



Transforming Branch Banking: Real-Time Advice in the 21st Century

A Financial Insights Special Report
Sponsored by TANDBERG

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Overview

To remain independent and expand their profitability, banks must become more operationally efficient and more customer-centric. Institutions realize that providing excellent customer service is the best competitive weapon in an industry with limited opportunities for product differentiation. To achieve a competitive advantage based on cost and/or customer service excellence, bankers need the right tools and, specifically, the right communication tools. Banks must embrace the latest advances in Internet-based communications to provide employees with the ability to communicate amongst themselves and with customers in the most efficient and profitable manner possible.

In particular, Financial Insights has identified video technology as an important communications tool for delivering higher-value service to customers and for implementing business strategy throughout the bank. Providing customers with the opportunity to interact with

knowledgeable bankers who have the right expertise in a face-to-face setting will become increasingly relevant for banks that are focused on “delighting” the customer with high-quality customer service.

This special report describes the strategic value of real-time visual communication for the bank. Through our research, we have identified several banks that have successfully improved their competitive position by integrating visual communication into key customer facing business processes. We describe how banks are using video calls and meetings to achieve their business objectives. Specific benefits include achieving operational efficiencies, reducing costs, improving customer service, and increasing revenue per store or branch. Bank executives have more options than ever before to achieve a competitive advantage.

Introduction

The purpose of this special report is to illustrate how retail banks can leverage technology to achieve greater business flexibility and higher-value, differentiated customer service. In this context, the special report describes how banks have leveraged video communication, supported by a high bandwidth IP communication network, to accomplish these strategic business goals. We show how several early adopters of video technology have repositioned their institutions to expand real-time availability of high-value services and, simultaneously, improve operating efficiencies. More innovative programs are on their drawing boards.

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Meeting Bank Business Requirements

Strategic IT Investments must be aligned with business priorities. Over the last 10 years, these priorities have been influenced by

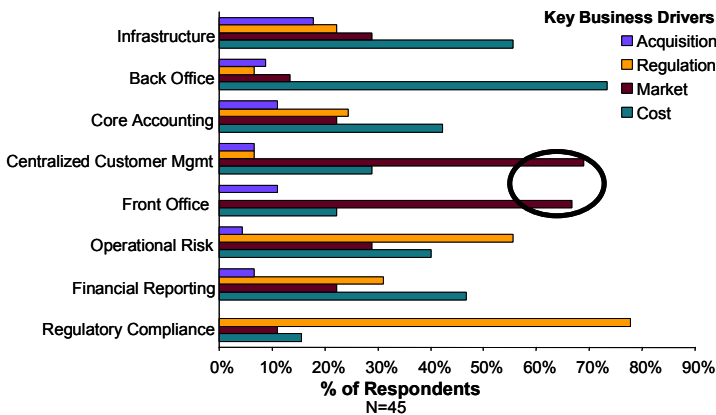
- 1) Stronger competition for market share
- 2) The entrance of non-banks to the banking market (particularly retail brokerage firms) attracting customer assets
- 3) The ease with which customers can switch banks or move funds between financial institutions
- 4) New regulatory requirements that mandate business process changes across the enterprise (since 2001)

These forces have required banks seeking to remain independent to become more responsive to market and regulatory forces through better customer service, more attractive financial products, and more transparent business processes. In addition, pressures to continue expanding profitability in this competitive environment require banks to minimize operating costs at every opportunity.

Figure A illustrates how these business priorities have impacted investments in technology made in 2004. These results are based on a survey of 45 bank executives in North America, Europe, and Asia/Pacific

Figure A: IT Investment Drivers for Banks Worldwide

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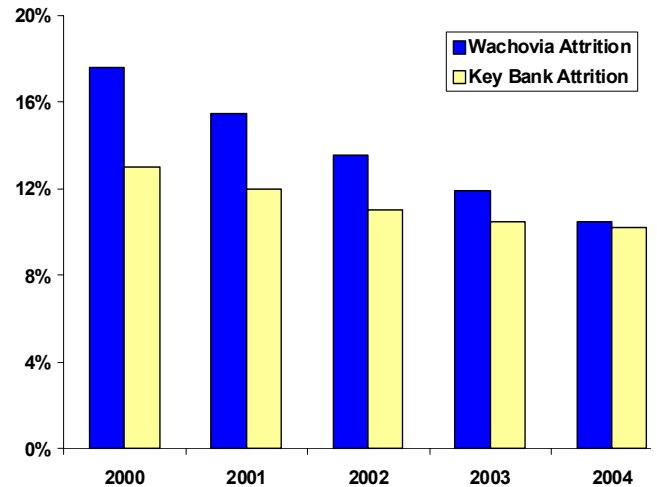
Source: Financial Insights, 2004

Front-office investments, which include implementations of communications technology in bank branches have been primarily driven by market forces. Competitive pressures have required banks to work harder to satisfy customers in order to prevent them from leaving for competitors and, beyond retention, to grow existing relationships into multiproduct ones.

Key metrics banks use to measure their progress in satisfying existing customers and growing relationships include the customer attrition rate and the cross-sell ratio. The latter refers to the number of financial services products sold per bank customer. The banks that are customer-centric typically set ambitious cross-sell and retention targets.

Figure B shows declining customer attrition rates at two large U.S. banks that have adopted customer-centric corporate strategies. Both institutions have been successfully using a mix of strategies to reduce attrition.

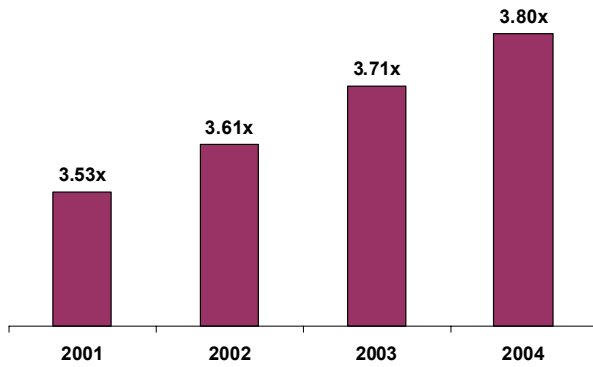
Figure B: Declining Attrition Rates at Key Bank and Wachovia



Source: Financial Insights, 2005

Figure C illustrates the progress of the largest Portuguese retail banking organization (Banco Comercial Portugues) with expanding its share of customer wallet through effective cross-selling. One of this bank's retail banking divisions, formerly Banco Portugues de Atlantico (acquired in 2000) had installed video technology systems in its branches to assist branch officers with providing high-value information and service offerings to its small business and self-employed customers (see Table 1). This successful implementation creates a competitive advantage that is not easily matched by other banks.

Figure C: Cross-Sell Ratios at Banco Comercial de Portugues



Source: Financial Insights, 2005.

The Continued Importance of the Branch Channel

In this report, we focus on the value of video technology to retail bank branches. To better understand the potential for face-to-face video calls and meetings in the branch, it is critical to understand the importance of the branch relative to other bank channels for both consumers and bank executives.

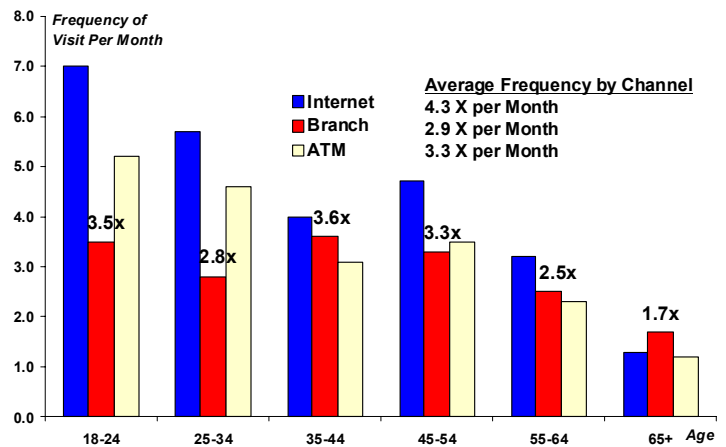
Many of the customer relationship initiatives discussed on page 2 are focused on the branch because bank executives have recognized that it is the one service delivery channel that allows banks to communicate with their customers face-to-face, thus offering the greatest opportunity for relationship building. Banks have been outfitting their existing branches with new technology and more pleasing designs over the last few years in an effort to turn the branch into a retail merchant store that specializes in financial services. Retail stores are becoming models for new bank branches because they are designed to entice consumers to enter and spend time in the store, and, ultimately, to make a purchase. In addition, retail stores design the space in such a way that customers can find what they are looking for efficiently. Customer-focused banks want customers to visit their branches and, when they are in the branch, they want to offer customers the highest-quality service in minimal time. To accomplish this, many retail banks are evaluating the implementation of various communications technologies in the branch, including Web kiosks and video technology, in order to provide customers with the service they want in accordance with their needs.

In addition, banks have been building new branches in order to expand into new markets. For example, Wachovia Bank, North Fork Bank and Washington Mutual state

in their respective annual reports that they intend to build at least 40 to 50 branches per year over the next four years.

Based on the continued popularity of bank branches for U.S. consumers (Figure D), these investments may be worthwhile. A 2005 Financial Insights survey of 1,000 U.S. consumers over the age of 18 shows that consumers across all age ranges visit the branch almost as frequently (3 times per month) as the “always on,” 24 x 7 channels — the ATM and the Internet.

Figure D: Frequency of Bank Channel Visits/Month

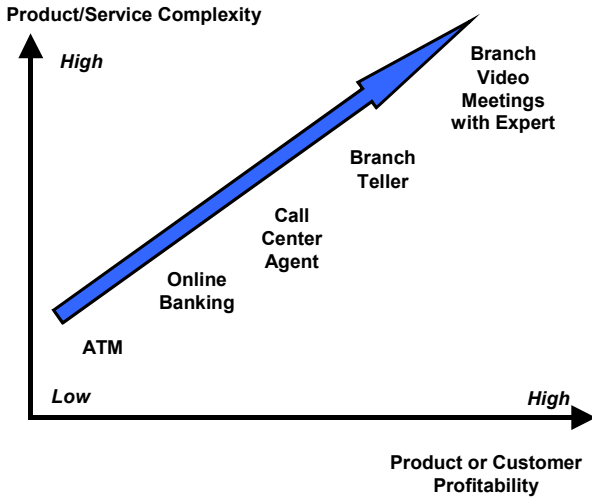


Source: Financial Insights, 2005.

But, to realize positive returns on their branch investments, banks will have to make customer interactions in the branch profitable. Leveraging branch employees to perform routine, low-value transactions is not a profitable use of their skills. On the other hand, converting the branch into a place customers want to visit when they are in the market for higher-margin services, such as mortgage loans and investment advice, can be a highly profitable model. Similarly for small businesses and the self-employed, the branch is where many of these customers want to discuss financing and retirement investment options with an expert.

The branch has to become the primary location for delivering higher-margin products. One of the most cost-effective sales and service tools for delivering knowledge to branch customers about these more complex products is video communication (see Figure E). The possibility of conducting video meetings with bankers who may be based in a central location or another branch allows branches to tap a much larger pool of product experts and certified financial advisors to service and sell to customers visiting their local branch.

Figure E: Complexity vs. Interaction Delivery



Source: Financial Insights, 2005

By now bankers and their IT executives should agree that branches are still the best high-value delivery channel for banks. Further, finding solutions that allow the branch staff to excel at delivering the right set of services is desirable. All bankers realize the fact that their experts cannot be at every branch to meet with customers. We encourage bank executives to discuss internally our research findings. Pursuing a set of solutions that allows a bank's experts to reach as many high-value customers as possible while keeping expenses down and time for travel to a minimum is indeed achievable.

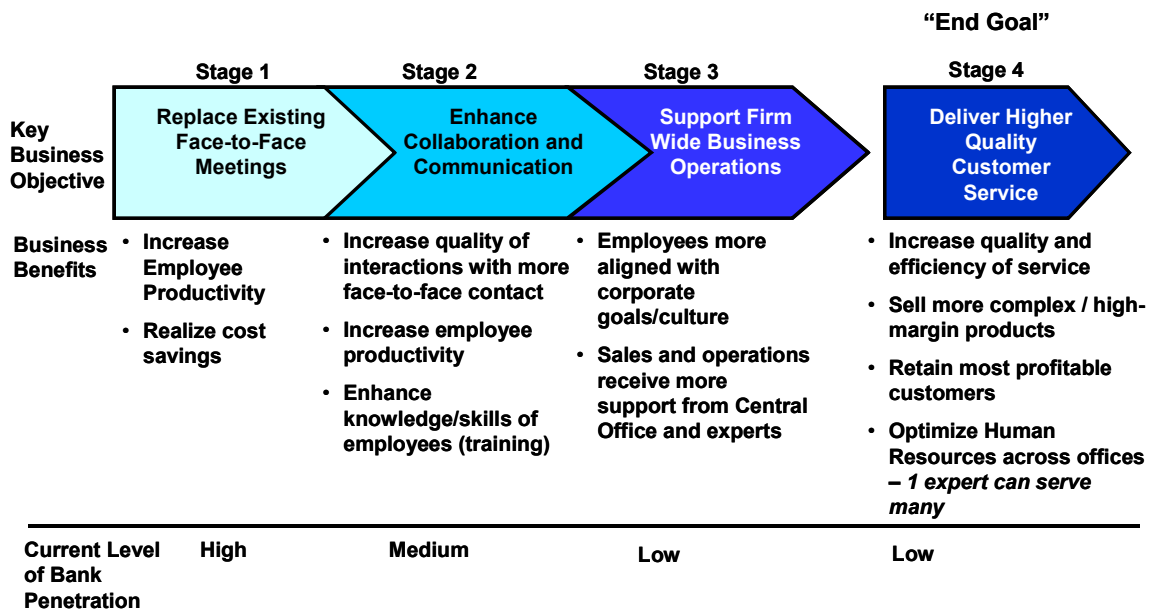
As we will show later in this report, using video technology to provide potentially high-value or profitable customers with the most knowledgeable and personable service can have dramatic improvements on sales and service. Our analysis shows that realizing this ideal customer situation requires planning and a phased implementation model.

Video Technology in Bank Branches

Video technology is becoming ubiquitous at many company headquarters and important regional offices. This technology is at the early stage of adoption within bank branches and smaller regional offices. Research indicates that many banks initially use video technology to improve internal business operations. The business benefits sought in these cases were initially focused on reducing travel time to meetings and replacing onsite face-to-face internal meetings with face-to-face meetings via video sessions. Implementations of video technology for internal business communications are typically highly successful and result in positive return on investments within short time periods.

Our research also discovered that video technology has the potential to add more value to bank branches. Figure F depicts the typical evolution of video technology uses and benefits. We classify these uses and benefits into four different stages that characterize the video technology adoption phases. Institutions using video technology typically plan to extend their capabilities to fulfill more

Figure F: Video Technology Adoption Timeline at Retail Banks



Source: Financial Insights, 2005

strategic goals, such as providing higher-quality customer service and selling higher-margin services in the branch with the support of a larger team of product experts.

In stages 1 and 2 in Figure F, the bank leverages video technology to improve employee productivity by reducing travel time and costs and to initiate more collaboration and communication between managers located in different offices. Often, branch managers are required to staff their branch to meet projected customer activity. When a branch employee has to travel to another location for training or a meeting, at least a half day or often a full day is not available for serving customers.

As a bank enters stage 3, video technology becomes a more effective communication tool than phone and email for executing business strategy in the field. At this stage, a sales manager located in a central or regional office can simultaneously address sales representatives located in several branches. It is also at this stage that video technology becomes ubiquitous throughout the branch network.

Banks that are capable of leveraging video technology to better serve their customers strive to realize its strategic value. At stage 4, video technology is being used to deliver real-time personal and expert advice to customers. Achieving this level of interaction with customers that visit a branch to fulfill more complex financial needs should be a goal for every customer-focused retail bank. It is at this stage that the benefits have the potential to be more significant through higher sales per branch and revenue per employee.

Business Benefits for Banks

Table 1, provides examples of how selected financial institutions around the world are beginning to leverage video technology in the branch. With the exception of the last case, the initial business driver for deploying video technology in the branches was to reduce travel time between the offices. In these examples, the banks manage branch networks that are geographically dispersed. For example, it would take three days of driving to visit all the offices at the New England Credit Union (NECU) based in New South Wales, Australia. In the last example cited in Table 1, video technology is being tested in a customer experience pilot involving five to ten branches.

The business case for lowering costs is the primary driver of the initial investment because, for these banks, the impact of video technology on travel time and employee productivity is significant enough to cover the costs. But, it is typically not the only business reason bank executives have in mind when making the initial decision. Banks of-

ten cite more strategic uses for video technology, such as facilitating the integration of a newly acquired bank, improving the quality of interoffice interactions and, in some cases, enabling real-time access to expert bankers located remotely. In most of the cases described in Table 1, using video technology to improve how the bank operates is considered a medium-term goal.

Some institutions have expanded the role of video technology beyond the initial objective of reducing costs. The case study of the NECU illustrates how even medium-sized community institutions can leverage video technology to provide higher-quality financial services for their customers. In the case of NECU, providing wealth management services to its customers is unique and merits additional attention.

This case illustrates how one institution identified video technology and a high-bandwidth network as critical components of its new customer-centric business strategy. NECU is leveraging its resources and skills to provide direct interactions with its customers and effectively compete with Australia's largest banks.

NECU Case Study

NECU is a cooperative with 45,000 members and \$320 million in assets, located in the state of New South Wales, Australia. The cooperative serves its members through 22 offices, with the largest branch employing 23 bankers and the smallest one employing 2. NECU estimates its market share in the rural state of New South Wales at 20%. The company offers a full suite of financial products and services, including insurance, investment, lending, and deposit products.

A few years ago, the bank revisited its business strategy and came to the realization that, as a small institution that had been focused primarily on reacting to the competition, its best strategic course was to focus on maximizing the satisfaction of its current customer base.

The bank recognized that its branch network was its most valuable asset for enhancing customer relationships. Effectively managing customer service across the branch network was challenging for executives and professional staff, however, as it spanned a 1,500km perimeter. To more effectively control and simultaneously improve customer service across the network, NECU management decided that it would need to invest in centralized communication technologies and a high bandwidth communication network. NECU formed a committee dedicated to evaluating communication technologies for the branches.

Table 1: Current and Expected Benefits of Video for Selected Financial Institutions

Bank	Branches	Current Use of Video in Branches	Future Projects	Key Benefits of Video
Industrial and Commercial Bank of China	22,000	Reduce unnecessary business travel between branches Enhance interbranch collaboration Conduct training	No specific plans mentioned Video identified as key technology for competing against new entrants to China's banking markets	Increase productivity of employees Improve collaboration and coordination
Banco Comercial Portugues	1,000+	Video technology implemented in 300 retail branches of former BCP's Atlantico division to provide high value product information to customers. Now supports new specialist groups dedicated to providing advice/information on higher value-added products (e.g., mortgages) Branch employee training to develop consistent approach to customer service	Continued expansion of video across branch network to support specialists with information dissemination and cross-selling	78% of opportunities discussed via video resulted in customer action Cross-sell ratios on an upward trend between 2001 and 2004 (from 3.5 products per customer to 3.8)
Old Mutual Bank (Part of Nedcor)	46	Implemented in all branches as part of rejuvenation of branch environment post-Apartheid era Used to connect customer with product experts when selling higher-margin products	Many uses for video technology for Nedcor's 500 other branches to improve lackluster sales and service	Improve branch environment, transformation from a prison-like experience to customer-friendly one. Improve customer service and increase sales of higher-margin products at Old Mutual branches
New England Credit Union (Australia)	22	Eliminate travel time between branches Allow wealth management expert to maintain visual contact with clients spread throughout network	Improve service efficiency and effectiveness in branches; in particular, for loan products. Provide expert training to employees across the network	Increase productivity of employees and managers Optimize human resources across network Increase sales per branch Deliver higher-quality customer service
Parish National Bank (Louisiana)	10–15	Eliminate travel time between branches for weekly meeting Facilitate integration of newly acquired mortgage company located in a different state Conduct interview at convenient location for job seeker	Integrate visual communication into weekly business operations, leverage a broadcasting solution to distribute actionable messages to the branches Explore use for financial advisor to address all branches at once, currently traveling to 8 different branches	Increase productivity of employees Integrate new branches
U.S. Credit Union	10–15	Eliminate travel time to attend meetings and training sessions Enable corporate headquarters to address large number of employees	Integrate video technology with Cisco IP telephony Explore expanding video calls to include third-party partners and customers through resolution of security issues	Increase productivity of employee Improve productivity and professionalism of meetings through visual communication
Large NA bank	Several thousand	None	Pilot "express centers" in 5–10 branches with two main goals: 1) Provide self-service capability via kiosks 2) Provide capability to speak to live person via video	Improve customer service; in particular, reduce customer wait time in branches Deepen customer relationships through consultative selling

Source: Financial Insights, 2005

One of the first communication technologies implemented to improve customer service across its branch network and to control quality was an IP telephony solution for contact centers. This system allows customer calls to the contact center to be distributed to branches in accordance with branch resource availability and expertise. The IP voice system was running on a 128Kbps network at the time, which left little room for deploying video technology that requires higher bandwidth capacity.

The need for better communication technologies at NECU grew through 2003 and 2004 for two main reasons:

First, the Australian government passed financial service reform laws in 2003 that would require financial institutions to provide financial advice only through certified advisors.

NECU had only one such certified wealth management advisor who had to service the entire network of branches. The advisor had to drive several hours each morning to get to a branch and typically only had enough time in the day to visit one branch. This situation prevented the advisor from providing prompt or in-depth service and advice to customers.

Second, NECU acquired a credit union with seven branches located several hours from its initial 15 branches.

Managing this expanded branch network would be even more challenging as the travel time between the two furthest branches was over four hours.

Implementation of video technology became possible after NECU obtained a 16x increase in network bandwidth (2Mbps) from its telecom carrier. In October of 2003, NECU placed an order for 22 video systems with TANDBERG. Six months later, each branch had its own TANDBERG 770 video system. This particular system sits on top of a standard TV and delivers CD quality audio and the highest-quality video available.

NECU planned to use video technology to address four primary business objectives:

1) Training across NECU's branch network. Specialists located in Sydney can train all NECU employees in real-time.

2) Expand delivery of wealth management services. A qualified financial planner can address the needs of its clients via a face-to-face meeting without having to spend time traveling to client sites.

3) Instant service on higher-margin products, such as loans and investments. Customers can talk to a loan officer or investment advisor located in any branch in the network if the product expert in the branch is busy.

4) Conducting management meetings between branches and headquarters.

In 2005, NECU is leveraging video technology to provide wealth management services across its branch network. It has yet to use it to fulfill more operationally complex needs, such as providing immediate service to customers seeking to apply for a loan. The company is working on implementing a scheduling system for video calls with customers before implementing real-time lending. NECU is confident that this ability to provide service in real-time to customers that walk through the branch door will generate greater increased sales per branch.

The goal of serving every customer that walks in the branch in a timely manner is one that is driving many of the largest and most customer-focused banks, both global and local ones, to evaluate implementation of video technology in the branch. In NECU's case and in the example of the large North American bank (refer back to Table 1), real-time service is part of these two institutions' new strategic objective of improving the customer experience in the branch.

NECU competes against banks with large branch networks that face the challenge of ensuring that each store has a knowledge base that is sufficient to service the majority of its customers that visit the branch. When a branch suffers a knowledge gap either because the particular expert is sick, on vacation, or visiting another office, the chances of losing a sale on a more knowledge-intensive (and, usually, higher margin) product are high. NECU's strategy reduces the lost sale opportunity cost and keeps its current staff more aligned with overall demand across the markets that it serves.

NECU faced a number of challenges as it pursued its strategy, which is not uncommon when re-engineering infrastructure and operational processes.

- Like many institutions, NECU needed to resolve network and bandwidth issues before it could consider implementing video technology over its network.
- Properly leveraging video technology in the branch can require significant organizational and business process changes that are difficult for technology executives to address alone. Some of the challenges NECU addressed include:

- a. Training employees on how to use video technology with customers
- b. Providing the right incentives for employees located in different branches to collaborate on selling to the same customer when this could mean a reduction in commission.

NECU believes that its video-technology-enabled branch network, which allows bankers to offer face-to-face interactions with the most knowledgeable banker available, is critical to its future success. This capability has the potential to not only bring in more business to the branches, but it also helps banks reduce human resource costs by minimizing the number of higher-cost experts on staff.

The Bottomline — Building Customer Value

Banco Comercial Portugues' (BCP) case described in Table 1 and Figure C shows how a large European bank is successfully providing video-enabled meetings to its customers at stage 4 of the adoption phase. Video technology was initially leveraged to provide information to selected small businesses and self-employed customers about high-value services that the bank was trying to cross-sell, including retirement products. In 2000, the bank simply focused on providing valuable and expert information to customers throughout its branch network. Today, sales efforts via

video meetings are more targeted and involve a specific product specialist to discuss products of "greater complexity" as stated in the company's most recent annual report.

Illustrating the success of these high-value customer interactions is the strong sales close rate achieved with video meetings. The company states that when there is an opportunity to sell a higher-margin product to a customer, product specialists succeed in closing the sale in 78% of the customer interactions fulfilled with a video enabled meeting. BCP's retail banking group has managed to double its market share in mortgage lending between 2001 and 2004, in large part due to customers' satisfaction with the bank's service.

Future Outlook

Video Technology Meets Strategic IT Initiatives

Each year, Financial Insights defines the top 10 strategic IT initiatives that will have significant impact during the year, for both retail and corporate banks. Table 2 highlights four of the top 10 strategic IT initiatives in 2005 for retail banks. These are driven by banks' needs for greater business flexibility and multichannel capabilities, and for stronger customer relationships. Table 2 also describes the role that video technology plays in helping banks achieve these strategic goals.

Table 2: Selected Financial Insights Strategic IT Initiatives for 2005 and the Benefits of Video Technology

IT Initiatives	General Description	Contribution of Video Technology
Dynamic IT	Dynamic IT is about transforming the management of IT and aligning the IT infrastructure capabilities with business processes.	Implementation of high bandwidth networks that can carry voice, video and data is a key infrastructure component of a more dynamic enterprise. Real-time, "always on" video technology enables greater operational efficiency, enterprisewide collaboration and higher-quality customer service.
Developing New, IT-Enabled Revenue Sources	Banks need to look at initiatives to delve more deeply into client relationships and to value-added services based on straight-through processing of payments and information-based services.	In addition to executing financial transactions on behalf of retail and corporate customers, financial institutions are also in the business of providing financial advice. The quality of this advice can be a competitive differentiator and can lead to significant fee-based revenue. Banks can leverage video technology to ensure that branch customers receive the highest quality advice from the right experts, wherever they may be located.
Integrated, Multichannel Delivery Systems	This initiative addresses the architecture and related systems required to meet the needs of both customers and staff if a bank ever hopes to offer 360-degree customer views and service levels across all channels.	Integrating video, telephony and data on one network improves employee collaboration and customer service across channels. Customer information and customer communications (e.g., phone messages, emails) can be shared across channels to improve the quality and efficiency of customer service. Video conference calls between employees facilitates coordination of sales efforts across channels and improves the quality of service delivery to customers.
Intelligent Interaction Management	This initiative focuses on optimizing each customer interaction and tuning the level of bank service to customer value.	Providing efficient and high-quality service to customers is particularly important when selling higher-margin and higher-knowledge-intensive products and services. Video technology accessible throughout a bank's branch network allows bankers to connect customers with product experts and certified financial advisors in real-time.

Source: Financial Insights 2005

It is important to remember that initially banks often leverage video technology to meet less strategic goals of improving employee efficiency and enterprisewide communications. Leveraging video technology to achieve more strategic initiatives, such as those outlined in table 2, may depend on other network and communication technology decisions. Executives need to plan comprehensively to take full advantage of video technology. Our research identified several key areas worthy of management's consideration.

Video Technology Adoption Considerations

As with any technology, successful implementation of video technology requires a clear business need and a plan for adoption. To evaluate how well technology can meet business needs, banks often test the technology through a pilot. With video technology, running a pilot is recommended, particularly when the bank decides to use video technology to service customers. The business case for adopting video technology in some customer facing processes may make sense on paper, but may look very different once it is put into practice.

Identifying business cases where video technology can have an impact on productivity or customer satisfaction levels can be challenging for several reasons:

1) Adoption of visual communication technology requires employees to change their behavior in the work place.

- Banks may find adoption more or less challenging depending on employee reactions to video technology in different situations.
- Banks should review employee interaction with customers and consider changes across different business situations that can be enhanced with video calls.

2) Consumer reaction to video technology is difficult to gauge without testing and experimentation.

- Pilot testing video technology in the branch is essential for understanding both the staff and the customer's experience with video calls.
- Cultivating customer interest is facilitated by onsite demonstrations

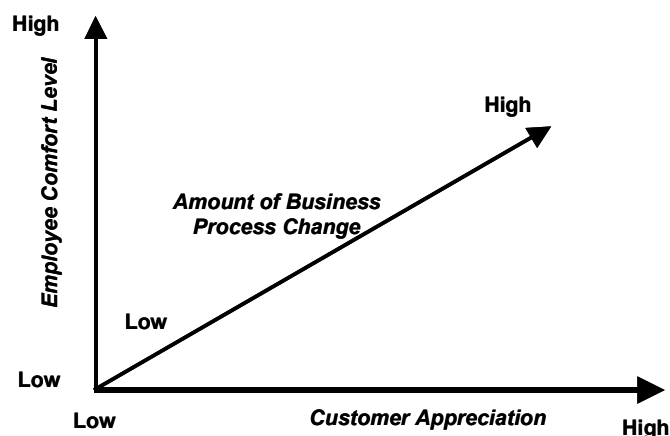
3) Incorporating video technology into business processes requires a bank to review and modify, where appropriate its processes.

- Banks have to be willing to develop (and document) new processes and procedures that incorporate video calls

- Banks will need to train employees on these new procedures.

We suggest that banks begin to leverage video technology in situations where the three adoption challenges outlined above have a limited impact. Once employees and customers become familiar with using video calls in simple situations, transitioning to more complex uses becomes much easier. Figure G illustrates these three main adoption dimensions for video technology.

Figure G: Technology Adoption Dimensions



Source: Financial Insights, 2005

Given these challenges, we recommend that banks implement visual technology following a phased approach whereby the initial phase is focused on meeting the most straight-forward and pressing business needs. In the Appendix we identify four important technical considerations that executives should take into account when making their video technology selection.

The phases introduced in Figure F on page 4 above are illustrations of how Financial Insights sees banks adopting video technology today. Migration to stages 3 and 4 is nascent at this time and is on the minds of IT and operations executives at firms that already leverage video technology at stages 1 and 2. It is most imminent at institutions that already have video technology installed in some branches.

Many of the institutions we have studied throughout our research become introduced to video technology at stages 1 and 2. This experience, however, should not prevent a bank seeking to implement video technology in their branches from leapfrogging competitors by leveraging video technology to achieve stage 3 and 4 business objectives. If real-time advice and value-added customer

service are the most visible needs according to pilot test results and employee feedback, then the bank may succeed at realizing benefits at stage 4. The faster a bank can start to leverage video technology to deliver more added value and real-time advice to customers, the sooner its competitive position will be enhanced.

Essential Guidance

We have no doubt that leading institutions understand how the strategic use of technology is critical to their long-term success. Taking action to realize this potential is a measure of how far ahead of the competition these leaders are strategically.

What should retail bank management teams be considering at this point? A simple or universal answer is too general and leaves most executives unsatisfied. Instead, bank executives should answer these three questions.

- Where will your institution be in three years using its current set of business applications and communication infrastructure with respect to its ability to address, with a high-level of confidence, the strategic IT Initiatives laid out earlier in Table 2?
- Is your bank committed to challenging its existing practices and business processes and pursuing new ones if there is value to your customers and staff?
- Does your institution know with a high-level of confidence with which technology and business partners it will proceed and how it will do so?

If an institution is satisfied with its answers to these questions, then execution quality is the next step. If uncertainty exists around answers to any of these questions, then management needs to focus some attention on its business and IT strategies to get the best answer(s).

The bank's management team should, at a minimum, understand their game plan for the next three years. If the plan is to continue with business as usual, then the focus is probably on operating costs, productivity, and staying even with competitors. Banks that need to improve on any of these three fronts should be looking at their business operations. Opportunities to reduce costs and keep staff in the branch more often should be a good thing. These banks should consider a plan that encompasses stages 1 and 2 from Figure F.

If the plan is to gain ground against competitors, then bankers need to make sure that their firm's infrastructure, business applications, and customer-facing business processes will position their staff to deliver better customer experiences which will lead to increased market share and in turn more customer wallet share. These banks should consider a plan that covers stages 3 and 4 of Figure F.

Finally, business and IT executives should be seeking to leverage every element of their IT infrastructure to support current and new requirements. Those bankers who are raising the performance bar by converging communication networks and engaging video technology to deliver more personable and value-added services like real-time expert advice to their customers are taking intelligent steps to be ready for the rest of the 21st century.

Appendix

Network Considerations

Before moving forward, bank executives need to understand how their communication infrastructure must change in order to compete in retail banking in the 21st century.

Bandwidth Requirements

When looking at how video technology can fulfill business requirements, one cannot ignore the institution's network infrastructure. A network that can carry video images must have a bandwidth capacity of at least 384Kbps in order to provide a high quality video. If the network used to support video calls also supports data and voice communications to the branches, the bandwidth requirements are higher. Fortunately, technology advancements have dramatically reduced the cost of bandwidth and the bandwidth required to achieve quality video.

The Movement Toward Video over IP Networks

Thanks to advances made in IP-based network technology over the last few years, video calls and telephone conversations can now be completed reliably using Internet technologies. Until recently, financial institutions that have leveraged video-calling capabilities had to install a separate network to carry video, such as an ISDN. The cost of an ISDN can be expensive as it is priced per use. By comparison, transmitting data over the Internet would only cost banks the monthly access fee paid to their Network Provider. In addition to realizing a significant decrease in the price of the network service, a converged network also reduces the cost of operating video technology systems. This is in part due to the ability to leverage the same staff that manages the data network for management of the video or voice network. These cost advantages have stimulated adoption of video over IP networks in the financial services industry.

Using one network for all communications is an example of a strategic enterprise architecture. One significant example of bank adoption of converging voice, data, and video communications onto one IP network is Bank of America's announcement in October 2004 that it would build a converged network to "improve productivity" of 180,000 employees working at over 1,800 locations in 29 states.

A converged network combined with specific applications designed to deliver the benefits of converged communications to end users will allow bank employees to receive

and collaborate much more efficiently. Leveraging a combined voice and data network, employees can:

- Access emails and voicemails from the Internet
- Receive information about customers through the screen on their IP phones prior to call pick-up
- Use an IP phone to initiate a video call with another employee

All of these productivity and customer service benefits resulting from communications convergence are important drivers of current projects to implement video technology on IP networks.

Video Technology Requirements

As video technology becomes a more critical interaction and communication tool within a bank, executives must ensure that the selected video technology provider meets business and technical requirements. In the sections below, we discuss several important factors that banks should consider when selecting a video technology solution. Five major areas must be addressed: interoperability and integration; system management; partnerships, system options, and security.

Interoperability and Standards Adoption

Because many installed video technology systems continue to leverage the ISDN standard, today's systems must be able to support both ISDN and IP standards. TANDBERG's systems, for example, are compatible with all of the International Telecommunications Union (ITU) standards established to support video conferencing over various network media.

Banks should ensure that their video technology provider is using the latest and highest quality ITU standard video codec (i.e., the encoder and decoder, which is the heart of the video technology), while remaining compatible with lower-quality video codecs. This will ensure access to the highest-quality image for a given bandwidth. The new H.264 standard provides high quality images at much lower bandwidths than the previous technology could support (half the bandwidth or twice the quality at the existing bandwidth). TANDBERG's video systems incorporate the H.264 standard.

In addition to interoperability with standard codecs and network communication standards, it is important to consider a system's ability to place calls with heterogeneous systems since a video call may involve

parties that operate systems from different manufacturers. TANDBERG's systems are designed to communicate with those of any video system manufacturer.

System and Video Call Management

Banks should identify video technology providers that can deliver an efficient and cost-effective means of managing their video network, systems, and infrastructure.

TANDBERG offers TANDBERG Management Suite (TMS). The Web-based application enables the scheduling of video calls and system resources. Calls can easily and quickly be scheduled directly in TMS or via Microsoft Outlook or IBM Lotus Notes, allowing business users to incorporate video calls into their daily calendar. TMS allows employees to initiate "ad hoc" video calls via an instant messenger (IM) application that provides information about the availability of individuals connected via IM and their corresponding video system.

Partnerships

Video technology providers that have strong partnerships with leading communication application and infrastructure providers are in the best position to provide systems that can integrate easily with common business communication applications. TANDBERG has strong partnerships with Cisco and Microsoft, two leading technology providers. These three companies have expressed their commitment to work together to drive enterprise adoption of visual communication technology while keeping pace with the rapid changes in networking technology and business communication technology.

Cisco and TANDBERG have partnered to integrate Cisco's CallManager solution with selected TANDBERG video conferencing systems. These video systems enable users to launch a video conferencing session as easily as placing a call. TANDBERG video technology is also integrated with Microsoft Office Live Communications Server 2005 which enables the management of voice, e-mail, instant messaging and video technology through one system. This integration is particularly powerful because Microsoft's instant messaging application allows users to view when others are "present" or available to communicate. Users can initiate group or one-on-one video calls with participants when they see that they are available through their IM application.

Video System Options

Providers of video technology should be able to offer banks a choice of systems that correspond to a range of business uses. For example, video units that support small groups and large groups should be different. System differences might include the size of the video display as well as multimedia (e.g., data, DVDs, etc.) and bandwidth support capabilities. We list these system considerations below:

1) Size — Small, mid-sized and large groups are likely to seek video units of different sizes. Figure H provides an illustration of TANDBERG video technology systems that can meet the needs of different groups based on the employees' needs, business process, application, and physical location set-up.

2) Communication requirements — Communication needs are likely to differ based on the business situation as well. Call center representatives, for example, are likely to use a video conferencing unit to communicate orally rather than to work on a presentation or spreadsheet, for example. Thus, video units that are purchased to integrate with a call center application do not need to have as many multimedia capabilities as do other units. In addition, TANDBERG has designed specific systems to integrate with Cisco Call Center Manager called video telephony systems.

3) Mobility — Bringing video technology to the client can provide excellent advantages, especially around customer care and service. TANDBERG offers wireless video technology systems to deliver the mobility and ease of transport capable of accessing the network through a wireless connection.

4) Site Connections — Banks will have to consider a system's conferencing capabilities. Video systems will differ based on the number of sites that can be connected with one call. The majority of TANDBERG's systems can enable connections with four to eight video sites and an additional four to eight audio sites through a single device. For banking organizations that require several simultaneous connections (e.g., for branch training sessions or Monday morning calls), TANDBERG provides a variety of infrastructure products that would allow a bank to scale up to 128 video and 48 audio sites on one call.

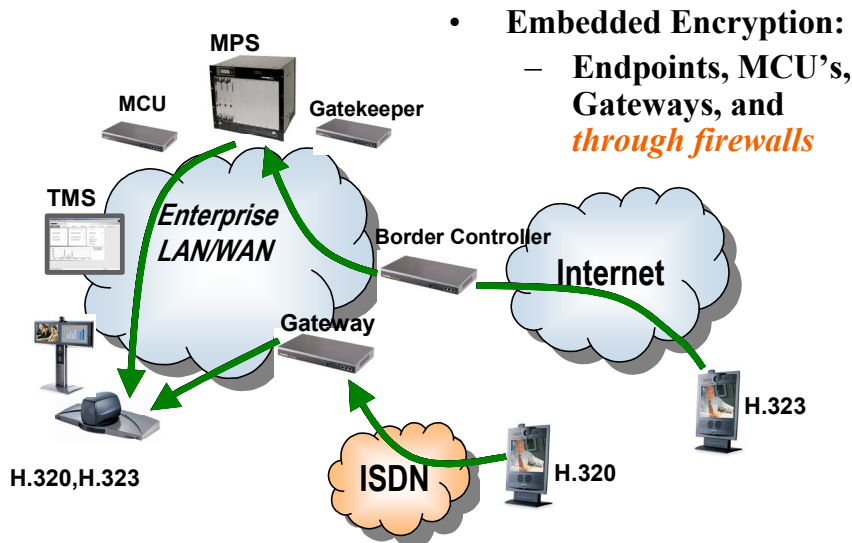
Security and Accessibility

To ensure the secure transmission of video calls, video technology providers rely on data encryption as a standard feature. Ensuring the secure transmission of video data within a company's private network is straightforward. Many banks restrict usage of video conferencing technology outside of the corporate firewall, which means that video calls with external partners, or customers, rarely occur. If they do occur, it is a costly proposition of setting up the logistics and the actual video call.

For banks that are moving into a stage 4 deployment of video technology that want to enable access from advisors, subject matter experts, and customers, receiving video calls from outside of the corporate firewall is a must. In response to this need, TANDBERG developed a firewall traversal technology that enables video communications anywhere by using an IP network. Known as Expressway™ the technology securely tunnels through corporate network firewalls to make face-to-face interactions convenient and cost-effective.

At the heart of Expressway is a universal dial plan that allows the bank to register and easily verify the legitimacy of incoming video traffic. Once the call is initiated, the Expressway technology simply compares the video phone number (something easy to remember like john@customer.com or Branch12@bank.com) against the video system names previously registered with the bank. Once a secure tunnel through the firewall is created, a secure video call is initiated.

Figure H: TANDBERG Video Technology System Components



- **Embedded Encryption:**
 - **Endpoints, MCU's, Gateways, and through firewalls**

Source: TANDBERG.

Definitions:

MCU: Multiple Control Unit (MCU) is a device that enables conferences between multiple video terminals

H.320 and H.323: different ITU standards describing protocols, services, and equipment necessary for multimedia communications. H.323 is the most recent standard, designed for video communication via packet switched IP networks and H.320 is for ISDN

MPS: Media Processing System (a large-scale MCU)

Gatekeeper: Software that manages video communications across a H.323 network, including call admission to accept or deny calls and bandwidth management

Border Controller: Device that enables the traversal of video calls through firewalls and places and receives video calls on behalf of systems on the internal network.

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