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# PERCEPTIONS OF SYSTEM INTEGRATION SUCCESS IN BANK MERGERS: IS BEST OF BREED BEST?

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## Abstract

*Organizing data, maintaining legacy systems, integrating data from disparate systems and gaining competitive edge have long been major issues in organizations. These issues become even more important as organizations expand and eat up their competition through mergers and acquisitions. In this research, we investigate the policy decisions surrounding integration of systems during major bank mergers. In particular, we examine the relationship between the system integrations and overall perceptions of merger success.*

## Introduction

A typical merger will require integration at many levels. At the system level, integration generally means adoption of some systems, conversions of other systems and abandoning still other systems. Additionally, the underlying databases of the organizations are greatly affected. Our research examines how the decisions surrounding these integration processes affect the overall perception of merger success.

The main motivation for database integration research is the need for organizations, as a result of technology, internal restructuring and/or merger activities, to combine data, technologies and systems in order to get a consolidated view of organizational information [Larson et al (1989), Spaccapietra and Parent (1994)]. One common practice in such situations is to convert one system(s) to another and then abandon the old system(s). The cost of conversion is generally high and user satisfaction is low because of the time it takes to convert to the new system and the training issues involved. In addition, organizations generally invest large sums of money in their information systems and abandoning these systems is costly. This database integration stream of research looks for alternatives to conversions and attempts to address the issues of common knowledge and systems by schema integration rather than the conversion process described above. The cost of this integration is purportedly much lower and the user satisfaction much higher when compared to conversion processes.

Schema integration uses methodologies that integrate systems on a conceptual level. In other words, the users have access to a “virtual” view of the data and the underlying databases and software remain unchanged. The integration is transparent to the user and the integrity of the data is maintained because it is not changed. The conversion process, on the other hand, physically takes the data and components of one system and transfers it to another system. Therefore, the likelihood of changed and/or lost data is higher. There is substantial research to support the benefits of integration over conversion [Batini and Lenzerini (1984), Batini et al (1986), Bertino et al (1989), Buneman et al (1992) Larson et al (1989), Spaccapietra and Parent (1994)]. This research has progressed significantly in the past twenty years. However, the integration methodologies have not progressed beyond the theoretical realm. The main area that has yet to be developed is a practical tool to develop corresponding data elements of one system to another. There is thus far no empirical research to support any cost savings in the information systems that would be gained by schema integration.

Technological changes as well as growth of an organization necessitate the need to either integrate or convert systems within an organization. These changes increase the need to share information among business units as well as convert legacy systems to newer, more efficient models. Within an organization these changes are evolutionary. Mergers and acquisitions have the same effects on the information systems of an organization but they do not have the evolutionary process to lessen the impact on the organization. In order for the two organizations to function as one, the data and systems of the two organizations must be merged

in a timely fashion. Our research investigates the management of the systems integration to relate the effects of such a merger on the management of the information systems.

## **Bank Mergers**

Mergers and acquisitions are an increasingly important issue facing many industries in the information age (Kraft, 1998) and the banking industry is no exception. Over a twenty-year period between 1960 and 1979, there were 3,404 U. S. bank mergers and acquisitions. From 1980 to the 2000 the number jumped to more than 8,000 mergers and acquisitions in the United States. The primary reason for the increase is bank deregulation that allowed bank holding companies to begin to acquire out-of-state banks in the 1980s. In addition, although there is a significant peak in the number of bank mergers in the mid 1980s, there has been a continual, upward trend in the number since 1989. While some of these mergers are relatively small, the overall average acquired assets in these mergers are steadily increasing.<sup>1</sup> In fact, some of the major banks have merger and acquisition teams that are permanent business units.

Bank mergers and acquisitions are different than mergers and acquisitions of other organizations for a variety of reasons. First, all bank mergers must be approved by federal bank regulators and regulations prohibit banks from operating as a joint unit until the merger application is reviewed and approved. Second, regulatory requirements such as depository insurance (FDIC) and Federal Reserve transactions mandate that banks be open; they cannot shut their doors in order for a merger to convene or correct adverse effects as a result of failed information systems. Third, the financial risk is great and the customer impact must be minimized. Financial institution mergers must be accurate. Therefore, addressing the impact of *bank* mergers is an appropriate avenue for this type of research.

As important as mergers and acquisitions are in the banking industry, very little empirical research exists to support the connection between a successful merger and the management of the information system integration process and/or infrastructure. The economic impacts and benefits from mergers have been the subject of research for many years [Amel and Rhoades (1989), Benston et al (1995), Calomiris (1998), Gregor and Mara (1992), Hawawini (1990), Haynes and Thompson (1999), Houston and Ryngaert (1994), Linder and Crane (1993), O'Sullivan (1991), Porth (1992), Rhoades (1998)]. Research in this area has focused on the overall economies of scale realized by the merger and not specifically what the contributing factors of the information systems have on the overall, long-term success of the merger. Often the long-term effects on the IT infrastructure are overlooked because of the economic savings of the combined organization.

## **Research Questions**

The overall research question addresses the relationship between the overall system integration of the merging entities and the overall perception of success of the merger. We have conducted two preliminary interviews with three executive officers of major banks. Without exception, all feel that the information system infrastructure of the two merging banks is a primary indicator of the degree to which a merger is successful. Although, none could precisely assess their information systems infrastructure in quantitative terms, all stated that the strength of both the acquiring and acquired bank's management of their information systems directly affected the results of the merger.

Consultants such as the GartnerGroup<sup>2</sup> have long professed a "best of breed" approach. In this approach, an organizations investment in IT has a direct effect on profitability. The more an organization invests in the better or "best" information systems, the more profitable the organization will be. Interestingly enough, however, the executives we talked to, based on their collective experience, said this approach does not work. Prior to the merger, a due diligent procedure is performed. One thing that is looked at during this process is an evaluation of the information systems. When decisions were made to proceed with the "better" system of the acquired bank, other problems reduced the benefit of the better system. Therefore, one of the banks we spoke with adopted

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<sup>1</sup>Statistics were gathered from "Mergers and Acquisitions by Commercial Banks, 1960-83," Board of Governors of the Federal Reserve System, Staff Study No. 142 (January 1985) and "U. S. Mergers and Acquisitions", McLean, VA (1985-1999).

<sup>2</sup>The GartnerGroup is a Stamford, CT consulting group that is a comprehensive resource for information on the trends of the IT industry. They have been widely cited for their research in the area of payback for investment in IT.

a policy to maintain the acquiring bank systems except in rare circumstances. Usually, unless a unique product is identified, the information systems of the acquiring bank endure.

The underlying question this research will address is how the adoption of policies both budget and procedural affects the perception of success. In addition, is the perception of success affected by cooperation and planning? It is expected that the perception of success may be directed linked to philosophy of system selection.

## Research Method

This research is exploratory and involves a new direction. Therefore, we initially conducted on site interviews to determine what kinds of questions can be asked and what the perception of success means to the managers. Secondly, we prepared a short survey.

According to the U. S. Mergers and Acquisitions publication there were nearly 300 bank mergers in 1998. For the purpose of this research, we are looking only at commercial and State Banks that are members of the FDIC. There were 177 bank mergers in 1998 that fell into this category. We have conducted initial phone interviews to identify the CIO or CFO responsible for the merger and to solicit cooperation.

An email will be sent to the person identified in the phone interviews with a link to our site with a web enabled submission form. The survey can be viewed at <http://www.coe.neu.edu/~naveen/mis/survey1/index.htm>. This site is for information purposes only. The live site is secured to control submissions and to ensure that each bank only submit one survey.

## Conclusion

Without a doubt, mergers and acquisitions will continue to be part of the bank model for many years to come. The system integration is a vital and important aspect of these processes. Successful mergers will depend upon the success of this integration process.

As banks continue to look for increased profit margins the economies of scale will not be enough. In addition, customer service interruptions due to poor system integration will not be tolerated. Identification of policies and practices that lead to successful integration is vital.

The correlation between policy and practice and the perception of success identified in this research provides a fundamental building block for identifying “true” success. The results of this survey will be compared to other measures of success such as financial statements and customer impact. In addition, this research will aid in comparing financial growth of the newly merged organization in the years following the merger.

Future research will look at the claim of success. Was it accurate? Has the merger increased or decreased the information system infrastructure? Is the information system management of the merged organization stronger or weaker? How does this assessment impact the future financial statements of the bank?

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