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Financial Process Improvement through Visionary Intelligence

Overcoming the Limitations of Excel & Modern BI Systems
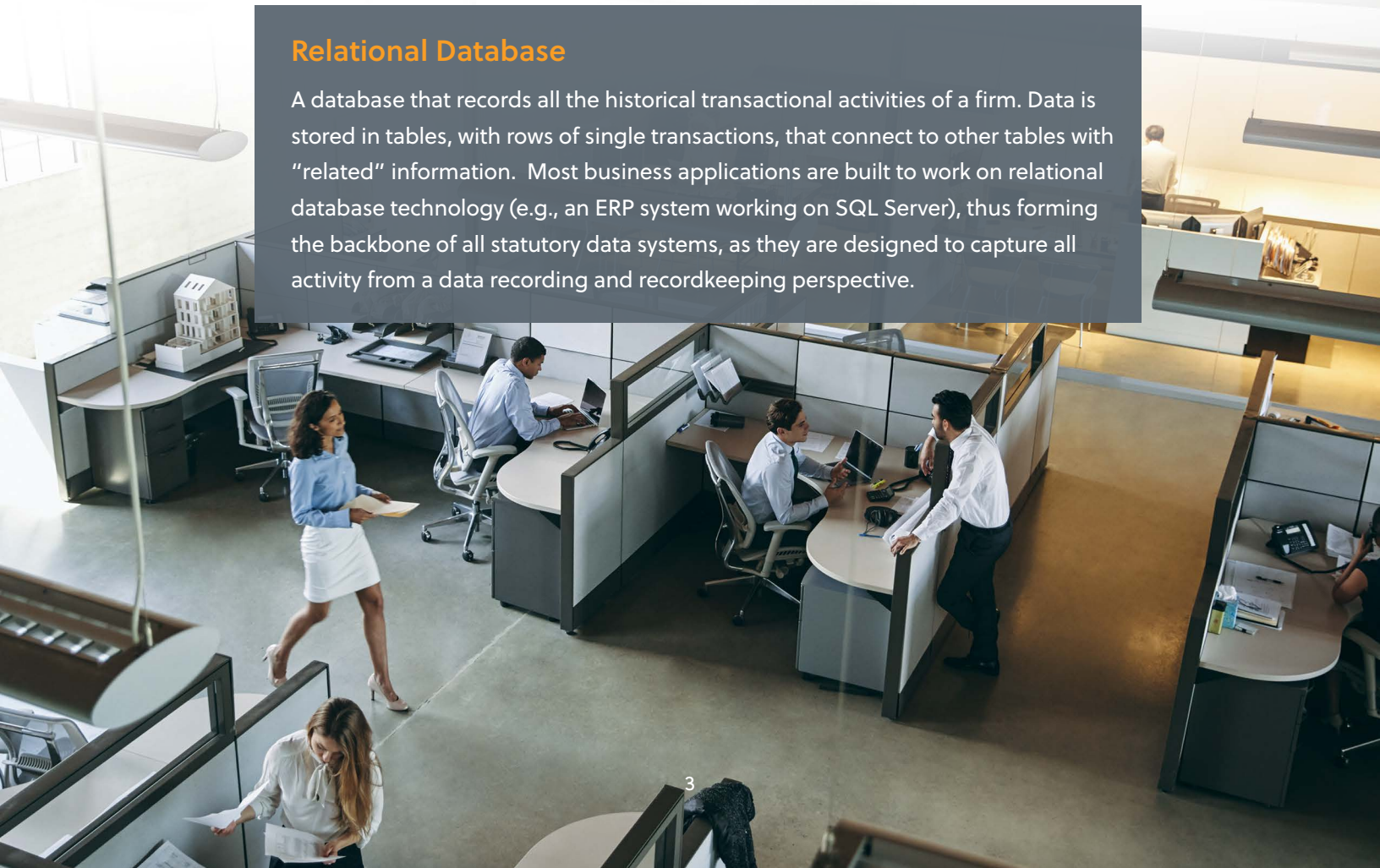
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Background

In many organizations, senior management is frustrated with their ability to improve the guidance and decision support they obtain from financial management processes and finance resources. Most management information is filtered through the lens of several end-user tools that don't complement one another in ways that benefit modern enterprise teams. These inadequate tools also fail to align with existing **relational database** sources, which facilitate data transactions at the most granular level. This means management cannot use the tools available to them to build a complete guidance system for strategic business growth.

What Systems Do You Rely on for...

→ **Business Intelligence**

→ **Financial Reporting**

→ **Data Warehouse Reporting**

→ **Planning, Budgeting & Forecasting**

→ **Analytics & Simulation Models**

→ **Corporate Performance Management**

→ **Business Performance Management**

Relational Database

A database that records all the historical transactional activities of a firm. Data is stored in tables, with rows of single transactions, that connect to other tables with "related" information. Most business applications are built to work on relational database technology (e.g., an ERP system working on SQL Server), thus forming the backbone of all statutory data systems, as they are designed to capture all activity from a data recording and recordkeeping perspective.

The Problem with BI

Every company has a unique financial planning process. Many conduct key business activities (planning, analytics, reporting) using personal productivity tools; they turn to these tools because standard applications or databases cannot deliver as an all-encompassing guidance system. Additionally, personal productivity tools can be mastered and, in limited circumstances, are quite powerful (Excel and dashboard products like Power BI are prime examples). As a consequence, data analysts and other professionals, in an effort to meet management's expectation to monitor, control and achieve their vision, attempt to model data for planning and analytics with tools that aren't dimensionally or mathematically capable.

Companies often make the mistake of relying too heavily on spreadsheets and relational database technology to produce their planning, forecasts, analytics, and reporting. But forecasting models primarily created with spreadsheets and relational databases aren't best practice for modeling; they aren't dynamic and resilient enough to help companies adapt to change and disruption.[1]

Business intelligence (BI) tools—especially data visualization software like Power BI, Tableau, and Qlik—have robust features and connect directly to historical and transactional data systems, enabling users to create stunning dashboards. Yet plans and forecasts require more than flat **historical and transactional data**. Put plainly, it can be tough to create a collaborative (e.g., with 100s of users) guidance or decision support system for management with a series of pie and bar charts.

Companies need a functional solution for processing real-time collaborative planning, analytics, and reporting while ingesting historical and other reference data for comparison, and making sense of it all to support regulatory requirements and faster, more accurate business decisions.[2]

Historical Data & Transactional Data

Historical data is information gathered about specific circumstances that have occurred in the past, offering insight on various aspects of a business's history, and is typically represented by transactional records that capture times, dates, and other related details—essentially a rear-view mirror rendering of company activities.

The Problem with Excel

Excel may be the world's most-used spreadsheet software and most-used database software, even though it was never designed for this purpose.[4] Excel continues to have a large following of dedicated users, in part because employees do not feel that they have any other alternative than to use this familiar, flexible tool found on every workplace computer. Tasked with critical forecasting and reporting duties, data analysts and finance professionals avoid any new systems that are beyond their skill sets or are too confusing to learn; instead, they resort to spreadsheets and other simple methods of "getting the job done."

Finance staff become experts in spreadsheets, building complex financial models for their organization and trying to share them with other team members to power financial planning processes. But relying on spreadsheets as a guidance system for an entire organization is taking several steps backward from the next-level technology available today, especially because spreadsheet products lack collaboration features that go beyond co-authoring, a poor excuse for true planning and forecasting.

Personal spreadsheets are never in sync among individuals, let alone teams, which makes corporate governance difficult, if not impossible. A complex spreadsheet-based forecasting template saved on a single person's desktop is not conducive to stress-free collaboration, and consolidating individual spreadsheets across a larger team into one master spreadsheet—one that lets collaborators access and input data simultaneously—simply isn't possible with Excel alone.

It also does not help that many business leaders declare Excel "a disease that must be stamped out." They believe that spreadsheets require expensive labor, encourage risky data errors, and result in lost knowledge when spreadsheet pros leave a company—all of which are real problems with Excel.[3] But telling teams to abandon Excel creates a hidden spreadsheet and end-user tool culture that is vulnerable to human error and expensive to maintain, even while costly company-provided solutions go unused.

Teams need a single, centralized system accessible through a familiar Excel interface and other BI dashboards that all sync together to reflect data changes in real time. And not just relational database, transactional and historical data, but also the data for what-ifs and shifting plans. Only by finding a real solution can companies ultimately eliminate common spreadsheet problems, like storing valuable data in crowded folders, emailing workbooks to colleagues for input, and updating spreadsheet links that lead to versions upon versions of the same go-to templates.

The Need for Multiple Dimensions

Some frustrated professionals have attempted to address the limitations of Excel by swapping spreadsheet modeling for relational database technology, which is not designed for forward-looking data or analytics, as it can accommodate only one-dimensional transaction data tables.

This path to productivity generally becomes a dead end because spreadsheet users would rather work in two dimensions—managing information organized by rows and columns. (Microsoft introduced data management features to Excel only after noticing people using the tool for its data structure rather than its calculation capabilities; Excel is a convenient way to create a table.[5])

Relational technology is flat or limited to one dimension, meaning it cannot easily support two-dimensional math like cross-footing. But for even the smallest of enterprises, two dimensions are not nearly enough to effectively model a business. Understanding sales success to plan for new products or expand a company's reach would require multiple dimensions to store and compare data by location, account, product, month, quarter, year, and other necessary categories. And saving a two-dimensional business structure—the data and formulas that define a business—means saving a spreadsheet that is locked to two dimensions and only fit for co-authoring, not true collaboration.

Enterprises need multidimensional modeling—using **multidimensional databases**— to plan, forecast, analyze, and act on business data for better business decisions.

Common Dimensions

→ **Products**

→ **Entities**

→ **Accounts**

→ **Cost Centers**

→ **Months**

→ **Years**

→ **Versions**

Multidimensional Database

A database consisting of cube structures built with a powerful modeling language that can support multiple dimensions and function as a central nervous system for communicating, controlling, and delivering on a business's vision through informed decision-making. With its detailed data organization, a multidimensional database allows for advanced query generation and higher performance compared to traditional relational structures and databases.[6]

The Role of Visionary Intelligence

Management teams do not live in the past. Historical numbers alone cannot offer leaders the helpful picture they need to proactively plan and take actions for better business outcomes. Preparing a dashboard to support plans and forecasts can only take them so far. To drive valuable insights, planning, budgeting, and forecasting data needs to be blended and analyzed together with actual transactional data, giving users the flexibility to create ad-hoc visualizations that display all data side by side.

In sum, leaders need to manage their business not just from the historical standpoint that traditional BI delivers, but also from a combination of historical and forward-looking data that has no transactional source. Unfortunately, management must now rely on weak, unresponsive systems that have been pieced together with limited end-user tools and spreadsheets, lacking capabilities for real **Visionary Intelligence**.

What leaders need is a collaborative tool that also embraces the forward-looking data that articulates their vision and serves as a roadmap to the future they envision for their organization.

Executing on this vision will enable financial process improvement and deliver unprecedented gains in ROI and productivity.

Business Intelligence vs. Visionary Intelligence

Even if it includes up-to-the-minute information, Business Intelligence uses backward-looking, historical data to support business decisions. Visionary Intelligence uses forward-looking, future planning data and historical data to support strategic business decisions.[7]

The Conditions for Process Improvement

With management information technology capable of supplying both standard BI and Visionary Intelligence, professionals can finally rely on a single, integrated financial process for providing timely guidance to successfully run their business. For this system to work within an organization, it must incorporate several crucial components that allow data accuracy, security, and advanced collaboration.

Data Independence

It must be rooted in data independence—the practice of keeping data and formulas not in Excel but in a multidimensional online analytical database in live sync with underlying relational databases and using Excel as a dynamic front end. When data is independent, it creates opportunities for data to be collaboratively shared, collected, and displayed in many spreadsheets (and other front ends) simultaneously.

Basic Math, Algebra & Calculus

It must be able to perform the mathematical functions normally found in a two-dimensional spreadsheet, but across all the dimensions of multidimensional cubes, as well as across multiple cubes.

Relational, Spreadsheet & Dashboard Transformational Connectivity

It must be able to connect directly to a one-dimensional relational database table or two-dimensional spreadsheet and transform it live to a multidimensional database, also offering bidirectional capability. The database must also integrate with dashboard products and display them in real time.

End-User Tool & Collaboration Transformational Connectivity

It must be able to connect directly to end-user tools and transform data live. It must foster collaboration, allowing multiple simultaneous connections for relational, spreadsheet, dashboard, and other products. And it must support custom formula calculations, automatic aggregations, and consolidations.

Web Services

It must support web services and have secure internet capabilities both to and from the database to support global enterprises with live data.

Compatibility

It must be compatible with a variety of decision-making tools, without interfering with their normal use. It must add the capability to capture and report on collaborative data from the database itself.

Security

It must contain security features for creating, updating, and changing dimensions, cubes, formulas, and data at the most granular level. It must also allow varying permissions for stress-free collaboration.

The Path Forward

The path forward to financial process improvement begins with transforming Excel from a limited spreadsheet tool to an unlimited hub for collaborative financial modeling, analytics, and reporting. Only when organizations find a way to store data and formulas centrally while still using Excel can they empower their teams—from employees to managers and leaders—to implement lasting planning solutions for genuine long-term growth.

Learn more about PARIS Technologies and its mission to help organizations build comprehensive guidance systems using tools like PowerExcel, a powerful cloud-based system that transforms Microsoft Excel into a collaborative solution for easy information access, contribution, and sharing.

PowerExcel
by PARIS Technologies

Swap Co-Authoring for True Collaboration

Improve Everyday Processes & Productivity

Power Data-Driven Business Decisions

About PARIS Technologies

PARIS Technologies is a leading global provider of team-based SaaS solutions and decision support that develops collaborative modeling, analytics, and reporting platforms to help organizations achieve their vision for the future. By grounding scalable guidance systems in data and formula independence that empowers leaders and their teams, PARIS encourages new levels of productivity and profitability and supports Visionary Intelligence for strategic future growth.

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