

## WHITE PAPER - Insider's Guide to Data Visualization for Financial Services

**How Top Organizations Stay Ahead of the Pack: By Corda Technologies***Why Data Visualization is Critical for Financial Services Providers*

The adoption of data visualization solutions is critical for Financial Services Providers (FSP). The daunting task of sorting and comprehending massive quantities of data is fundamental to the very existence of any successful FSP. The challenge of meeting perpetually changing regulatory requirements, coupled with the basic business need to make sound strategic judgments from all available information will make dynamic, interactive data visualization solutions more and more critical during the next several years.

In the past, FSPs were doomed to read and try to digest stacks of paper. Today, they are almost literally watching reams of paper disappear from their desks and reappear in digital formats on their PCs, cell phones and PDAs. To deploy a successful data visualization solution, members of the Financial Services industry will need products that are fast, flexible, robust and easy to use.

This solution white paper discusses how decision makers at financial services organizations can use data visualization technology to explore relationships, perform analysis and more easily understand their data. By implementing PopChart™ by Corda Technologies, FSPs have the ability to improve decision-making by delivering up-to-the-second critical data in an interactive graphical representation that is easy to understand.

Corda Technologies believes that integrated data visualization solutions are key in allowing financial institutions to fully leverage their resources to generate new revenues while lowering costs.

**Making sense of a mass of data.**

Financial Services Providers need to reliably handle massive amounts of data from a variety of sources and turn this into meaningful information for real-time decision-making and meet the corporate client needs for powerful analytical capability.

FSPs have become experts at collecting data. The problems occur when they want to view the data in an intuitive format that makes sense to decision makers. In the past, the standard way for people to view data has been in the form of tabular reports that resulted in stacks of paper. Such reports were ineffectual due to sheer volume. These days, no one has time to sift through mountains of paper. And by the time a manager, analyst, or other decision maker had these reports in their hands, the information was two or more weeks old. Such delayed reporting is dangerous in today's volatile markets. That is why most of today's FSPs have moved to a digital format. But without graphical representations of the data, decision makers are still faced with the challenge of sifting through tabular reports and spreadsheets to get to the bottom line.

**What technologies are currently available to solve the problem?**

The spreadsheet has been a long-time companion of FSPs. Programs such as Microsoft Excel have proven very helpful in moving spreadsheets from a hard copy to a digital format, but if the person (or team) compiling a report wants to display the data graphically, such as in a chart or graph, they have to construct them manually in Excel. This process involves several hours (or days) worth of work to crunch the data and feed it into appropriate formulas that would produce a static graph. The effort necessary to update a graph in Excel is generally time-consuming and very expensive. To update a graph in Excel, someone needs to access and obtain new data, open the worksheet, enter the new data, adjust the graph range to cover the new data, copy the new graph, insert the new graph into a Web page, and then finally, publish the Web page. This manual process also opens the door for errors that could allow outdated or incorrect information to be distributed throughout a company and beyond.

Again, this process can be a very expensive endeavor, even with a "free" program such as Excel. If five employees in an organization each update 10 graphs per day using Excel, (taking into account salary and time spent) the total cost of Excel for one year will be over \$161,000.00. In comparison, the total cost of doing the same thing with PopChart, including the cost of purchasing PopChart's most expensive graphing product, would be about \$15,600.00.

**Creating reports vs. creating results.**

The process of manually creating and producing charts and graphs to represent relevant data has worked fairly well in the past, but it is a tremendous drain on manpower and time. The process of manually going through a 100-page or 1,000-page document then charting various data points against each other usually takes as much as two weeks or more.

Many large companies have entire groups of people dedicated specifically to the task of amassing and assembling data from various departments and locations, which due to the winds of change are rendered obsolete by the time they are finished.



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The two-week gap between when the data is gathered to when the report is finalized produces a fog of uncertainty. Today's FSPs need to know what is happening right now, not two weeks ago. A great deal of change and evolution can happen to any marketplace in a short amount of time. Organizations and decision makers need the power to recognize and capitalize on trends at the very time they occur. To illustrate this point, Federal Express installed PopChart to track package delivery failures. Before FedEx implemented PopChart, it took 83 person-hours per week to generate the report. The results were compiled in an enormous report consisting of 1,250 printed pages.

After the PopChart installation, it took one single person-hour per week to generate the report. The information was delivered in a series of drill-down graphs that effectively allowed managers to access any data point from the old 1250-page report in six mouse clicks or less.

With the help of a dynamic, interactive platform such as PopChart, FSPs gain the ability to go far beyond static graphs and charts. FSPs can use PopChart to create and present intuitive and eye-pleasing, interactive data-driven graphs and charts that automatically update themselves as the data underneath them evolves.

A major advantage of interactive graphs over static images is the ability to drill down to more in-depth information and rolling over the graph with a cursor can reveal specifics on certain data points. Selecting a chart segment can produce an instant pop-up segment with more detailed or related information.

### **Reporting prime information in prime time.**

Very seldom do reports that land on an executive's desk come from a single source such as one database in the residential loans department. Usually, an executive wants to see the big picture, which would include a summary of several business units compared against each other to answer the questions "What is my true revenue and what are my true expenses?" "How are results tracking against my goals?" "Which of my areas of responsibility needs my attention right now?"

Receiving a timely answer to these questions requires a very flexible solution that is powerful enough to enable decision makers to access several different databases (running on different platforms), perhaps even in different states or countries, then combine this data in an easy-to-understand visual format to obtain a salient view of the business—all in an effort to make informed decisions.

PopChart is the fastest, most robust, and most versatile data visualization and charting tool on the market today. Since PopChart tools are written in one hundred percent Java, they can run on any platform. No matter what environment FSPs operate in, they can take advantage of PopChart's patented technology to deploy state-of-the-art interactive data-driven graphics.

With PopChart, a company can easily have multiple data sources powering a single chart. Without PopChart, a Herculean amount of human effort would be required to access disparate databases to flush out relevant data to create charts and graphs. PopChart is flexible enough to take multiple data sources and put it into a single, intuitive chart or graph and then place that graph in a dashboard to provide a clear overall picture of what's happening in the company.

PopChart allows FSPs to visualize data in more than 25 different chart and graph types, including bar, line, pie, radar, XY, time, bubble, and stock graphs. Users can layer multiple graphs on top of each other to create their own unique graph types. The possibilities are endless.

Users have control over how these charts and graphs look. Graphs can be annotated visually using imported graphics. Any GIF, JPEG, or PNG image can be imported to enhance the visual presentation. For instance an FSP can import the company logo as a background image, or add transparent effects to turn the graphic into a watermark.

To increase the usefulness of the chart or graph, pop-up text can be inserted to provide additional information or clarification about the data, such as textual annotations. Popup text appears when a viewer moves his or her mouse over a relevant data item. Additionally, callout notes, which are always visible, are boxes of text that explain particular data items.

PopChart can also interface with databases via Web application servers. In other words, if a Web server can access data from your database, PopChart can graph it.

Furthermore, if a FSP were to conduct a sweeping upgrade in its technology, PopChart is flexible enough to go along for the ride. It can integrate with legacy as well as state of the art, off the shelf technology—or a combination of the two.



**View from the executive's seat**

The good thing about current technologies is that banks and other FSPs can collect massive amounts of data regarding almost any aspect of their businesses. The bad news is, without the right solutions to intuitively display the data finding the right answers is like looking for a needle in a mountain of hay.

Take for instance an executive at a large bank with branches in three countries. The executive wants to see an overall view of how the company is performing and to answer the questions, "How is revenue?" "Are the right resources being allocated to the right programs?" "Are we making money or are we not making money?" This executive would need to see data from all of the various business units for a collective view. He is not necessarily concerned with one individual unit, such as checking accounts at one of the branches—but he would have the option to drill down on a specific unit if he needed to. For instance, if that branch's profits suddenly and dramatically dropped—the executive would need to know what happened so proper steps could be taken to remedy the situation.

A view generated with the help of PopChart would enable an executive to compare how the company's small investors unit was doing compared to a commercial investor unit. Or graphs could be generated to contrast individual bank accounts against checking and savings accounts—he would also want to see the results for business services such as payroll and withholding accounts. All this information needs to be funneled directly to him so he can instantly know where the company is, or is not, profitable and he needs to obtain this report without having to manually go into each business unit to gather the information.

**Paper reports vs. dynamic data**

As companies enjoy the benefits of effective reporting solutions—and as they become more and more accustomed to finding the answers to their questions right now instead of two weeks from now—online, dynamic reporting will certainly continue to evolve. And hardbound paper reports will go the way of the Dodo. The marketplace is already seeing this happen and this evolution will be characterized by even higher efficiency in how information is reported and comprehended. It will also be characterized by a more engaging and interactive end-user experience.

**Fast answers to complex questions**

Financial/business analysts at FSPs have different needs than an executive or manager. Executives want to know the bottom line—whether they are making money or not. It is the analysts' responsibility to answer the question "Why?"

Analysts need the ability to perform complex queries on many different data sets—a scenario that simply cannot effectively be done with a paper and pencil or with tools such as Microsoft Excel. For example, an analyst would want to see how profitable the checking accounts are versus the credit card accounts and if they so desired, they could see only people over the age of 60 to find out which produced more profit. The data can be filtered and displayed graphically. Analysts can always return to the database and get tabular data, but it is almost always better when they can see it visually in a chart.

**How fast are we going now?**

How can an executive quickly obtain a view of the business landscape? By utilizing what is called an executive dashboard or a Decision Dashboard™.

A Decision Dashboard is similar to the dashboard on a car. It organizes and presents information in a way that is easy to understand at a glance. Decision Dashboards offer a simple graphical presentation of diverse data that can be used to drill down on underlying information. Gauges, similar to a speedometer, give a quick assessment of a single item by indicating whether the measured data is within set parameters.

Information can be integrated from multiple components into a unified display. Dashboards may be customized in a multitude of ways for to display many data points.

Decision Dashboard provides a powerful way of monitoring the performance of the organization in real time by visualizing that data through the use of charts, graphs and maps. Representing performance data with a Decision Dashboard lets executives and managers quickly identify trends and locate exceptions to those trends.

Dashboards are by nature a flexible interface; they can provide customized views based on roles. For example, the CFO would prefer a view displaying benchmarks and other performance indicators, while the marketing manager would be more interested in how advertising dollars are spent.

**Conclusion.**

Financial service providers that fail to embrace evolving dynamic reporting technologies do so at considerable risk. It only takes one missed trend to put an entire company behind the pack. PopChart from Corda Technologies provides the most effective means of reducing that risk with its fast, flexible data visualization solutions.



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