

## **Data Analytics Systems for Small and Mid-Tier U.S. Banks**



**Keith Henkel - CEO**

### **About Insight Ecosystems**

Insight Ecosystems is a privately held, Arkansas-based customer relationship management and business intelligence company. The company was founded and is staffed by industry innovators who served as senior executives at Fidelity Information Services and at Acxiom Corporation. From our collective experiences and extensive knowledge of banking information technology, we have created a unique system that solves business challenges that bankers have faced for decades.

Insight Ecosystems provides clients with a business intelligence ecosystem that learns, grows, and changes to meet their ever-expanding needs. Insight Ecosystems' services and solutions empower companies to gain tangible insight into their customers, products, and financials, turning data into insight and insight into action.

**Interview conducted by: Lynn Fosse, Senior Editor, CEOCFO Magazine**

**CEOCFO: Mr. Henkel, what is the concept at Insight Ecosystems?**

**Mr. Henkel:** Insight Ecosystems provides data analytics systems to small and mid-tier banks in the United States.

**CEOCFO: What do you understand about the process on a fundamental level that encourages belief in the process?**

**Mr. Henkel:** Data analytics is one of those confusing topics today because of all the marketing fluff that surrounds it. In my view, data analytics starts with an understanding of the business problems and the data that banks have today, preparing that data, visualizing that information, determining patterns and trends and finally using predictive analytic models to predict the future or describe that data. About 80 to 90 percent of that effort in the banking world is in preparing the data so that you could even start looking at it because of the nature of bank systems. Banks largely operate on their line of business systems that were designed in the '60s, '70s and '80s, and they really have not changed that much since then. It is very expensive to swap out that line of business technology, which are known as core systems in the banking world, with more modern applications. Banks tend to avoid that. As a result, a typical small bank with a billion dollars in assets may have anywhere from 10 to 15 different systems that are only integrated in a limited fashion. Basic questions such, as "How many customers do I have" are not easy in banking. First, the numbers change from day to day, and second, the answer has to be based on who you count as a customer. For a bank customer, you can be a guarantor on a loan or a signer on a checking account. If you are just a signer on a business account, does that make you a customer or not? There are some very complex relationships in that data. While that data may not be huge by today's big data standards, which largely means machine-generated information, it is big to the banks that have that data. It is very difficult for them to make sense of it. In many cases, the only common information between these core systems is name and address data. It all starts with how to get all that data together and put it into a format that is not only integrated, but also restructured for analytical processes.

**CEOCFO: Are most banks today aware that they should be doing more analysis? Are they aware that the systems are inadequate or are they still not facing it?**

**Mr. Henkel:** That has changed dramatically in the last three years. I would have said three years ago that it is only the larger banks. You have very big banks, which are the top 50 to 100 banks in the United States and in the world, such as CitiGroup, J.P. Morgan, and Bank of America that have been using analytics for 30 years. The next tier down also adopted analytics years ago. The smaller community banks actually represent the largest number of banks in the United States. These are banks with under 500 million dollars in assets. Today, because of all the press in American Banker, Bank Director Magazine, BAI and other publications in banking, they are certainly becoming aware that analytics is something they have to pursue in order to compete. Another trend you will see is that old style banks who have been driven by long-term banking practices and intuition are starting to adopt analytics. When you really start showing the numbers to banks, often times they are very surprised at what their numbers look like.

**CEOCFO: Are there many companies that focus on banks the way you do?**

**Mr. Henkel:** There are, many vendors have focused on the Banking IT market. However, when you look at that continuum of going from understanding the bank's business problems and data to preparing the data all the way through predictive modeling, most vendors tend to focus on one or two of those. For example, SAS software has long provided predictive modeling software used by the banking industry. Each one tends to focus on a niche, and what we found is that even if given sophisticated software and data management platforms, most banks do not have the internal capability to actual drive these tools. When a bank says they want to solve a specific business problem, we actually do the full A to Z solution while helping them understand how to make use of their data. That is unique in the industry and has largely been done by bigger banks that use system integrators like Accenture Consulting.

**CEOCFO: If a bank decides they need to look into what they are doing, how do they find Insight?**

**Mr. Henkel:** The best way to contact us is through our web site ([www.insightecosystems.com](http://www.insightecosystems.com)). We have spent a lot of time on brand awareness and education of the banking industry over the last three years. One of our marketing people has speaking about data analytics at bank CEO conferences. He has probably spoken to around 2,500 bankers over the last two years at state-level conferences using examples from the movie Moneyball to draw parallels between the changes Billy Bean made at the Oakland A's to strategies banks should use to increase performance.

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**CEOCFO: What are some of the common times when a bank comes to you, and what might be something a little more outside the box?**

**Mr. Henkel:** Because this whole concept of analytics is new to our customers and rather complicated, they often ask where they should start. We usually suggest that they start with measurement. In most cases, banks do not have measurement programs in place to show them where they have a problem. For example, if you do not measure customer attrition, you may never know that you have problem. If you do not know you have the problem, how do you know you need to go out there and solve that? Step one is getting a baseline to show where you are performing and where you are underperforming. Then you can use analytics to tackle those problems. Those are the most common cases. We also have bank that ask us to solve a very specific problem, whatever that problem may be. In order to get the most benefit from analytics, we establish feeds to the line of business applications and get updated data on a nightly basis. Every single day we have new and fresh data to analyze and report on. This is very different from what most people in the industry do.

**CEOCFO: On your end, have you developed systems and algorithms that do it or is there human input and evaluation? What is the process that you go through?**

**Mr. Henkel:** Step one is looking at the data they have. Because we have looked at so many systems in the past, it is obvious to us how we have to pull those things together. This starts with an implementation process where we get that data engine running. Much of that is lights-out processing and automation to pull the data in, clean it up, household it, de-duplicate, calculate new values and so on. That is mostly software. After that comes the hard work of finding and quantifying the business issues. A banker may say they have a performance issue in a specific area and they do not know what to do about that. This is where we apply data science to the problem by providing people with an analytical mindset. We provide the services to look into the problem, dig deeper and find out things that they could do to change that performance number. That is more of the data analyst role.

**CEOCFO: What is a concrete example of a problem and what you would recommend?**

**Mr. Henkel:** Here is a simple case where many small banks have an issue: debit card usage. Banks generate fee income from the debit card networks when their customers use debit cards to make purchases. Many banks have customers, especially checking customers that they have had for 10 to 40 years. You would be surprised at the number of years some of these customers have been around doing business with that bank. Many of these people do not have debit cards. The common approach to solving that problem is to go out and do some type of marketing campaign to make offers. We worked with a bank that had about 60,000 accounts with no debit cards. In previous mail campaigns, they sent a piece of mail to each of those 60,000 customers. The typical response to that mailing may be one or two percent resulting in a low ROI because of the print and mail costs. What we did was to look at those 60,000 checking accounts and determine which one of those customers are likely to actually accept a debit card offer and which are likely to actually use it.

**CEOCFO: How do you know?**

**Mr. Henkel:** Transaction data, primarily. If you have a checking account, you may be using it on a daily basis as your primary transaction account. Somebody else may have the exact same product, but are using it just to park money. Many people will set up a checking account, put some cash in it and leave it alone because it is a special purpose account. If

you just look at those 60,000 accounts, you may find that only 25,000 are actually very active in terms of people pushing transactions through them. If they are not going to push transactions through that account, do not bother offering them a debit card because they will not generate any additional income. We also use demographic data, like age and income, along with other attributes such as internet banking and other e-services to provide a profile of the customer. All of that information goes into an analytical model that can generate predictive scores that tell us which of those 60,000 accounts should be targeted. When you target it using analytics, the response rates that we tend to get are more in the 25 percent range. You spend much less money going after them, and you get the same or more responses as you did without analytics. You can actually watch the debit card income go up because you are measuring that on daily basis. Day to day, we can actually see people respond to offers and watch the debit card penetration rate is going from 50 percent to 55 percent to 60 percent.

**CEOCFO: *Typically when you are working with a bank, is it ongoing?***

**Mr. Henkel:** Yes, that is what we prefer but this can also be one of the biggest hurdles to getting started. Banks tend to want to start small. We find that the data needed to solve one problem is the same kind of information you need to find solutions to a bunch of other different problems. With one set of data integrated daily, we can tackle 20 to 40 different problems for a bank instead of doing these little projects where each time you have to get new data, do the analytics and give it back to them. We like working with bankers that are more interested in what can analytics do on a continuous basis. They want to know how analytics can provide them with a sustained competitive advantage versus someone that wants to solve a very special problem one time.

**CEOCFO: *It makes a lot of sense! Why aren't more banks doing this?***

**Mr. Henkel:** Banking is a very old business model and many bankers are resistant to change. Major events in the financial sector, such as the financial crisis and new regulatory burdens, have kept banks very busy. Bankers are now largely past that and looking for additional ways to increase revenue. They see other banks and industries that are leveraging their data to improve performance. Banks know they have all this data locked up in their systems; they just cannot get to it. They do not have the tools internally or the people or processes to do it. Some people are like you, and they will say it makes sense and that understand there is value there. Others will be say that they have been in the banking industry for 20 years, that they are making a lot of money for their shareholders and their customers are happy, so why do anything different?

**CEOCFO: *How can you account for something like a precipitous the fall in 2008 or the fact that nobody expected interest rates to be where they are for this period of time? How can you account for what is outside of the norm when you are doing your analytics?***

**Mr. Henkel:** I would say a couple things about that. First, there were models that predicted the collapse of the real estate market. However, things were going so good that people made decisions based on intuition instead of quantitative analysis. It is hard to say no to moneymaking opportunities. In many cases, people ignore the facts, go after the money and build that bubble. It is not necessarily about precipitous facts that are unpredictable so much as people do not necessarily listen to what the data is telling them. Bankers have been facing the interest rate risk challenge for many years. Most of them run simulation models that show the impact of rate changes. These models do not try to predict rate changes, they help bankers understand and prepare for the risk of rate changes. Analytics is not just about predictions. The right tools, technology, and people can find hidden business problems. Analytics can help find and describe patterns in the data to make them clearer. For example, if I am watching a business that I have a loan with and I start noticing a steady decrease in their checking balances, that is a good indicator they may be having financial difficulties. Analytics can lenders an early warning system so the can reach out to find out what is going on.

**CEOCFO: *How do you provide information like that?***

**Mr. Henkel:** We provide a complete solution that is hosted in our data center, so you could think of it as a cloud-based service. We work with the bank to gather their data, and then we do all the heavy lifting to clean and integrate it on a daily basis. We then provide the banker with intelligence in the form of scorecards, dashboards, and reports that they see on a daily basis. We also generate alerts using business rules and predictive scores that give bankers a specific action item. These can be anything from risk warnings to sales opportunities. All of that is delivered to the banker through a web-based application. We then work with the bank to identify and fix performance issues.

**CEOCFO: *How is business?***

**Mr. Henkel:** It is pretty good now and getting better. More and more banks are seeing the value of their data and understanding how analytics can help. The financial services industry finally seems to be emerging from the financial crisis and recession. However, many banks are still worried about the impact of new federal regulations. The number one growth industry in the banking world in terms of providing service has been the compliance market because of all the things going on in D.C. For a while there, there was a lot of gloom and doom. Many bankers were thinking that they could not survive because of increasing compliance costs.

**CEOCFO: *Put it all together. Why pay attention to Insight Ecosystems today?***

**Mr. Henkel:** For our market, we represent a unique opportunity for banks to go from behind in the analytics space to ahead. We can actually propel a bank from competing as they have done before to having technologies that are actually the equivalent or better than some of the top 100 banks in the country. The service is affordable and we do all the heavy lifting. It is just a way to get ahead quickly without having to make very large capital expenditures, buy software and hire people. That is the story. We can prove at the front end how much money we can make a bank, and often times the first two to three analytical solutions to a problem pay for the whole thing.

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**BIO:** Keith Henkel is the CEO and founder of Insight Ecosystems. He has over thirty years of experience building and delivering pioneering products for the financial services industry.

Before founding Insight Ecosystems Keith was the CTO of Acxiom Corporation's database marketing business where he led teams providing some of the largest databases in the world to a client list of the largest financial institutions in the world. He was also responsible for Acxiom's core data integration technologies which integrate over 60 billion records of data each month, and he spearheaded the development of the first real-time marketing solution for the financial services industry. Before Acxiom, Keith was a Managing Director at ALLTEL Information Services (now Fidelity Information Services). He was responsible for the development of their Information Warehouse solution as well as the development of the industry's very first integrated retail delivery solution, Service Delivery, that supported call centers, branch sales and service, teller, and internet banking. The success of the product suite was recognized by the Microsoft Industry Solutions Award, Information Engineering Consortium InfoVision Award, and Call Center Solutions Award for best call center product. Keith started his career at Systematics, Inc. where he built the first PC-based Asset/Liability Management system. Keith holds a Bachelor's degree in Economics and Business Administration from Rhodes College in Memphis, Tennessee.

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