Delivering Self-Service Analytics

10 things you need to know
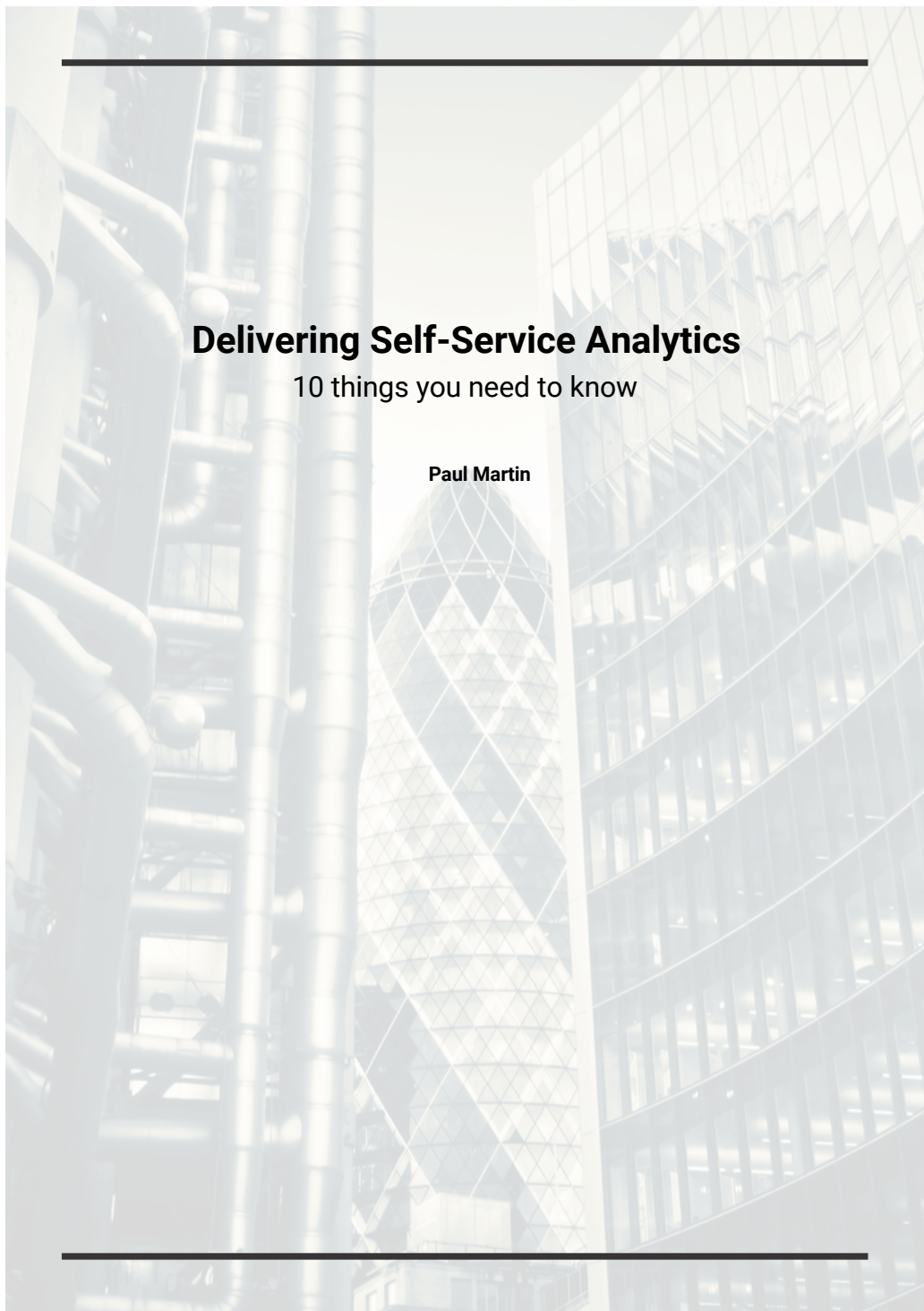
Paul Martin

EiB

EXCEL IN BUSINESS

Automated Analytics. Powerful Insights.

Delivering Self-Service Analytics

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INTRODUCTION

Today, even with innovations in financial reporting, management reporting and self-service business intelligence software, monitoring every aspect of your business is still too complicated. It's essential for you to use the right tools to track your business performance effectively, yet there are dozens of different software applications and approaches on the market, making choices confusing, complicated and all too often costly (especially as your user population grows).

With the majority of businesses trying to manage and present data from operational systems and spreadsheets across different departments and business operations, being able to bring that data into one manageable place is critical.

I have written this guide to show you how a new breed of self-service analytics software can change the way you do things and hopefully assist you in any software selection or implementation process you may be conducting.

My 25+ years within the industry have given me the experience needed to write this guide and share my practical expertise from having personally assisted over 200 organisations in improving their business performance management. I have both high-level business and detailed technical experience, working for major corporations, business intelligence software vendors and through working as a consultant.

This guide is heavily influenced by customer implementation best practices and experts I have had the pleasure of working with in areas such as data visualisation, balanced scorecard, business intelligence, OLAP, data management and big data. It is intended to guide you through what is available in both the public domain and from our independent research and expertise.

If you are considering implementing a system that meets the standards advocated in this document, we can provide this service through Excel in Business' EiB Analytics software modules and associated services.

By leveraging data from your data warehouse and/or operational applications and through simple user development of value added analytical apps on demand, we believe EiB Analytics can provide a one-stop solution for the emerging and challenging area of true self-service analytics.

When it comes to delivering effective management information systems, we are positive that EiB Analytics allows you to deliver much more with fewer resources and at a minimum and known cost upfront.

Paul Martin
Managing Director at Excel in Business

1 - SELECTING THE RIGHT SELF-SERVICE ANALYTICS SOFTWARE

Why do you need self-service analytics software?

I am frequently asked to present on the topic of self-service analytics to both UK and international audiences. Wherever I am or whatever the audience, my opening questions are invariably the same:

1. How many of you believe that effectively monitoring business performance is critical to your company's survival and growth?

2. How many of you plan to recruit additional employees into planning, analysis and reporting roles?

3. How many of you have the ability to confidently generate timely, accurate and relevant management information for every reporting period?

4. How many of you never use Excel for any aspect of reporting and deliver all dashboards, formatted reports, planning and analytics exclusively using business intelligence (BI) software tools?

Let me share with you five years of response data to these questions:

1. 90-100% - believe it is critical

2. 0-5% - have plans to recruit

3. 10-20% - which means 80%+ are worried about some aspect of reporting

4. 0% - I have never found anyone who claims to have eliminated Excel – ever!

So what conclusions can we draw from these responses?

❑ Effective management information delivery is, and always will be, critically important both as a competitive differentiator to enable growth and an invaluable defensive weapon for managing costs during periods of tough economic or market conditions.

❑ Despite universal acceptance of the need and growing demand for management information, right now only 10-20% of businesses actually get information on time and in the formats they require. In addition, very few businesses will be investing in more staff to meet the increased demand.

More demand for analytics with no additional resources is the business reality. The answer for most organisations must be greater use of automated self-service applications to fulfil this increased demand, but without the need for further personnel.

Even with large corporates who may be able to justify and fund additional resources for certain projects, does it make economic sense to try and transform those scarce resources into data collators and Excel wizards?

However, with the pressure and pace of today's business to just 'get things done' perhaps we should not be surprised that Excel is still relied upon so heavily.

Nonetheless, we should ignore the risks of this approach:

Excel adds significant risk to a business on two fronts:

❑ Personnel dependency – how many times have you worried that if the person who wrote those formulae or macros left the company or fell ill, your management information would just grind to a halt?

❑ Data governance - can you really say with 100% confidence that the information you present in your spreadsheets is exactly the information held in your underlying operational systems such as Finance, CRM, HR, Marketing or other operational systems.

Since the mass introduction of access to computers, users and IT have been locked in a debate over how to deliver management information.

The end-user perspective is - "I specify very clearly what I want and after waiting 6 months, I get something back which I don't even recognise".

The IT counter perspective is - "Users hack together models in Excel using all sorts of dangerous formulas, macros and cut and pasted data and when it all hits the fan and the numbers don't add up, for some reason it becomes IT's problem".

I have witnessed the amicable amnesty and alliance that has grown up in response to this potential analysis stand-off. These days, IT typically prepare and secure the data in a data warehouse and self-service BI tools

allow end users to extract and manipulate this information into relevant formats. This approach is endorsed by a definition of self-service business intelligence from TechTarget:

"Self-service business intelligence (SSBI) is an approach to data analytics that enables business users to access and work with corporate information without the IT department's involvement (except, of course, to set up the data warehouse and data marts underpinning the business intelligence (BI) system and deploy the self-service query and reporting tools)."

Source:
http://searchbusinessanalytics.techtarget.com/definition/self-service-business-intelligence-BI

So is this analysis nirvana? IT sorts out the data warehouse whilst users pick a BI tool and away they go? If this is the solution, then why do most companies who have both a data warehouse and one or more BI tools, still use Excel to prepare many management information applications?

In our experience, the simple reason for this is that most BI tools cannot and do not comprehensively address your business's reporting and analytical requirements.

Let's take the common scenario of a sales director whose weekly revenue figures by sales person, product and customer all sit within the company's data warehouse. These have been loaded by IT into the data warehouse from the underlying ERP application which supplies the base data and she can use the company's BI tool to access this data.

However, the sales managers send her monthly revenue forecasts segmented by customer as Excel workbooks and she needs to combine the actual figures from the data warehouse with forecast data from Excel (which of course she wants to look at in different ways - by individual customer or sales rep with consolidated totals).

Traditional BI tools do not handle this specific ad-hoc integration easily and if this requirement has not been thought about and planned at the outset, it may be difficult, costly and complex (needing coding) to resolve. This is just one example of the limitations of that organisation's BI tool in our 'just get it done' way of working and I guarantee that every organisation will have multiple examples of this situation every day.

There is so much information out there that we can analyse. Information that could make a difference to our performance if we could just make sense of it.

However not all of it is within our own environment. Many organisations want to combine internal information from their data warehouses with external information – whether information with retail sales, crime figures with insurance claims or comparative information for industry benchmarking. In the shipping industry, for example, companies want to analyse how their own vessels of a certain specification stack up against industry wide performance statistics
for that vessel type to improve their competitive position.

This external information is not in their own data warehouse but they want to use it and combine it with data that is.

And finally when it comes to the limitations of the data warehouse/BI combination - what about creating three-five year business plans? Such models are usually hand crafted in Excel but are logically classic data mart applications.

They need to present the business through a variety of key metrics (sales, costs, profit), perhaps geography, business unit, product and/or service lines. When presenting the predicted three-five year plan, these applications also need to offer end-users the capability to plug in actual data as the months progress, to accurately measure and analyse the original plan versus reality.

Such applications above require real self-service analytics products. Not only should the software applications access the corporate data warehouse, but also enable power-users to deliver tactical and strategic management information apps using a robust mix of data warehouse and/or a blend of other data sources.

This new breed of self-service analytics products must empower users to do more with less resources and do it within shorter timescales.

But these products must also, for the first time, have approval from IT – offering a more cost effective and collaborative approach to delivering management information.

SO WHO ARE THE 'USERS'?

A confusion which is often deliberately vague when used by BI software vendors, is what do they mean by a 'user'? The MD? The board? All managers? The information analysts who support the management information from a business and final delivery perspective?

In this booklet, we have tried to be pragmatic on how self-service analytics should work and which parts of self-service analytics applications should be used by whom. For consistency we have used the following definitions:

End-user

End-users are people who consume management information, but have no interest of how the information has arrived at their device. They need a pool of information and displays which they know are accurate, timely and respond quickly when they ask business questions.

Examples are the board, line managers, operational managers etc. Typically, end-users will use self-service analytic and BI tools purely from a reporting and visualisation perspective with perhaps the majority or all the content being pre-prepared.

End-users do not typically create data mart or analytical applications. This is because the relationships between datasets from different systems are either not known to them or they have power-users (see next) supporting them, who can perform the task quickly and more efficiently.
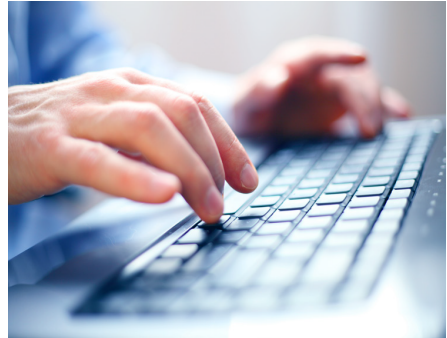
Power-user

Power-users are typically information analysts who are completely business focused, but understand where the data is and the relationships that exist between different datasets.

They are not programmers, but may be proficient in advanced Excel formulas and querying data from within Excel.

Typical power-users may include financial controllers, management accountants, management information and business analysts etc. These power-users will be proficient at using self-service analytics and BI tools and will probably create the analyses for the board.

In the emerging world of true self-service analytics, we see these power-users as also being able to create their own models, data marts and complete reporting apps using emerging self-service analytics software.

2 – HANDLING ALL TYPES OF DATA

Data Sets and Formats

It is almost impossible to accurately predict all the data power-users might want to incorporate into self-service analytical applications. That is why the ability to integrate data from any source is an essential requirement for any self-service solution.

At the very minimum you should ask any self-service BI software vendor if the blend data from diverse sources such as:

❑ Excel workbooks
❑ CSV files
❑ Data warehouse and data mart data sources
    ❑ Microsoft SQL Server
    ❑ Microsoft SQL Server Analysis Services
❑ Generic ODBC data sources
    ❑ Oracle, DB/2 and other relational databases
    ❑ HD Insight / Hive and other big data sources
    ❑ Bespoke ODBC drivers often supplied by application vendors e.g. Accounting / CRM
❑ Information from dynamic web pages. This may include things like exchange rates and share prices
❑ Information from social media campaigns
❑ Manual data entry - so often overlooked and ignored, but essential for any self-service application requiring planning or forecasting functionality

If any of these data sources cannot be loaded into a self-service analytical application by a power user with just access details and the necessary database drivers supplied by IT – you have a problem. Another essential requirement is that these self-service analytical applications must be able to connect to both internal and external databases from both the power-user's device and the corporate servers (with IT's permission). This is where, in my experience, so many desktop self- service analytics applications falter.

When power-users prototype new apps they will typically run the self-service analytics software from their device, and download data from internal and/or external servers into a local model and mash it up as required. When finished, they publish the finished article back to the server, so end-users can access it. This works well for prototyping but if the final live app is run this way with perhaps millions of records, you will get IT's attention fast – but not in a good way!

Once a self-service analytical app has been conceptually proven, the same design used to create the prototype must be easily transferable to the server. This means for live operation, there is far greater horsepower to process the millions of records efficiently. Furthermore, we are not transferring the records backwards and forwards between the server on the network and the power user's device. Many self-service analytics tools only work in the 'prototyping mode' above or they require convoluted redevelopment from device to server (often necessitating IT's help) using a slightly different technology. This is not conducive to speed of development or time to market for new analytical apps.

Combining Multiple Data Sets

As we have shown, self-service analytics software must provide a consistent way to load and combine data from two or more disparate data sources. Where the data comes from and its format are irrelevant to the power-user – they just want to use it to get their jobs done.

3 – DATA TRANSFORMATION, CALCULATIONS AND AUGMENTATION

Data Transformation

Although combining two or more data sources is necessary for the majority of self-service apps, no-one said it would be easy as data comes in so many structured and unstructured types and formats.

Data Source 1 - metrics extracted from a source system such as sales and costs may be expressed in rows e.g.

Metric	Version	Region	Product	Year	Jan	Feb	Mar	Apr	...
Sales	Actual	US	Product A	2017	2000	3000	3200	3100	...
Costs	Actual	US	Product A	2017	1000	1650	1720	1690	...

Above, 12 monthly values for any given year are expressed in the columns. This data could perhaps capture Actual and Budget information.

Data Source 2 - supplying forecast data for a single month, with each of the metrics in the columns.

Version	Region	Product	Year	Month	Sales	Costs
Actual	US	Product A	2017	Period 5	3750	2340

Clearly, the combination of the data above is not conducive for loading into a self-service analytical application as the data should ultimately be combined as one clean, consistent data input to ease and simplify the overall process.

In addition to transforming the data above, we must also massage and integrate the month labels before sensibly combining the two data sets i.e. in source system 1 the dates are Jan, Feb, Mar, but in source system 2 the dates are Period 1, Period 2 etc.

Good self-service analytics software must provide a simple approach to data consistency – transforming and combining information from different data sources without expecting power users to become programmers or understand complex syntax.

Calculations

Combining data from multiple data sources simply and quickly is the starting point for analytical applications not the end point.

In virtually all cases, different calculations and measurements also have to be derived from these base data sources and need to be harmonised to generate both additional reporting value combined with accurate results.

A good example where we have witnessed this is from the insurance industry. We worked with an organisation that loaded policy premium information from one data source and claims information from another in order to create a performance analysis suite of reports and dashboards.

In addition to the integration of premiums and claims the customer wanted to add two persistent calculations, loss ratio (claims % premiums) and incurred loss ratio ((claims + outstanding claims - recoveries) % premiums) to the self-service analytics database. Self-service analytics software must make it simple to include these specific calculations and shared views into an overall reporting picture.

Other forms of calculation may include things like information hierarchies. Many operational systems like ERP and CRM may have some degree of rigidity in the way they can be set up and configured. A practical example here is where an ERP system allows base reporting structures to be configured like business entity, regional offices etc. In the base ERP, all regional offices may have to consolidate to say a single World total i.e. *figure 1*.
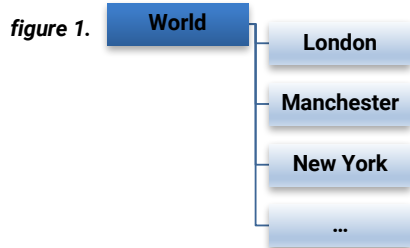
figure 1.

However from a self-service reporting perspective, the users may want to analyse the same data as a multi-level hierarchy by introducing country totals in between world and regional office i.e. **figure 2.**

figure 2.
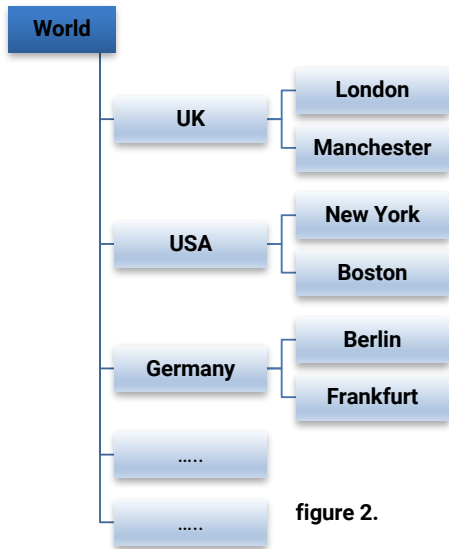
These country mappings may not exist in any application, but the users want them reported in that way.

Very few organisations have a static reporting structure. To make sense of performance at a granular level, organisations must have the flexibility to change and create additional hierarchies within their self-service analytics environment.

Data Augmentation

So far we have focused on how effective self-service analytics enables users to blend disparate data types and calculations to add value to their reporting and analysis. However these are not the only data challenges to address. There are many applications which require data to be classified differently before it is reported.

A good example is the requirement for classification prior to comparative customer profiling, where an organisation wishes to segment their customer database against criteria such as high, on target and low performing customers. These relationships are not likely to exist in the base data, but need to be generated dynamically within a self-service analytics solution using rules that can be easily defined by the user such as:

> 60% profitability = high performing 20% and 59% = on target

< 20% then customer = low performing

Adding these rules makes a world of difference to the way information is presented and increases value to the output produced.

In the above simple example, with this added type of flexibility to further segment customer performance, an organisation can produce an analysis of all customer groupings then fully drill into their status (high, on target, low) over a 12 month period.

In our experience, an element of data augmentation that is too often missing from BI products claiming to offer self-service functionality is the manual data entry option.

A power-user may automatically retrieve actual and budget figures from an operational system into their reporting application, but what happens when the organisation wants its managers to add monthly forecasts and consolidate these automatically to generate actual v budget v forecast analyses at all levels within a data mart model.

If self-service applications do not make this easy, the temptation to dump raw data into Excel and send out workbooks for management completion quickly re-emerges. You then need to try and glue these workbooks back together again for reporting. This naturally reintroduces all the associated risks to accuracy and information consistency.

For planning and forecasting apps, it is vital that any self-service product fully handles both data entry and associated rules to prevent end-users entering invalid data combinations.

4 – VISUAL DEVELOPMENT AND SELF DOCUMENTING APPS

Having examined what information needs to be captured, the value of combining disparate data sets with associated calculations and the requirement for data augmentation (including manual data entry), how can self-service analytics solutions provide all this functionality without Expecting power-users to have programming
skills?

The reality of self-service BI is that there will always be a trade-off between ease of use versus power and functionality; a dilemma BI software vendors face at every stage of product development.

Even from well-established and trusted BI vendors, the leap from building visualisations and models with a few clicks to suddenly needing to code any required functionality, comes all too quickly for many power-users. Too many products require power-users to write scripts (read coding) merely to load the data into self-service models - unless that data is in the most simplest of formats (it seldom is!).

If self-service is to become a reality – generating reporting applications must be both visual and simple. This is the only way to accelerate user adoption, eliminate work arounds and achieve application consistency. Coding should not be required or kept to an absolute minimum.

Nevertheless, it is impossible to eliminate the need for coding completely. In our experience some customers' analytic requirements may be so specific that perhaps only a custom designed SQL query can load their correct data into a self-service model. In such cases, this .'code' must be added as a visual component within the overall environment for developing the application.

This approach maintains consistency and differentiates the point(s) in the model that may require help – perhaps from IT colleagues whilst still allowing the user to edit all aspects of the application surrounding this bespoke code. This approach retains the fundamental tenant of self-service – to ensure that control of the development of the application remains with the power-user.

So having discussed the treatment of data and user control, we would now like to complete our picture of successful self-service analytics by examining the final areas vital to effective reporting and analysis capability - scalability, security and speed.

If you already have an existing data warehouse or data mart – you may wish to consider publishing any self-service application which augments this architecture back to the same server environment for wider end-user consumption and deployment.

For instance you could perhaps take an IT prepared data mart, copy it to another data mart and write enable the new version to add additional capability e.g. forecasting and planning.

Alternatively you could add in data captured from Excel workbooks with soft metrics like customer satisfaction scores and combine them with hard sales performance data from a SQL data warehouse. In our experience, such apps can offer a value add impact whilst nurturing the end-user
and IT partnership.

If you have a data mart (or determine you need data marts) for reporting speed and flexibility, you must be able to output your chosen input data as a 'cube'.

There are many different architectures here from major vendors such as Microsoft, Oracle, IBM and SAP, but we would recommend Microsoft's SQL Server Analysis Services or successor products for their low cost, scalability and functionality.

Any visual development environment for self-service analytical apps must offer you the above choices and make it easy for power-users to change their mind so that they can optimise the performance of their applications.

A successful self-service application means that an organisation's power-users and end-users can be self-sufficient for reporting and analysis – and have eliminated the risks of inaccuracy and inconsistency.

The trick is keeping it that way. This means thinking about a best practice approach to documentation for application designs and databases and saying goodbye to undocumented Excel workbooks that put reporting resilience further at risk.

Documentation is just one area of any BI/analytics project that is rarely done well. If we are to create a new breed of self-service analytics products - documentation must be automated and simply maintained.

This should include both application design (the visual objects which make up the app) and the reporting databases themselves e.g. data warehouses and data marts.

5 – DASHBOARDS, REPORTING AND AD-HOC ANALYSES

Required Functionality

When it comes to dashboards, reporting and ad-hoc analysis most BI products excel in one or two of these areas but seldom all three. If you are evaluating self-service solutions to address specific user requirements in any of these areas, then beware of vendor hype and ensure that any solutions you are considering can comprehensively fulfil your actual requirements.

Recently we talked to an organisation who had purchased a well-established dashboarding product and assumed that formatted printed reporting would come out of the box. Why? Because the dashboards they had seen were so powerful that 'straight forward reporting would surely be a breeze?' What they found was that the product did not meet their formal reporting requirements at all and whilst the dashboards were 'nice to have', it was the

ROI on a new reporting solution that had been used to get board approval for the project.

In search of this ROI, the organisation had to go out to tender once more to purchase a separate reporting solution to compliment the newly installed dashboard product. The result - two products to learn, two annual software costs, and two user interfaces.

Yet another opportunity missed for simplification and lower reporting and analysis costs. Whilst vendors like to differentiate between dashboard functionality, reporting capability and ad-hoc analyses - mainly to justify any shortfalls and their own products' price points and functionality - to end-users these different requirements are all one and the same.

Examples here include:

- A high level multi-chart graphical dashboard linking to several underlying reports supplying the supporting detail behind each of the charts. Each linked report needs to be fully formatted boardroom style, yet also totally interactive with drill down and drill through functionality itself to provide access to the underlying operational transactions;

- A fully formatted P&L report on one page of a financial report pack, with a balance sheet report on the next. Those reports may be auto linked by common criteria such as month or company, so as the end-user changes either, the effect is applied to both reports in tandem.

In addition the end-user may wish to take a row or column of their P&L and immediately perform some ad-hoc analyses on it, by breaking it down dynamically and on demand by any other attribute e.g. region, cost centre, department etc.

The majority of self-service BI products would look at the above requirements and probably say "we can do the dashboarding and ad-hoc analyses parts no problem, but for formatted reports, you should use a complimentary report writer such as SAP's Crystal Reports or Microsoft's Reporting Services". This totally destroys the one self-service platform argument and immediately increases cost, complexity and above all confusion with the power-user and end-user communities i.e. when do I use one and not the other?

Users don't like change – this is one of the reasons for their dependency on Excel which they they feel they know and understand.

They rarely have time to learn a new reporting solution let alone more than one. In our experience successful self-service initiatives ensure that an organisation's reporting and analysis requirements are met in a single, comprehensive self-service environment.

In summary, we believe any self-service BI tool, must be able to cope with delivering the spectrum of dashboards, reports and ad-hoc analyses on any data that exists within your organisation (some of which may have been combined as a data source with external data as previously discussed).

In addition to coping with live, interactive access, a good self-service BI app must also facilitate the automated distribution of static dashboards and reports. Not every end-user may be connected to either the internet or your corporate servers. Many just have email access to the office, requiring well presented content to be pushed to their device of choice on a regular basis e.g. daily, weekly, monthly, on demand.

Apps Not Screens

Most BI tools allow you to view screens containing dashboards and reports sourced from a single data mart or data warehouse. However, more sophisticated queries are needed as part of an app. One example is a Top 50 Customer report from a sales data mart. The user wants to select different products to run against the Top 50 analysis query, but underneath the user may also wish to see detailed context based product information e.g. stock, colour, size, review scores etc., which may be held in a separate SQL Server data warehouse.

This is what end-users expect as an app experience rather than being constrained to just a set of screens, which is typically the norm with standard BI tools.

6 – SIMPLE, EXTENDABLE AND SCALABLE ENVIRONMENT

Self-service analytics applications can have extremely diverse requirements. These can range from multi-faceted business plans, to complex actual versus forecast sales applications, to sophisticated vertical applications like fleet optimisation in the shipping industry, risk management in financial organisations or customer churn analysis in retail or telecoms.

And because organisations rarely stand still, it is important that any self-service application created to meet the needs of the business today can also be adapted over time. New functionality and greater granularity of information, coupled with increased historical data over time must not significantly impact reporting performance for either power-users or end-users.

Here are just a few examples of applications we have witnessed that have had to evolve to meet new requirements:

Reporting Application – a monthly customer performance application monitoring customer spend, customer attrition and customer support costs;

❑ Change required and impact – previously data was loaded each month directly from a CRM database into a data mart where managers had to manually forecast customer data against future months in Excel. The forecasting functionality could not be provided by the base CRM application itself, so it needed to be dynamically applied and added to the self-service app. Furthermore, the data entered by the managers required auto consolidating across all levels of hierarchies e.g. customer, region etc.

Reporting Application – weekly sales reporting application containing all sales information by customer, product and sales rep for the last five years.

❑ Change required and impact – decision made by the board to increase the granularity of the data in the data mart from weekly to daily information. Reporting team were concerned about the impact this change would have on application performance e.g. the ability to provide new 365 period daily trend dashboards across five years worth of data whilst maintaining the ability to quickly view aggregated weekly data broken down by constituent days. Data load times for the data mart increased from 30 minutes to 65 minutes, but end-user response times for reports and dashboards were maintained and consistent

Reporting Application – country based financial reporting application used by 20 finance staff in the company's HQ. A request was made to widen deployment by automating the distribution of P&L reports to 200 users worldwide, providing those reports for just each user's specific cost centres distributed by email.

❑ Change requirement and impact – The flexibility of the self-service application enabled the organisation to make this change with ease. The increased visibility and benefits derived from the initial self-service application generated the demand to give the additional 200 users direct access to their own cost centre detail so that they could get greater insight and ownership over the figures

Evaluation Check List

When evaluating self-service analytical applications we advise that organisations really interrogate potential BI software vendors around the following capabilities:

❑ Changes to functionality – effect and effort to create/amend/redevelop reports and dashboards;

❑ Changes/additions of new application features e.g. data entry, report distribution, dashboards linked to formatted reports etc.

❑ Changes to information granularity – the impact of creating much larger data sets. This is a twofold check, evaluating time to load data into a data mart or data warehouse and then the resulting effect on general reporting response times;

❑ Changes to user base – 10s to 100s of users. Cost and scalability issues;

❑ Changes to performance – whilst users may accept an additional few seconds of processing time for significant increases in functionality, they will not tolerate large time increases to refreshing dashboards and reports.

7 – COST OF OWNERSHIP – UNDERSTANDING COMPONENTS

The Potential Cost of Success

Cost is always a consideration when evaluating any software solution and self-service BI apps are no exception.

Solution components can be broadly broken down into the following areas:

❑ Software costs
❑ Services costs
❑ Training costs
❑ Annual fees

Software costs often seem to be purposely designed to confuse the buyer and must be analysed carefully before taking investment decisions. Most vendors offer an expansive matrix of per user pricing coupled with functionality pricing which can make the accurate assessment of final costs extremely difficult and often wildly inaccurate.

Common pricing parameters include:

❑ How many users are required?

❑ How many users are authors versus end-users? Do you really know this?

❑ Which modules do your users require? Do you accurately know this?

❑ How many servers will you be running the software on? You tell me?

❑ Do you have a disaster recovery environment? Why? (extra money!)

In our experience organisations without all the answers to these questions can find that a $15,000 project can easily become a $50,000 project, or that a $70,000 project leaps to a $150,000 project.

The other variable often conveniently ignored by software vendors in their proposals is the list price increase that can be imposed contractually to each year for their software.

This not only affects any new/additional purchases of the software you may make during the year, but also your maintenance invoice across your entire product/user base.

Another point worth questioning is as your user base increases, do you have an option to adopt an 'all you can eat' unlimited user license and do you know this cost upfront?

Furthermore if you start small, can you upgrade to the 'all you can eat' option by just paying the difference, or are you penalised for not taking the unlimited offer upfront?

In my opinion, self-service analytics vendors must take a much simpler approach, by always offering:

❑ An unlimited user price per country with unlimited servers and unlimited modules;

❑ A worldwide unlimited user license with unlimited servers and unlimited modules.

Both of these options should be further simplified by offering much lower annual license fees which are fully inclusive of maintenance (usually another 20%-25% cost imposed by the vendors based on their list price).

If this approach is taken then cost should not be a barrier to widening the usage of your self-service analytical applications. In addition, if you can accurately predict software cost over a three-five year period, it makes your project's budgeting and forecasting process simpler and more accurate, thus easing the ROI rationale with your board.

After over 25 years working in the BI space we believe this approach underpins wider, long term adoption of self-service apps.

However, whichever route you take we advise that your organisation fully understands the:

❑ True start-up costs

❑ On-going maintenance or annual fee costs;
　　　❑ including inflation factor increases (if applicable) that the vendor can impose without your further approval

❑ Potential growth costs – a successful implementation will require more licenses/software modules

❑ True consulting and training costs – Can these be delivered virtually to save you cost and give you extra flexibility in terms of numbers of users who can attend and multi location audiences who can be fully catered for by single events?

8 – MULTI USER SECURE APPLICATIONS

Two of the biggest problems native Excel users experience when trying to provide analytic applications are:

❑ How do I get the data and application to other users?

❑ How do I segment the application, so that users only see the relevant information pertinent to their job role and/or reporting remit?

Even assuming a real proficiency with Excel and the ability to connect to external data sources from within Excel, the best any power-user is likely to deliver without self-service BI apps is:

❑ Large Excel workbooks 10-100mb+ with all the data for the apps;

❑ A series of pivot tables and pivot charts based on the embedded data for self-service analysis by your end-users.

How do you then get these workbooks to your end-users?

They are too large for email even when zipped (the process of compressing files before emailing and decompressing them back to their original sizes when opened)

The most common approach we see to solving this challenge is to use a networked drive so that users can directly access all workbooks from the corporate network. This is easy to set up so technically feasible and common practice but presents the additional challenges of:

❑ Security - IT managers are increasingly concerned over the lax security of using networked drives

❑ Data access rights - it still doesn't solve the data security issue of everyone who has access to that workbook being able to see ALL of the data within it.

For self-service analytics software to overcome these important security and access concerns, it is vital that applications:

❑ Create natively multi-user data warehouse or data mart apps on the Server;

❑ Enable data security to be set up on the data warehouse and each data mart so that the app can be shared but information access restricted by user identity.

This approach streamlines application delivery, minimises time to market for each application and totally eliminates the unwieldy Excel workbook syndrome.

Thinking about security and data access in advance helps build stronger relationships with your IT colleagues and ensures that your application resides on centralised, standard enterprise technology that IT can incorporate into their backup routines – thus further protecting your data. This approach will also ensure that the data warehouse/data mart architecture is both scalable in terms of database size and multi user access.

Adopting this approach still means organisations can use Excel as the front end to their applications but that the data is centralised - only passing the necessary data elements from the server to the workbook to produce each report and/or dashboard. Getting this element of design and implementation right means that applications are more scalable, accessible, personalised per user and secure.

9 – THE ANSWER IS NOT BI TOOLS, NOT EXCEL, IT'S EXCEL +

If you are reading this booklet you are probably using Excel for some or all of your existing management reporting. If so you will know all about the challenges and risks of:

❑ Resource dependency

❑ Lack of scalability

❑ Manual cut and pasting

❑ Poor data visualisation

❑ Security issues

❑ Formula accuracy
  ❑ are your VLOOKUPs, INDEX and MATCH formulas correct and truly displaying the correct data?
  ❑ PWC and KPMG's research actually says no, they are not!
  ❑ "90% of corporate spreadsheets have at least 3 or 4 numerical or computational errors in them"

❑ Macros

❑ Complex set up and preparation for ad-hoc Reporting

❑ Distribution via email, networked drives or cloud storage services

So why then (when BI tools - which have now been around for 20+ years and claim to address all the above key issues) do you and the majority of users (as in millions of users worldwide), still revert back to Excel?

Ability, Flexibility and Immediacy

Excel gives you the ability to do things yourself. You know how to get there somehow, even if it means burning the midnight oil.

I often use the example at conferences - if your boss said "I want a report that looks just so by tomorrow, otherwise you will lose your job", which tool would you pick? Not one person to date has specified a dashboarding, reporting or BI tool!

Excel gives you the flexibility to present information in the way you want it and whilst careful control and caution must be exercised, this includes adding calculations, annotations and visualisations anywhere.

If your CEO says "just add the following calculations and data to the bottom of the board report, so that we can see where we are now, versus where we want to be", are you going to:

❑ Explain that you can't do that with a BI tool as the data has to be presented in grids and cannot be added to easily in such an ad-hoc manner?

OR

❑ Just dump the data from your BI tool into Excel and add the calculations as requested?

Finally Excel gives you the immediacy of doing things now. OK, it might be painful, time consuming and even risky cutting and pasting your data from the CRM and ERP systems into an Excel workbook to provide a combined report or ad-hoc analyses, but hey – you can do it and you can do it now!

We have spent over a decade in the BI industry railing against Excel – highlighting its short comings and risks for reporting and analysis.

However the facts are:

❑ Excel offers better manipulation and control of the way information is presented than any BI tool. This is ironically compounded by BI tools who try to be more like Excel by offering Excel like functionality. OK, so now you have to learn a new product which does things slightly different to Excel, but you already know Excel. Crazy?

❑ More power-users and end-users understand Excel in detail than any BI tool, which further reduces project risk and eases project resourcing and cost.

At Excel in Business we believe that effective self-service apps are dependent on using Excel but with the addition of a specifically designed self-service BI suite that is fully integrated within the Excel environment itself.

This powerful combination means an organisation can address Excel's shortfalls and capitalise on its strengths - realising the best of both the Excel and BI worlds at a highly competitive price.

10 – INTEGRATING WITH YOUR IT STRATEGY

Whilst at face value, users just want tools to deliver self-service analytical applications and don't really care what it means from IT's perspective - ignoring IT's stewardship and guidance can prove costly and ultimately risk the success of your entire project.

One very successful dashboarding software vendor promised to deliver a reporting app to any end-user in an afternoon. I spoke to a finance manager who had purchased this solution and asked, if it had been possible? "Well yes and no," he replied.

This vendor did indeed deliver a couple of dashboards that partially addressed a single end-user's key reporting requirements.

Delighted with the speed, the end-user spread the word to his colleagues and they all asked for their dashboards to be delivered in exactly the same way. All good, so far.

However in reality, the vendor was creating mini views of the data per person or even per dashboard per person, so after the implementation across several users there were:

❑ Tens of reporting databases

❑ Hundreds of dashboards

❑ No economies of scale - many users required basically the same data with a few tweaks, but instead of creating a common pool, they created one database per dashboard

All this was done without IT's knowledge…Until the reporting server was suddenly on its knees performance wise.

When IT investigated, they then found the tool did not meet their IT standards and the project was forced to move to an alternative BI software supplier, obviously starting again with increased cost and delays to the project.

It is folly not to involve IT in important, long term decisions about reporting and analysis solutions.

At Excel in Business we try and make this conversation easy with application databases and front end tools which can fully integrate with any organisation using a Microsoft centric data warehousing infrastructure. This may not suit everyone, but for the majority of businesses it gives rapid cost effective integration.

When it comes to delivering effective management information, organisations need to choose which database infrastructure they intend to use primarily – Microsoft, Oracle, SAP or IBM.

Some BI vendors will say "well, we don't care because we work across all the major platforms".

That's something for you to perhaps consider, but in the wise words of the founder of the OLAP Report and BI industry expert Nigel Pendse:
"when software vendors tell me they work with everything, my response is – what a pity that you don't work well with anything".

The truth of this statement is that as a software vendor you have to optimise connectivity to a specific environment for scalability and performance.

If you attempt to work across multiple platforms the best you can achieve in terms of compatibility is the lowest common denominator.

This invariably results in delivering sub-standard performance, limited functionality or both.

So Excel in Business' EiB Analytics software suite integrates well with Microsoft's data warehousing and BI platform – including front end tools such as Microsoft's Pivot Tables, Pivot Charts and Power BI product families.

Conversely, any SQL Server Data Warehouse or SQL Server Analysis Services data mart which may already exist in your organisation, will be readily accessible from our EiB ReportStudio software.

Finally our EiB AppStudio software will allow power-users to develop self-service apps using the identical architecture that is used by IT to create enterprise reporting apps, but at a fraction of the complexity and cost.

For the first time ever, power-users, end-users and IT all working together to achieve a common goal of delivering greater functionality self-service apps with less resources.

WHY USE EXCEL IN BUSINESS?

Built on solid theory, research and experience

Our products are the result of combining the expertise of top data warehousing, data mart and data visualisation experts in the world with our 25 years' practical expertise of providing BI reporting software.

Excel in Business' EiB Analytics software suite, provides all the tools you could possibly need to develop and deliver full self-service BI applications, but in an Excel environment that you're already familiar with. Also we provide our software at a fraction of the cost of other commercial BI software alternatives.

Our products are built in Excel which means they are non-disruptive, provide significant time savings through familiarity and require less training. Furthermore, they are accessible to both power-users and end-users alike allowing full authoring and consumption of self-service applications.

There is no reason to export your data from Excel into another system when Excel and EiB Analytics has all the tools and data access technologies built into it. The reason to use our EiB Analytics products is because our customisations to Excel vastly reduce the time Excel gurus would take to build the same thing from scratch for your business.

We have been instrumental in providing highly successful implementations of dashboards, management reporting and financial reporting applications ranging from very large corporations through to smaller customers.

With a practical approach to design and products we are passionate about, we are well positioned to resolve the struggles organisations have with regards to effective data management and visualisation.

Exceedingly fast processing power

If required, our EiB Analytics products can deliver millions of rows of data in Excel in seconds. This is achieved by using our EiB Analytics add-ins to optimise and scale queries between Excel and your data warehouse or data marts.

Simple, scaled pricing

There is a vast difference in cost for Excel in Business' EiB Analytics products to other self-service analytics, dashboard, reporting and business intelligence solutions on the market.

One of the reasons is many other business intelligence vendors require you to estimate the number of users or concurrent users, authors versus users, servers and other factors, which are complex to determine, before giving you a price.

Their estimates may be much higher than you are able to afford or, alternatively, not provide enough licenses for what you discover is actually then required.

Excel in Business doesn't mind how many end-users you have, or how many devices our EiB Analytics software is deployed across, or even if any of these factors change dramatically in the future. There is a simple fixed annual cost for either personal licenses, a country license or even worldwide licenses per product.

Our interest is in ensuring customers are satisfied and wish to continue using the product after the first year – our lower cost means we share the investment during the first year and only profit from long-term, happy customers.

A smaller, more nimble product will continue to adapt to new technologies without costing an excessive amount or becoming a cumbersome weight within your organisation.

OUR COMPANY

Headquartered in London, England, Excel in Business, is a leading supplier of self-service analytical applications designed and deployed from within Excel.

Our core business includes financial management, management reporting and performance dashboard applications delivered to enterprise and mid market organisations.

Excel in Business' mission is to provide fast, simple and scalable reporting applications which can be designed and developed by power-users in record timescales.

Our products use the robust, industry standard Microsoft data warehousing platform so that such applications are developed with IT's endorsement.

OUR PRODUCTS

The integrated combination of our EiB AppStudio and EiB ReportStudio products.

Visual development environment for the creation of self-service analytical applications which can be run from client and server computers. Environment is directly available from Excel for users who are permitted as application authors.

Visual EiB AppStudio tools for:

- ❑ Loading data from relational databases, ODBC, Excel and CSV files
- ❑ Visual objects to transform, combine and manipulate source data, with calculation and rules engine to augment your data
- ❑ Ability to combine multiple data sources into a single model
- ❑ Output to SQL Databases or SQL Data Marts (Analysis Services models) to complement your data warehouse or MI environment
- ❑ Ability to augment applications through enabling data entry for additional data e.g. forecasts and plans
- ❑ Full documentation of AppStudio designs and documentation of any and all data warehouse databases and data marts

OUR PRODUCTS

Excel based reporting suite for your data warehouse, data mart systems and/or AppStudio models.

❑ Dashboard module allows data from anywhere to be graphically rendered as native Excel based dashboards. Contains many advanced charts such as bullet charts, spark lines and spark-bandlines, gauge charts, waterfalls, etc.
❑ Cube reporting module in Excel provides flexible interactive reporting on top of any Microsoft based data mart using SQL Server Analysis Services or SQL Server Analysis Services Tabular models. Train of thought analyses functionality provides powerful ad-hoc interrogation of data
❑ SQL reporting module in Excel provides flexible interactive reporting on top of any Microsoft SQL Server or Oracle database/data warehouse
❑ Report distribution module (RDM) in Excel provides mass distribution of either dashboards, Cube reports or SQL reports to cloud service storage devices e.g. OneDrive, Google Docs, Box, Dropbox etc. or to end-users via email in a variety of formats, such as Excel, PDF, web page, etc.

Excel based application which automates single or multi company financial reporting.

❑ Application software which produces and distributes your month end management accounts, including financial reports (P&Ls, balance sheets) and dashboards
❑ Available for leading accounting systems
❑ New accounting system adaptors available on demand
❑ Embedded Structure Designer facilitates the rolling up of accounts into different financial statements e.g. P&L, Investor P&L, Group P&L, Bank Reports, Statutory P&L etc.
❑ Application which generates Microsoft SQL Server Analysis Services data marts (Cubes) for fast access and flexible presentation of financial data
❑ Contains standard 'out of the box' reports plus report and dashboard designer all from within Excel
❑ Includes budgeting and forecasting module, with direct import and/or direct data entry modes
❑ Has optional multi currency modules for flexible P&L and balance sheet consolidations using any combination of exchange rates e.g. period end, average, opening etc.

OUR PRODUCTS

EiB Insurance Analytics for MGAs, Underwriters, Insurers and Brokers automates the delivery of meaningful management information to your underwriters, board, shareholders and carriers.

- ❑ Comprehensive monthly analysis of all pertinent Premium and Claims data
- ❑ Automated triangulations of complex KPIs such as Earned Premium saving days per month
- ❑ Automated validation, rejection and auditing of all invalid risk and claims information > better quality and self-healing MI
- ❑ Standard monthly application can be extended to handle daily information across any number of underwriting years
- ❑ Data can be combined seamlessly from different risk software vendors and claims houses or EDI outputs
- ❑ Complete reporting environment for all your internal and carrier reporting requirements without leaving Excel, including Dashboards, Management Reports, Operational Reports and Report Distribution
- ❑ Based on industrial strength IT infrastructure: Microsoft BI SQL Server – Analysis Services - Excel - Architecture
- ❑ Lowest cost of ownership and reporting platform for the insurance industry.

EiB Shipping Analytics is about delivering an open, integrated and highly scalable self-service analytics platform, across all your ShipNet data, internal applications and external data sources

- ❑ Comprehensive monthly analysis of your accounting data by Company, Vessel, Cost Centre, Port, Commodity etc.
- ❑ Automation / Semi Automation and Manual capture of industry standard Shipping KPIs as defined by shipping.org
- ❑ Incorporation of Company specific KPIs and targets
- ❑ Full Commercial analysis of prebuilt Time Charter Equivalent (TCE) and Cargo data-marts
- ❑ Complete reporting environment for all your internal and ship management reporting requirements without leaving Excel, including Dashboards, Management Reports, Operational Reports and Report Distribution
- ❑ Based on industrial strength IT infrastructure: Microsoft BI SQL Server – Analysis Services - Excel – Architecture
- ❑ Open reporting and MI platform for the Shipping industry.

PAUL MARTIN

Paul has over 25 years' experience working in the areas of business intelligence, data visualisation, management and financial reporting. Paul has expertise in advising and implementing systems for both large corporates and medium sized businesses.

He began his career at International Computers Limited (ICL) which was known in the industry as the UK equivalent of IBM. There he competed in very big ticket reporting software sales and looked after major public sector accounts such as the Department of Trade and Industry, the Inland Revenue, HM Customs and similar. He then founded HMG Consulting, implementing executive information, budgeting and forecasting systems for five years, advising companies about their strategic reporting requirements and the processes/software needed to fully address these areas.

Paul was headhunted to run the UK sales operation of Gentia Software, who competed against established business intelligence competitors such as Cognos, Hyperion (now Oracle), Business Objects (now SAP), and Micro Strategy. He was on the management team that concluded a successful Initial Public Offering (IPO) on the NASDAQ. Here his team also introduced the first computerised balanced scorecard, transforming management theory into a deliverable software application.

Following this Paul cofounded both ProClarity UK (now Microsoft) and Intelligent Apps (now Sage), where he recognised trends like the influence and market share of Microsoft in the data warehousing space and Excel as a credible and desirable front end tool for companies to adopt for their reporting.

Software from these two companies, at both of which Paul was CEO, resulted in sales to major corporations such as Reuters, Morgan Stanley, Reckitt Benckiser, Shell and hundreds of other reputable and sizable organisations.

Attracting the attention of Sage in the UK, a system was built over their existing accounting solutions which proved very successful. This resulted in the acquisition of IntelligentApps in 2004 by Sage and Paul running Sage's Business Intelligence division.

After leaving Sage in 2006 to establish Excel in Business with co-founder and CTO Nico Kichenbrand, Paul and Nico have concentrated on developing their own product on their own terms, and being able to provide cost effective customer services utilising an innovative virtual model. This allows their consultants to be 'onsite' anywhere worldwide in minutes.

EXCEL IN BUSINESS ETHOS

Excel in Business (EiB) and the EiB Analytics software solutions we offer, come as a result of looking at what businesses really need for self-service analytics, management and financial reporting.

Having worked on over 600 customer implementations, as well as consulting with industry visualisation specialists, business intelligence experts and software developers, we realised that Excel is undoubtedly the most effective and widely deployed reporting platform used by businesses.

Research into usage backs this up, with an estimate of 300–500 million users of Excel worldwide. Not all of these organisations use Excel for business reporting of course, but according to independent research, an estimated 11% do. This means there are somewhere between 33-55 million Excel reporting users worldwide, far bigger than the sum of all other dashboard, reporting and business intelligence products user bases combined.

So with our development team, we sought to build additional functionality for this widely-adopted program, allowing businesses the opportunity to make the most of their existing data, wherever it may be. We consulted with IT departments to ensure any perceived shortfalls of Excel, such as scalability and security, were not only fully addressed but became an actual strength of our Excel based EiB Analytics software.

Our organisation was started in 2006, with an aim to create brand new self-service dashboarding and reporting software which could be installed from within Excel.

Creating a smaller company away from the larger business intelligence and system vendors meant that we could concentrate on creating innovative reporting solutions to address known business problems yet without the usual upfront and ongoing costs associated with wide scale adoption. This means for the first time, reporting systems using EiB Analytics can be deployed to hundreds of users for the same cost as a small departmental solution from other comparable vendors.

With our EiB Analytics software applications and associated services solutions, we offer organisations of all sizes the chance to target and use their existing data to drive their businesses efficiently and effectively. We would welcome the opportunity to show you why we have become so successful using our approach.

FURTHER READING

Providing Effective Dashboards
– 10 things you need to know

Making Financial Reporting Simple
– 10 things you need to know

www.excelinbusiness.com/guides

Delivering Self-Service Analytics
10 things you need to know

Effective management information delivery is critically important both as a competitive differentiator to enable growth and an invaluable defensive weapon for managing cost during periods of tough economic or market conditions.

Whilst organisations universally accept the increased demands being placed on their management information and business intelligence systems and the thirst to analyse greater data volumes to gain valuable insights, hardly any companies are planning to recruit additional resources to bolster their efforts. Information is everywhere - ranging from data warehouses, data marts, external information and Excel spreadsheets.

How do users pull these together without involving IT? Users will need to ensure they have IT's blessing i.e. they are protecting their company's most valuable assets, without compromising security, backups and scalability. Business intelligence systems offer promise, but they don't fully address the key issues of enabling and fully empowering users. That's where a new breed of self-service analytics software enters the fray.

In this unique guide, Paul Martin, co-founder of Excel in Business, explains how you can capitalise on self-service analytics software to deliver effective ROI and what pitfalls to avoid including:

❑ The need for self-service analytics
❑ How to combine information from multiple data sources to deliver apps without being a programmer
❑ How you overcome the practical realities of integrating data from different source systems that do not match up
❑ Using self-documenting visual data models instead of code to deliver self-service apps now
❑ What you should look for when presenting information to users – dashboards, reports, ad-hoc analyses
❑ How you get everybody's buy in – power-users, end-users and IT working in harmony including fitting in with your organisation's IT strategy

And much more!