then figures out the CRM architecture with action plans to Taiwan's domestic banks in the hopes of offering an agenda for them to move ahead.

In the CRM architecture shown in Figure 1, the "contact channel management" strategy requires establishing cost-effective and friendly channels for end customers by integrating business processes; the "enterprise-wide strategy" strategy creates customer-centric competence by defining, seamlessly integrating, and streamlining the front-office and back-office processing; the "customer data management" strategy implements the database for a customer analysis of lifelong value, royalties, relationship balances, and differentiation; the "information technology management" strategy lays the foundation to develop other CRM strategies.

The business environment and IT infrastructure are different among countries, regions and industries, and the architecture can be a roadmap for Taiwan's banking industry to develop and examine its own CRM. Banks may start their CRM efforts by focusing on only one part of their business, such as a point solution to address CRM in a call center or field service, or on an enterprise-level. The architecture will also benefit by further studying CRM readiness.

## References

- Agarwal, R., & Chisholm, M. (2004). *US financial services modernization: Legislation + technology = convergence*. Retrieved May 31 from <http://www.csc-fs.com/LIBRARY/finmod-dnld.asp>.
- Badgett, M., Ballou, S., & LaValle, S. (2004). *Doing CRM right: What it takes to be successful with CRM*. Somers, NY: IBM Business Consulting Services.
- Bielski, L. (2000). E-business models stress putting the customer first. *ABA Banking Journal*, 92(7), 65-71.
- Brown, S. A. (Ed.). (2000). *Customer relationship management: A strategic imperative world of e-Business*. Toronto: John Wiley & Sons Canada.
- Brown-Humes, C. (2000). Clients engaged in revolution: internet banking. *Financial Times (London)*, July 10, 6.
- Chen, C. H., Chen, J. L., Chen, C. J., Hsu, C. Y., & Liu, W. Z. (2001). *EC market and trends in Taiwan*. Taipei: Institute for Information Industry, Market Intelligence Center.
- Chen, I. A. (2003). *A study of the effect of internal service quality on external service quality: Banking industry as an example*. Unpublished thesis, National Dong Hwa University, Taiwan.
- Dyché, J. (2002). *The CRM handbook: A business guide to customer relationship management*. Reading, MA: Addison-Wesley.
- Formant, C. (2000). *Customer acquisition and CRM: A financial services perspective*. In S. A. Brown (Ed.), *Customer relationship management: A strategic imperative in the world of e-Business*: 87-106. Toronto: John Wiley & Sons.
- Freeland, J. G. (Ed.). (2003). *The ultimate CRM handbook: Strategies and concepts for building enduring customer loyalty and profitability*. New York: McGraw-Hill.
- Gandy, A. (2000). *Banking strategies and beyond 2000*. New York: AMACOM.
- Gartner Group. (2000). *Industry forecast and growth factors: Online banking and*

- electronic bill payment*. Stamford, CT: Author.
- George, N. (2000). Nordic banks focus on web strategies. *Financial Times (London)*: April 12, 34.
- Grant, R. M. (2002). *Contemporary strategy analysis: Concepts, techniques, applications*. Malden, MA: Blackwell.
- Holliday, K. K. (1997). Talking heads or talking leads? *USBanker*, 107(10), 61-64.
- Huff, S. L., Wade, M., Parent, M., Schneberger, S., & Newson, P. (2000). *Cases in electronic commerce*. Boston, MA: McGraw-Hill.
- Kalakota, R., & Robinson, M. (1999). *E-business: Roadmap for success*. Reading, MA: Addison-Wesley.
- Kalakota, R., & Whinston, A. B. (1997). *Electronic commerce: A manager's guide*. MA: Addison-Wesley.
- Keen, P. & McDonald, M. (2000). *The eProcess edge: Creating customer value and business wealth in the internet era*. Berkeley, CA: Osborne/McGraw-Hill.
- Knox, S., Maklan, S., Payne, A., Peppard, J., & Ryals, L. (2003). *Customer relationship management: Perspectives from the marketplace*. Burlington, MA: Butterworth-Heinemann.
- Lamparello, D. (2000). Doing more for the right customers. *Bank Systems and Technology*, 37(1), R10-R11.
- Laudon, K. C., & Laudon, J. P. (2004). *Management information systems: Managing the digital firm*. Upper Saddle River, NJ: Prentice-Hall.
- Liu, H. Y. (2003). A customer relationship management approach to a study of e-commerce strategy in Taiwan's banking industry. *Chiao Da Management Review*, 23(2), 1-36.
- McDonnel, S. (2001). Putting CRM to work. *Computerworld*, March 12.
- Melnick, E. L., Nanyar, P. R., Pinedo, M. L., & Seshadri, S. (Eds.). 2000. *Creating value in financial services: Strategies, operations and technologies*. Norwell, MA: Kluwer Academic Publisher.
- Molineux, P. (2002). *Exploiting CRM*. London: Hodder & Stoughton.
- Murphy, T. (2000). *Web rules: How the internet is changing the way consumers make choices*. Chicago, IL: Dearborn.
- NICI (National Information and Communication Initiative Committee). (2004). *2003 e-Taiwan year book*. Taipei: Author.
- NICI (National Information and Communication Initiative Committee). (2005). *2004 Electronic business white paper in Taiwan*. Taipei: Ministry of Economic Affairs.
- Parke, S., & Porter, H. (2003). *The critical element: Using data to become a customer-centric organization*. In J. G. Freeland (Ed), *The ultimate CRM handbook: Strategies and concepts for building enduring customer loyalty and profitability*, 72-77. New York: McGraw-Hill.
- Peppard, J. (2000). Customer relationship management in financial services. *European Management Journal*, 18(3), 312-327.
- Peppers, D., & Rogers, M. (1993). *The one to one future: Building relationships one customer at a time*. New York: Doubleday.
- Power at last: How the internet means the consumer really is king (and queen). (2005). *The Economist*, April 2, 1-16.
- Pritchard, A., & Cantor, P. (2000). *e-Channel management: Electronic-customer relationship management*. In S. A., Brown (Ed.), *Customer relationship management: A strategic imperative in the world of e-Business*, 159-187. Toronto: John Wiley & Sons.
- Reichheld, F. F., & Sasser, W. E. (1990). Zero defections: Quality comes to services.

- Harvard Business Review*, 68(5), 105-111.
- Reynolds, J. (2002). *A practical guide to CRM*. Gilroy, CA: CMP Books.
- Romano, N. C. Jr., & Fjermestad, J. (2003). Electronic commerce customer relationship management: A research agenda. *Information Technology and Management*, 4(2/3), 233-258.
- Rosenoer, J., Armstrong, D., & Gates, J. R. (1999). *The clickable corporation: Successful strategies for capturing the Internet advantage*. Chicago, IL: Arthur Andersen LLP.
- SCN Education, B.V. (Ed.). (2001). *Customer relationship management: The ultimate guide to the efficient use of CRM*. Wiesbaden, Germany: Vieweg.
- Seybold, P. B., & Marshak, R. T. (1998). *Customer.com: How to create a profitable business strategy for the Internet and beyond*. New York: Random House.
- Shive, C. (Ed.). (2004). *The trends and outlook of Taiwan's financial industry in 2004*. Taipei: Taiwan Academy of Banking and Finance.
- Shive, C. (Ed.). (2005). *The trends and outlook of Taiwan's financial industry in 2005*. Taipei: Taiwan Academy of Banking and Finance.
- Sung, K. L. (2002). *Electronicalization and the efficiency of Taiwan commercial banks*. Unpublished thesis, National Chiao Tung University, Taiwan.
- Swift, R. S. (2000). *Accelerating customer Relationships: Using CRM and relationship technologies*. Upper Saddle River, NJ: Prentice Hall.
- Taiwan's Banking Industry Performance Ranking. (2004). *CommonWealth*, May 1, 274, 332-334.
- Taiwan's Banking Industry Performance Ranking. (2005). *CommonWealth*, May 1, 322, 446.
- The cart pulling the horse? (2005). *The Economist*, April 9, 51.
- Treacy, M., & Wiersema, F. (1993). Customer intimacy and other value disciplines. *Harvard Business Review*, 71(1), 84-93.
- Treacy, M., & Wiersema, F. (1997). *The discipline of market leader: Choose your customers, narrow your focus, dominate your market*. Philadelphia, PA: Perseus Books Group.
- Turban, E., King, D., Lee, J., Warkentin, M., & Chung, H. M. (2002). *Electronic commerce: A managerial perspective*. Upper Saddle River, NJ: Prentice-Hall.
- Tynan, T. G. (2000). Web adds pressure for CRM. *American Banker*, 165(7), 6-7.
- Wayland, R. E., & Cole, P. M. (1997). *Customer connections: New strategies for growth*. Boston, MA: Harvard Business School Press.
- Yankee Group. (2000). *The users speak: Trends in call centers and web-based customer care*. In SCN Education B.V. (Ed.), *Customer relationship management: The ultimate guide to the efficient use of CRM*, 391-405. Wiesbaden, Germany: Vieweg.