



bi

# Complete Business Insight, Better Performance

*An Introduction to the BI360 Suite*



# Table of Content

<a href="#">Introduction</a> .....	1
<a href="#">The Modern BI Solution Marketplace</a> .....	4
<a href="#">The Next Phase – Industry-Specific BI</a> .....	9
<a href="#">Reporting</a> .....	11
<a href="#">Planning</a> .....	22
<a href="#">Dashboards</a> .....	29
<a href="#">Data Warehouse</a> .....	32
<a href="#">Financial Consolidations</a> .....	37
<a href="#">Conclusion</a> .....	46
<a href="#">Global Solver Directory</a> .....	47



# Introduction

It might not feel good to engage with topics that we know very little about – or are new to – because who likes to do things they aren't good at (yet), perhaps especially in the context of technology? I get that. I understand what it feels like to be a beginner in a subject matter – and specifically Business Intelligence (BI) analytics and the software that can assist you in achieving your data management and analysis goals.

Maybe you are just beginning to venture into the BI world, or perhaps you have implemented BI tools before, but don't have the depth of knowledge when it comes to modern third party offerings. Maybe you are just not familiar with Solver's BI360 Suite and would like to learn more. Regardless, I was once new to this not too long ago, and I'm here to help.

You probably have a lot of questions regarding the BI solution product category, and particularly with BI360. I am eager to help you understand these things a little better. In this book, we will move from an overview of the BI360 product architecture to zoom in on the specific tasks you can accomplish utilizing the built-in, consumer driven features and functionalities that have made the BI360 suite one of the leading software offerings in the BI sector.

When I was first getting started with BI360, I quickly felt the shift from being the expert with all the right answers to embracing the role of expert with all the right questions. It is my hope that the questions I had are similar to the ones you have now, so that this book may serve to expand your knowledge in this area. If nothing else, I hope it gives you the head start on learning about BI360, so you can hit the ground running when seeking to replace your mature, overly complex or simplistic BI tools with a powerful, modern, and dynamic solution. Let's dive right in and get acquainted with BI360.



## The BI360 Big Picture

When evaluating a new BI tool, it is always important to start by asking, how easy is this product to use? How is it going to improve my day-to-day, month-to-month, and year-to-year performance management processes? BI360 is the first full BI suite, powered by Microsoft Excel (which happens to be the most popular spreadsheet application, and therefore one of the most familiar user interfaces in existence) and Microsoft SQL Server, which makes consolidated data storage and analysis manageable by the business end-user. The suite also

comes equipped with a web portal and a mobile/tablet application for the flexibility that the modern era of business culture requires from on-the-go professionals.

BI360 is a result of a comprehensive analysis of consumer demands. BI360 is designed to facilitate self-service usage, meaning that end-users can quickly design their own reports against familiar data sources or the BI360 Data Warehouse managed by business end-users. The software includes a third generation Excel add-in,

and the similarity of the interface to other popular tools gives most finance professionals an advantage in learning how to utilize the product to achieve robust reporting and budgeting without leaving Excel. BI360 offers a pre-configured, fully built data warehouse and dashboard system that can be customized for business-specific data sourcing and consolidation processes. Finally, the inclusion of web and mobile front-end interfaces allows and empowers teams to collaborate effectively, efficiently, and securely.



On the right, you can see a simplified architecture of the BI360 Suite that I believe is particularly helpful for beginners. BI360's Reporting, Planning, and Dashboards modules can report live off of numerous common ERP systems, as well as the BI360 Data Warehouse. BI360's Data Warehouse is a dynamic and user-friendly system that provides space to consolidate your company information from diverse and disparate distributed data sources for richer BI analytics.



You might still feel unprepared, but this is just the introduction. First, we'll discuss today's BI tool marketplace, with a special focus on ease of use, flexibility, power, and collaboration. Then, we'll move through each component of the suite, so that you can get a better understanding of the well-rounded BI functionality that BI360 offers to business end-users of all levels of experience.



# The Modern BI Solution Marketplace

---

Whether you're new to BI tools altogether or just BI360, you should know that the BI technology landscape is moving at a rapid pace to keep up with customer demands and marketplace competition. There are many buzzwords out there, such as “self-service”, “Excel”, “collaborative”, “web”, “mobile”, “flexibility”, etc. BI360 represents all of these ideas, but there are plenty of software options to choose from today, and you are going to want to analyze the business and workflow needs that are specific to your company, so that you can equip your team with the right tool to achieve your goals. Let's focus on a consolidated list of the top three characteristics to look for in a BI product, and we'll examine them in the context of the BI360 Suite.

## Ease of Use

This might seem like a no-brainer, perhaps especially to beginners, but that's simply not what every marketplace offering delivers. If you think about investing in a software tool, you're not only investing your money, but also your time, your energy, and your staff's morale. If you implement a technology that finance professionals cannot effectively use to produce the requested analyses, it is a waste of your investments – plural. There are several options on the market today that require you to utilize an Online Analytical Processing (OLAP) server or “cube” server as it is sometimes known, which require proprietary platforms that can slow down your ERP server with only one method of data integration.

There are fundamental characteristics to look for in a BI tool to ensure that you are getting an easy-to-use product. First of all, you are going to want to look for a solution that has a platform that isn't hard to learn to use

as a business end user. For most finance professionals, this is Excel and only Excel. It should be modern and sophisticated, but not too complex that the product requires extensive management by the IT department. If you are relying on a BI data store, it should also be manageable and comprehensible by the business end-user. OLAP cubes require you to have personnel that have many hard to find OLAP-specific skills, whereas pre-configured, customizable data warehouses can be maintained by non-IT professionals. In my early days, I was asking questions left and

right about BI processes – and the culture of professionals who were running reports, crafting budgets, generating dashboards, and managing company data. What I learned during this process of discovery is that data continues to grow in volume and in significance in every organization - and that finance teams would like to streamline, expedite, and access their analyses without IT middlemen, complex interfaces, and sluggish ERP servers. We're all simply seeking business-user friendliness in a BI solution.





## Flexibility

What is flexibility in the context of the BI software marketplace? Flexibility means having a variety of options in how you produce, consume, and distribute BI assets. Today's technology allows us to be on the go and still work on projects, e-mail with co-workers and clients, and be aware of what is going on in the office when we're not able to be there ourselves. Now, this also includes the ability to access, manage, and analyze company data from anywhere we can connect to the internet. As an extension of this evolution, web-based and mobile BI applications will continue to roll out, offering professionals the flexibility of viewing reports or dashboards from anywhere they have their mobile devices.

Companies can seem like living, breathing organisms. Departments with specific roles are responsible for different aspects of business which contribute to the greater whole. Knowing that you are going

to see a diversity in both purpose and objective for various teams, it is logical that you are going to need a high degree of flexibility in the ways your team can interact with company data. This is especially true in organizations with remote personnel and a distributed work force of "road warriors" as seen in many companies today. BI360 is a great example of a flexible solution: you can choose to work on reporting, budgeting, and dashboards either on-premises or in your web browser via the internet; the suite is powered by Excel, but the web portal is equipped to display the Excel reports with the same look and feel; you can decide to run live from your ERP for real-time analytics or also integrate data from other transaction systems via the BI360 Data Warehouse for high performance analytics. These options make your company, as an organism, better able to inspire the teamwork critical to high performance.

## Collaboration

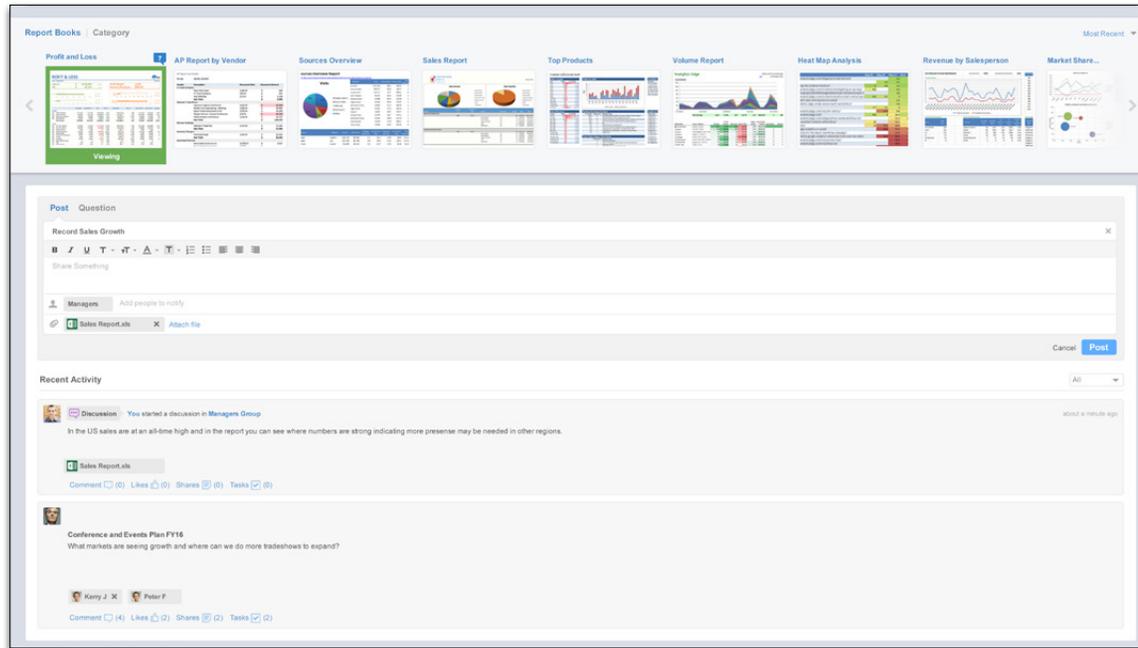
It is not a mistake that the last section ended on a note about teamwork, and this section, called “Collaboration,” expands on that theme. These characteristics, in an ideal BI tool, should build on each other. The product should be easy to use for business end users, so that each of us can meet our goals in analytics. Because the workplace is becoming more spread out, on the go, and remote in nature, we should be seeking products that are flexible and mobile. Our teams should be able to access data and contribute wherever and however is most conducive to their “workstyle.” While not officially a word, I’ll use workstyle as a parallel term to lifestyle, to describe the way you achieve your goals in your work. Now that products are becoming easy enough for all end users to manage, it makes sense that the next evolution involves collaboration.

But weren’t we always collaborating? Yes. And didn’t you notice how tedious it could be at times? BI360 offers built-in collaboration functionality in a handful of different ways. First of all, security is closely tied to collaboration because of the sensitive and usually confidential data that companies are analyzing. Access controls allow specified personnel to view specific, relevant parts of reports, budgets, and/or dashboards based on a centralized data platform, so that contributions

are achievable without lengthy back-and-forth e-mail threads, heavy attachments, and manually linking together spreadsheets at the end of the process. Additionally, you can securely add comments when preparing, reviewing, or explaining issues found in your budgets or BI analyses, and automated email alerts notify only required colleagues when comments are posted. BI360 has placed collaboration as a key component in data management and takes analytics to a whole new level.



*BI360 Web Portal*



The BI360 web portal brings in the culture of social networking – and elevates it to “business networking.” Whenever I talk about LinkedIn with newcomers, I describe it as the professional version of Facebook. When describing the collaborative nature of the BI360 web portal, I compare it to the premium version of LinkedIn. More specifically, you are able to poll co-workers to

make quicker decisions, start and contribute to permanently stored discussions about projects or initiatives, and arrive at conclusions based not solely on data, but also through conversation and teamwork. Across time zones and continents, BI360 users can contribute to their team without bombarding e-mail inboxes, losing conversations once members leave a team, or missing

out on the trail of discussion and decision-making if you have a new team member. The collaboration is staged and stored online, in an effort to accommodate the fast-paced, hi-tech, continually changing face of teamwork in the workplace. Whether it is a report, a budget, or a dashboard, the web portal invites contributors to interact in productive, flexible, and effective ways.

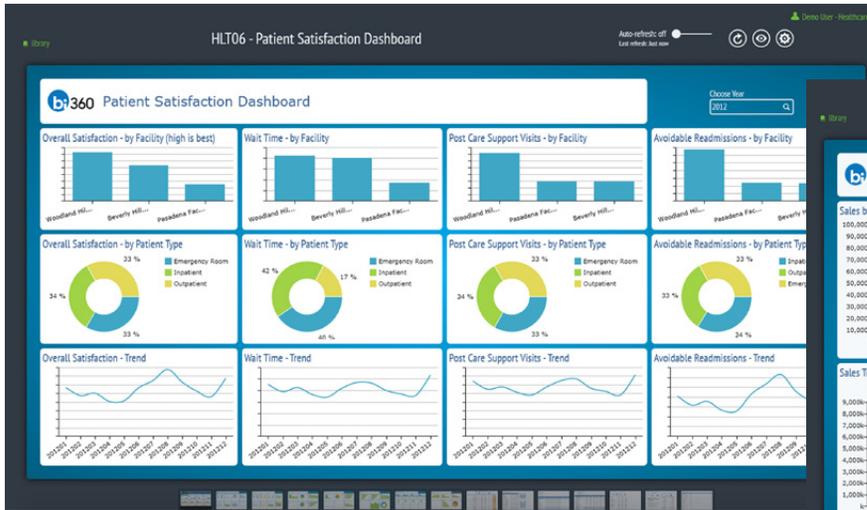


# The Next Phase – Industry-Specific BI

---

As BI analytics become more sophisticated, designed for easy management, and streamlined data processing, independent software vendors (ISVs) are able to tailor their products for industry-specific information management and analytic needs. Solver has taken advantage of the tremendous flexibility found in the BI360 Suite to address problems or challenges that a range of sectors, such as manufacturing and distribution, retail, non-profit, hospitality, healthcare, government, and education, are regularly facing in maintaining and utilizing their data, to make sounder decisions about the future of their organizations. How does this look in the real world? Let's discuss a few examples.

Biotech companies are on the front lines of developing the next generation of prescription drugs, but it is not an easy process. There are numerous hurdles, tests, and regulations to pass and/or meet. It can take over 10 years to get a new prescription drug approved the Food and Drug Administration. However, this is not one big process; these stages are individual projects that contribute to the overall goal. Each project needs careful planning and supervision to ensure that financials and objectives are specific and achievable before, during and after the project is complete. The BI360 Suite offers all industries powerful, self-service analytics, but is flexible enough to offer modules and KPIs that are specific to, for example, a biotech corporation's needs.



*Healthcare Dashboard*

*Retail Dashboard*



Another example could be the manufacturing and distribution sector. Take for instance, a company that produces and sells monogrammed or personalized apparel, accessories, and other giveaways for corporations. They would typically need to go through a routine demand-planning process. More specifically, as a salesperson, you can estimate how many monogrammed hats you expect to sell in the first half of a calendar

year, based on research, historical actuals, and estimated projections. From there, you will then need to contact manufacturers, so they can gather the right amount of materials, staff adequately, produce, and ship all of the materials for the goods you expect to sell. All of these processes involve planning, reporting, and perhaps data visualizations throughout, so that you can best monitor trends in your data. Some BI solutions, like BI360, can offer

you financial reporting, planning, and visualizing capabilities that speak to manufacturing and distribution KPIs, regulations, and industry culture. In these ways, the BI marketplace is expanding by channeling their product flexibility to address industry-specific analytics needs. BI360's modules are all equipped to handle the gamut of modern analysis objectives, with more robust attention to vertical processes.



# Reporting

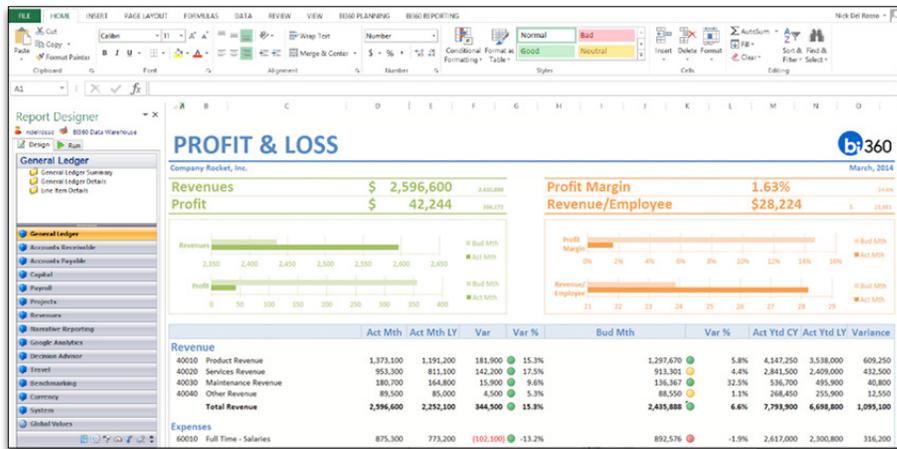
---

Let me bring you some modernity: with BI360 Reporting, you can design your reports in familiar, flexible Microsoft Excel, view financial statements in the spreadsheet program, the web portal, and/or the mobile application, and you can configure automation settings to deliver reports directly to team members' e-mail inboxes. Easy, breezy, flexible, and collaborative. I could stop here, but we've only scratched the surface, and this book aims to upgrade your knowledge.

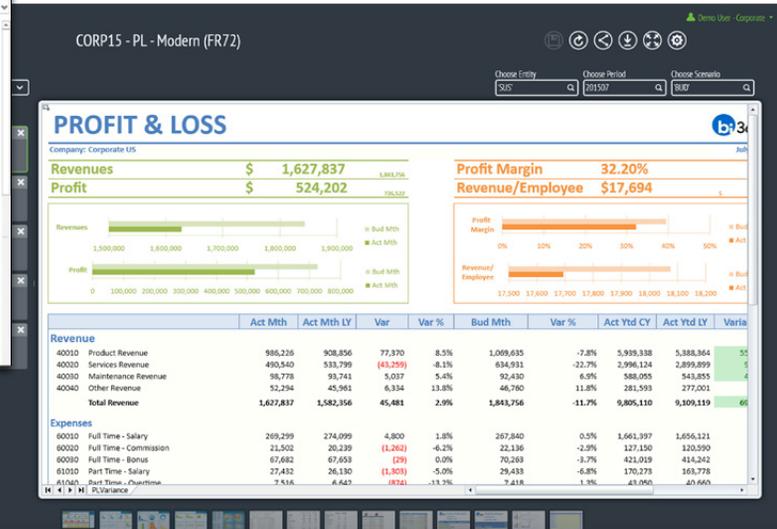
Why might you want to implement BI360 Reporting? It's easy to use, while still a smart and secure technology. Besides the familiarity of Excel for most finance professionals and the flexibility of the web portal, the reports are easy to build with drag-and-drop wizards and pre-built templates. The web portal's collaboration features and alerts upgrade communication and specifically, performance

management discussions amongst your team. You can report on various ERP General Ledgers, as well as sub ledger modules, in addition to popular productivity tools like Microsoft's Customer Relationship Management (CRM) system and Salesforce. If you choose to implement the BI360 Data Warehouse (which will be discussed in-depth later in this book), you can report on any data source that

you replicate to the BI data store. Furthermore, it is a single report writer for multiple purposes, including consolidations across companies, with functionality in the suite to perform currency conversions, allocations, reconciliations, and eliminations. In the architecture visualization, you saw how Reporting interacted with the other modules, with the Data Warehouse perhaps being the most critical.



Microsoft Excel interface



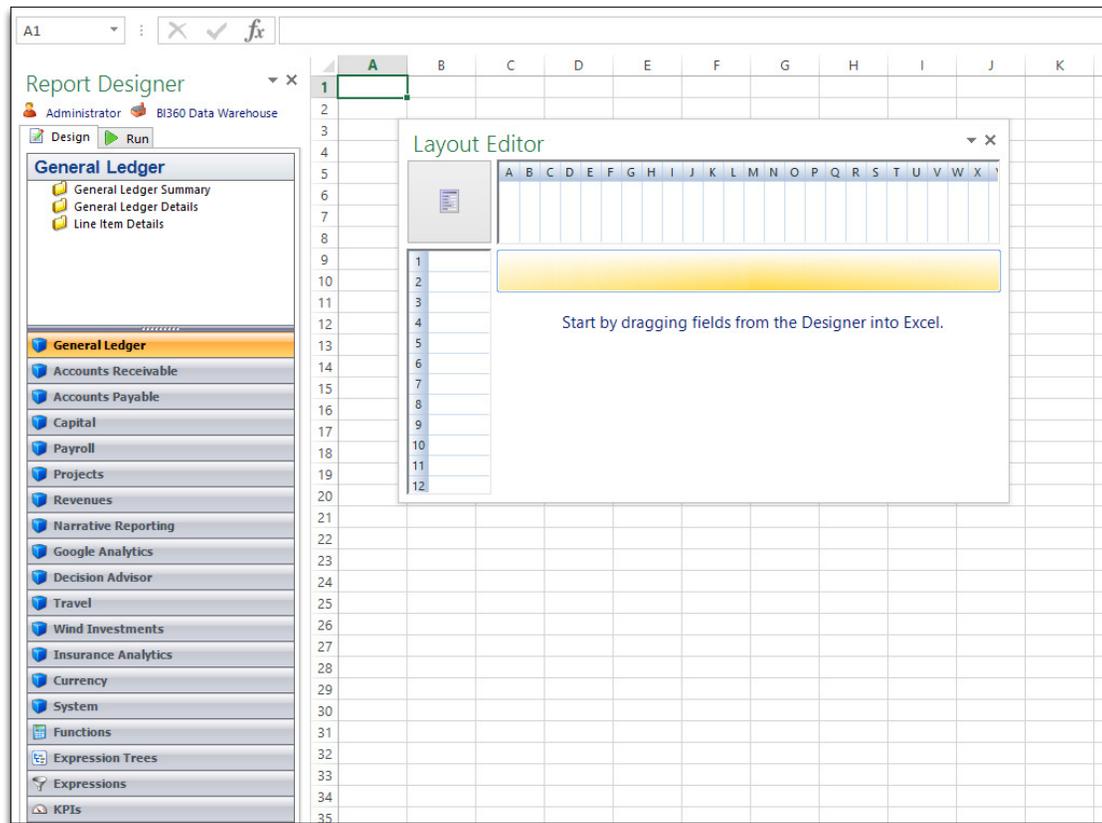
Web interface

BI360 Reporting can be used as a formatted report writer or as an ad-hoc querying tool for quick analyses. As a user, you can decide whether you would like to run live from an ERP system or another data source, like Microsoft CRM. You can also integrate your company information into the BI360 Data Warehouse to consolidate and stabilize your reporting. In other words, if you would like to enrich your reports with data from multiple sources, a data warehouse allows you to bring together a diverse group of sources while avoiding reliance on line-of business (LOB) systems for data queries. This both allows you to leverage built-in consolidation capabilities and to eliminate errors in your data ecosystem.

Let's dive a little deeper and discuss the platform. BI360 Reporting is a third generation Excel add-in solution, meaning that it builds on the experience of two prior successful reporting tools. BI360 is a modern upgrade to the basic spreadsheet program. The interface fully integrates with Microsoft Excel, simply adding a ribbon to the top toolbar for report design and a Microsoft Office-style menu bar for navigation. On the back-end, BI360 Reporting has an Integration Customization tool for power users to customize metadata, used to expand the integration between the front-end and the data source. Confusing? Basically, this functionality allows highly trained users to extend the integration between Reporting and your ERP system, adding pre-

defined accounting logic to avoid technical formulas and translating often complex SQL queries into plain (Business) English, all to make the experience easier for the end user. The metadata for a number of ERP systems, the BI360 Data Warehouse, and certain other sources, is already available out-of-the-box, while for other systems where you may have added custom tables, do require some configuration.

BI360 Reporting consists of two menus: the Excel ribbon and the Excel task pane. The Excel ribbon is generally more of an administrative tool, but there are several key functions that it provides. Through the ribbon, you can start the design of new reports, manage your login, the configuration of the current report, report properties, open and close the Task pane and Design windows, and control other options. Meanwhile, the Task pane, fashioned after a Microsoft Outlook menu, has two main features: the Designer Tab is used to design and run reports (usually utilized by business users trained as power users) and the Player Tab used to run reports (typically used by end users, such as department heads or executives).



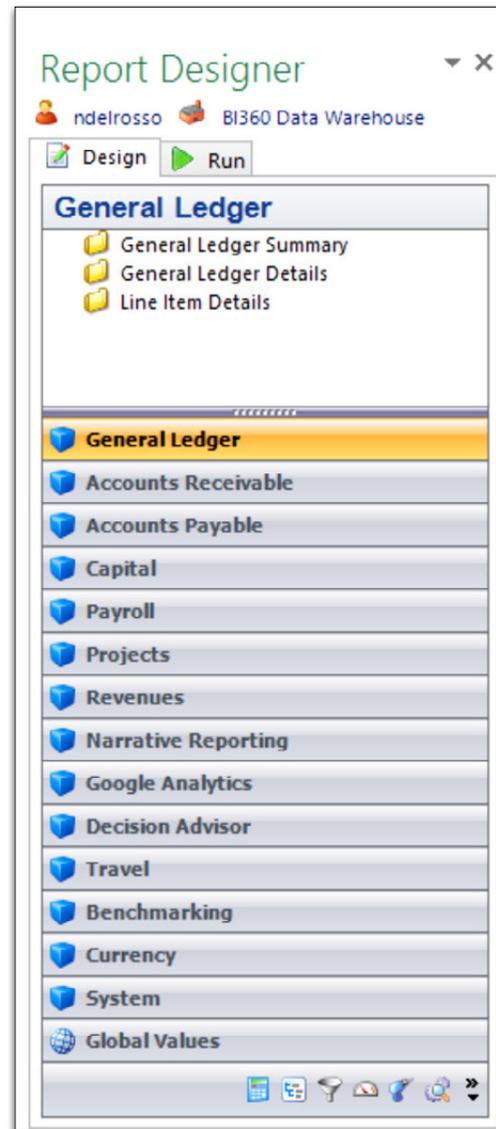
*Excel Task Pane*



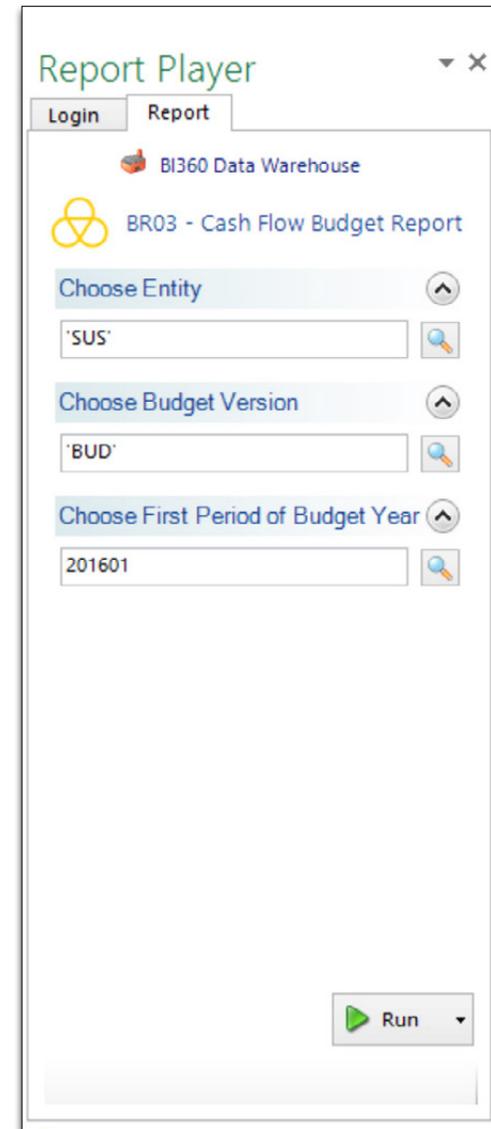
*Excel Ribbon*

The Report Designer menu offers power users some important functionalities. First of all, with Report Designer, you have access to the different modules, such as GL, Sales, and Accounts Payable, in the source database. You can also pre-define KPIs, access Calendar Functions (Current Month, YTD, Rolling 12-Month, etc.), Expression Trees (i.e. Profit & Loss account trees), and Report Parameters that shape your reports into smarter, more dynamic templates. When designing a report, you can simply select the fields, trees, periods, etc. from the Report Designer menu and drag-and-drop these items into the appropriate location in the Excel sheet. Most reports can be designed without entering a single proprietary formula, and the full power of Excel is available to enhance your reports. I bet you liked the sound of that.

The Report Player is available in the task pane both for users with the Report Designer license and for



Report Designer



Report Player

	Jan-2016	Feb-2016	Mar-2016	Apr-2016	May-2016	Jun-2016	Jul-2016	Aug-2016	Sep-2016	Oct-2016
<b>Cash Flow from Operating Activities</b>										
Net Income	(169,588)	5,500				(246,134)	(235,172)	(178,984)	(55,456)	
<b>Adj NI to Net Cash Provided by Ops. Activities</b>										
Depreciation & Amortization Expense	976				2,408	2,921	2,927	2,876	2,732	
Other Current Assets	0				0	0	0	0	0	
Non-Current Assets	0				0	0	0	0	0	
Accounts Receivable	(49,321)				0	0	0	0	0	
Accounts Payable	(97,009)	(9,500)			(1,603)	26,584	(2,498)	(5,308)	(10,300)	
Prepaid Expenses	0				0	0	0	0	0	
<b>Net Cash Provided by Operating Activities</b>	<b>(314,942)</b>	<b>(2,700)</b>			<b>10,980</b>	<b>(216,629)</b>	<b>(234,743)</b>	<b>(181,416)</b>	<b>(63,024)</b>	
<b>Cash Flows from Investing Activities</b>										
Purchase of Property, Plant, and Equipment	0				30,000	(7,500)	0	0	0	
Accumulated Depreciation	(976)	(8,000)			(741)	(1,046)	(1,052)	(1,001)	(857)	
<b>Net Cash from Investing Activities</b>	<b>(976)</b>	<b>(8,000)</b>			<b>30,741)</b>	<b>(8,546)</b>	<b>(1,052)</b>	<b>(1,001)</b>	<b>(857)</b>	
<b>Cash Flows from Financing Activities</b>										
Proceeds from Loans	0				0	0	0	0	0	
<b>Net Cash from Financing Activities</b>	<b>0</b>	<b>0</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Net Increase in Cash</b>	<b>(315,918)</b>	<b>(3,500)</b>			<b>41,721)</b>	<b>(225,175)</b>	<b>(235,795)</b>	<b>(182,417)</b>	<b>(63,881)</b>	
Cash at Beginning of Period	1,693,511	1,693,511	1,377,511		42,876	1,101,155	875,980	640,185	457,768	
<b>Cash End of Period</b>	<b>1,377,593)</b>	<b>1,374,011)</b>	<b>1,374,011)</b>		<b>01,155)</b>	<b>875,980)</b>	<b>640,185)</b>	<b>457,768)</b>	<b>393,887)</b>	

Drill-down Functionality

users that only need it to run reports in Excel. Basically, this tool allows you to see the report parameters, as defined by the report designer. The parameter selection windows are available on the left side of the screen and allow the user to choose from the dimension lists related to each parameter. Report parameters are one of the primary features that set BI360 apart in an extremely significant way.

Parameters are created by the person designing the report, and they make reporting truly dynamic. By dynamic, I mean that the report can then be run for any month, any department, any vendor, any project, etc. The resulting data are filtered before they are pulled from the source database, expediting report generation and eliminating the need to export an entire data set to Excel for filtering. Easy to use and

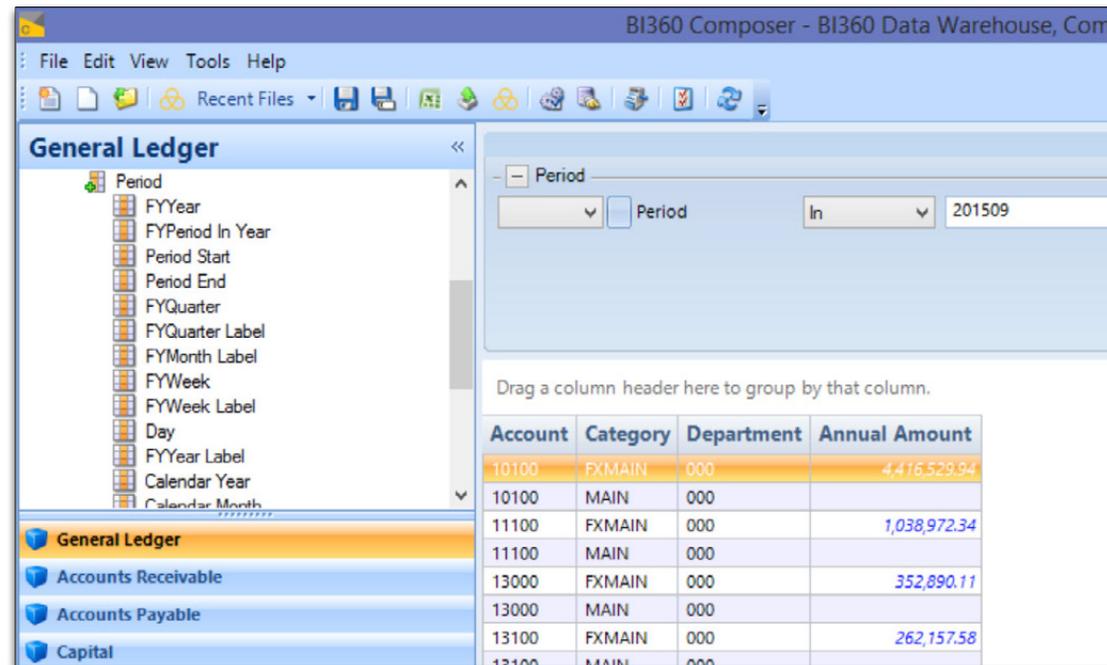
speedy. Even better: you can right-click in any cell of a report and access the drill-down capabilities, which provide you the detailed transactions behind the figures. drill-down capabilities, providing you the detailed transactions behind the figures.

## Composer for Ad-Hoc Reporting

In addition to BI360 Reporting, there is also an optional module called BI360 Composer, which is designed to provide ad-hoc reporting. Not sure what ad-hoc means in the context of reporting? It refers to an on-the-fly or free-form analysis, as opposed to the professionally formatted financial statement that the BI360 Reporting Excel add-in produces. You might need to run an ad-hoc analysis if you are an accountant who is monitoring how much you've paid a vendor so far this year or perhaps a sales manager who would like to review how much they have billed to the customer – and if they've been paid yet.

Some great news about Composer: it has a very simple interface that can be learned in less than an hour, where everything is accomplished with drag-and-drop moves from the familiar Outlook-style menu. But wait, there is more: Composer is also connected to the Report Designer,

and should you decide after creating an ad-hoc query in Composer that it would make for an excellent professional-looking report, you can, with a few clicks, turn it into a fully formatted Excel report template in the Report Designer.



Composer

## Reporting with BI360 Web Portal and Mobile Apps

Look, I'm not going to beat around the bush: the web as a platform is the most exciting part of the BI product category because it means flexible and powerful access from anywhere you can connect to the internet. Let's just say that your office is a traditional, 9-to-5, brick and mortar company culture. Even in this case, the internet should be an attractive platform for you because, should your company grow or should you be out of the office and need to access company data in order to contribute to a project or decision-making process at some point down the line, a web-based portal will empower you to achieve your goals. Additionally, if your company has a lot of users, it is often more cost efficient and flexible to deploy the web portal, as it doesn't require you to install the BI360 Suite on users' computers. Instead, you can achieve browser-based access to data management in the form of financial reporting, budgeting, and

dashboards through the internet or a corporate server.

The future of BI software is on the web, and that future is already here. The ease and flexibility of data management from anywhere you have internet access is nearly



invaluable in this day and age of 24-hour-a-day businesses. Furthermore, this development has organically extended to our mobile devices, as the data consumption platform of choice for many people. As we have evolved into a culture

of people who tend to sleep within three feet of our smartphones, it makes perfect sense that the BI software world would have a robust presence on our phones and tablets. This development is beneficial to those who are on the road all the time, working remotely, checking in

at odd hours, or rushing to meet a deadline. This mode of BI analytics will continue to expand as our mobile devices continue to become more central for today's on-the-go business culture.

## Versatility in Deployment and Purpose

BI360 is one of the most versatile products I have ever seen, perfectly suited to address the diverse and competing BI process needs within any company. In terms of options for deployment and the ways you can plan on using the product, you have a wide range of possibilities available to find the best fit for the dynamic of your team. Is this another section on flexibility? Sort of, but I'm hoping you feel a lot more comfortable by now, so this can be a slightly more advanced conversation. Let's start by discussing deployment options.

When it comes to deployment of BI360, you have two main options. Simply put, you can license the product for a select group of power users, or you can provide the software to your entire group of end users. If you go the former route, your power users can design and run reports on behalf of your users and have a variety of delivery methods for their reports. They can auto-

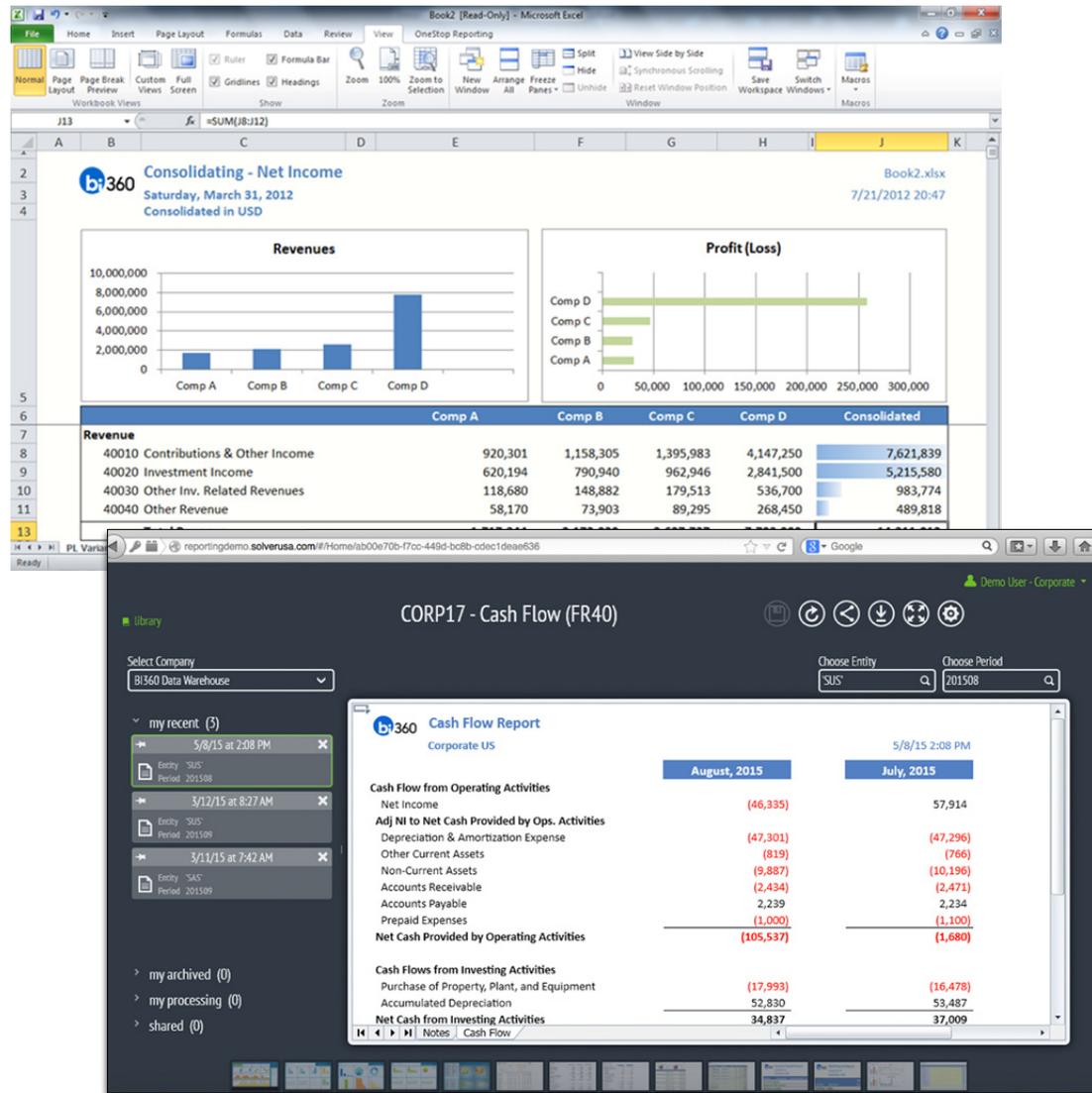
distribute the results via e-mail, post them on a shared network drive, upload them to SharePoint, or export them to Excel. Depending on the number of end users you have, this could substantially reduce your licensing cost. However, end users in this scenario have very little access, ownership, or input into financial reports when you choose to deploy in this way.

The other option, providing licenses to your entire group of end users, is potentially going to cost you more up front, but it will allow all of your end users anytime access to their data. Whether it is formal reporting or ad-hoc queries, end users are able to run reports whenever they need them, see reports with different filter criteria, and drill down into the data. Frankly, this option is just more empowering and efficient for modern teams. The important part is to evaluate your team's specific data

access, management, and analysis needs (as well as your budget), so you can decide what is going to be the most effective method of deployment for optimal return on investment (ROI).

When I think about the many features and functions BI360 Reporting offers, I get so excited about the possibilities available to new users that I expect that every organization who implements the report writer will use all of the features available to them. In reality, each company will use the product to specifically address their analytics needs, sometimes adding BI360 to a slate of existing tools and systems for a particular purpose and sometimes replacing such tools with the single BI360 suite. Regardless, it is advantageous for you to know your options, so you can decide where this software can help you the most.

You can utilize BI360 Reporting to design, run, and distribute... you guessed it, several different types of reports. There are the typical financial reports, like Profit & Loss, Balance Sheet, and Cash Flow reports. Next up: operational reporting, which, for example, could be Sales, Vendor, Project, and/or HR and Payroll reports. Dashboard and scorecard reports allow you to create visualizations of your data in Excel or in the BI360 Web Portal, employing KPIs and metrics to better understand the health and direction of your company. You can also create reports that calculate allocations for actual data or for your budgets. BI360 Reporting allows you to build workflow reports to instantly view all approved, pending, and rejected budgets. And finally, you can view all commentary made during the analysis of financial statements or the budget process, allowing you to move from words to action.



Reporting Dashboard

## Implementing BI360 Reporting

In my experience talking to people and doing research in the BI world, there tends to be a lot of discussion around implementation – how difficult and time consuming is it? BI360 Reporting can be deployed quickly to new users in a couple of minutes with a simple installation.

First off, you're going to train your power users. This typically takes a few days, depending on your team – and your reporting needs, which leads us to the next step. Identify your reporting demands and goals. This is a key action item to ensure that you take maximum advantage of this opportunity with your new BI solution.

Deploying a new software application can be challenging, even an easy one to use, and setting your users up to succeed with the proper training is the best way to start them off.

Next up, if you are using the BI360 Data warehouse, you will want to configure it to meet your reporting needs. You can skip ahead to the Data Warehouse section to read more in detail about the process about setting it up, but you can postpone the Data Warehouse in the initial phase of your project if you are just going to report live off of your ERP. Many companies choose this option to quickly get the Reporting tool into the

hands of their users while they plan the Data Warehouse deployment.

From there, you'll design Excel report templates. This process is quite easy, and many users find it extremely intuitive. The core of the design process is a simple drag and drop interface, where you bring in the fields you want to show in the report into an Excel workbook. All of the Excel formatting and formulas can be used to create flexible, powerful reports. Training for the end users of the finished product will only take a short time because they just have to learn to run the reports and drill down into the data. Sound easy enough, right?

BI360 Reporting, as one of the centerpieces of the suite, works closely with Planning, Dashboards, and the BI360 Data Warehouse. In the next section, let's build some momentum in your learning process by exploring the Planning module.



# Planning

---

Any organization that makes heavy use of Excel, which is a fantastic Spreadsheet tool, has run into the problem of how to manage multi-workbook data sets. What usually happens is that a budget, or forecasting model created in Excel, grows and grows over time, acquires cross-linked spreadsheets, complex formulas and many maintainers. The whole thing can easily collapse when someone makes a mistake and deletes a key column that drives other areas of the model. The Planning module frees users from the quagmire of using Excel as a database. Planning is an Excel- and web-based data entry tool, which can be used to automate budgeting and forecasting as well as other business processes that require data entry with storage in a database. So, if you're thinking about the big picture of your company's data entry processes, Planning can liberate the users from "Excel-hell" by saving your data in a SQL database. No more lost or damaged spreadsheets, no more inconsistent formulas. While Budgeting and forecasting might be foremost in the mind for most, any data entry processes can be streamlined and automated using this tool. Think beyond budgeting.

The screenshot shows an Excel spreadsheet titled 'B3 - Expenses with Line Item Detail.xlsx'. The report is for 'Other Expenses' under 'Corporate US Administration Budget'. The data is organized by account (Acct) and description, with columns for budgeted amounts from January to November. The 'Operating Expenses' section includes categories like Marketing, Advertising, Travel, and various utility and office expenses.

Acct	Description	Budget Jan	Budget Feb	Budget Mar	Budget Apr	Budget May	Budget Jun	Budget Jul	Budget Aug	Budget Sep	Budget Oct	Budget Nov
62010	Marketing	187,168	150,811	144,996	123,246	119,208	197,268	196,258	176,289	162,086	156,231	178,532
62020	Conference and seminars	1,571	1,223	1,595	1,348	1,157	1,832	1,821	1,451	1,168	1,290	1,471
62030	Advertising	473	473	489	443	413	524	508	565	425	462	556
62040	Gift and donations	47	45	40	43	40	62	53	50	41	43	50
63010	Travel	997	753	881	879	713	1,015	932	1,020	952	906	1,041
67020	Other Supplies	594	519	576	559	507	719	694	693	631	542	720
68010	Hosting Fees	126	109	127	160	98	159	135	125	106	129	129
68020	Telephone	3,254	2,717	2,649	2,342	2,587	4,032	3,295	2,929	2,812	2,980	3,502
68030	Telephone - Cellular	1,229	915	985	814	861	1,120	1,086	1,036	1,010	932	1,248
69010	Electricity	72	51	52	52	56	81	63	62	59	61	64
70020	Postage	534	540	582	521	451	697	574	639	450	608	667
70030	Dues, Licenses and Permits	3,465	2,483	3,149	2,743	2,518	4,036	3,628	3,161	2,755	3,266	3,104
70040	Books and Subscriptions	297	281	294	295	277	398	439	391	323	290	374
70050	Bank charges	47	35	41	35	36	50	55	48	42	41	46
70060	Miscellaneous expenses	86	70	75	74	53	92	92	78	66	68	89
70070	Intercompany Interest Expense											
70080	Intercompany Management Expenses											

*Budgeting*

First things first: BI360 Reporting is required in order to implement BI360 Planning. This is because, in addition to functioning as a regular report writer, it is used as the way to design the input templates and as a report writer to report on all the data that Planning stores to the Data Warehouse or ERP database. Additionally, the BI360 Data Warehouse is where Planning stores all of your data. With the latest version of BI360 (4.5.x), Solver

has developed live budget write-back with select ERP systems, providing an alternative to the data warehouse for traditional budget models. Let's get to know Planning a little better, shall we?

To deploy, administrators start by configuring BI360 Planning input templates through BI360's Excel interface and setting up the Data Warehouse (unless you choose to utilize the live write-back functionality

to your ERP's budget tables). Then, the input templates are provided to your end users, either through Excel or the BI360 Web Portal for data entry. After contributors have added and saved their data, budget managers can begin approving and reporting on the input information. Finally, if desirable, your data can be transferred from the Data Warehouse Manager database and back to other source systems, such as the budget tables in your ERP database.

## Interface

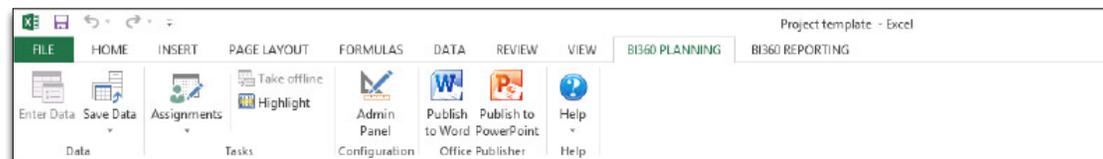
BI360 Planning is an Excel- and web-based budgeting and forecasting solution. Remember how I used the term, hybrid? As an Excel add-in, the tool is designed with a similar look and feel to your other Office products, with a ribbon and Outlook-style menu bar as the main navigation components, just like BI360 Reporting. The Web Portal offers a modern web interface for reporting, budgeting, and dashboards, with additional workflow, discussion groups, alerts, and other important features that take the budgeting process beyond just a data entry concept. There are a lot of people who might think, why would I spend money, on top of Microsoft Excel licenses, for a budgeting solution? This suite of

BI tools is fully integrated, making your processes that much quicker and richer with automation, security, and your data all in one place. The positive user experience of having a single toolset to manage data input and reporting, backed by a SQL database, cannot be overstated.

## Planning Components

We've already established that Planning is an Excel add-in, with a ribbon on the toolbar, just like Reporting. In fact, the two ribbons are right next to each other in Excel, meaning that you can perform reporting and budgeting functions without ever leaving Excel. You also have the option of accessing Reporting and Planning by using the Web Portal, without ever pulling up Excel.

Much like Reporting, Planning consists of two main menus in Excel: the Excel ribbon and the Excel task pane. The Excel ribbon will be the primary menu that most users rely on for budgeting. Through the ribbon, you will have access to view, check-in & check-out assignments, save data, update model settings from the BI360 Data Warehouse Manager, view and configure connection information (also referring to the BI360 Data Warehouse Manager database), perform administrative functions, and access helpful resources such as the BI360 documentation, videos and samples. The Excel task pane, on the other hand, is primarily used by administrators setting up and maintaining Planning.

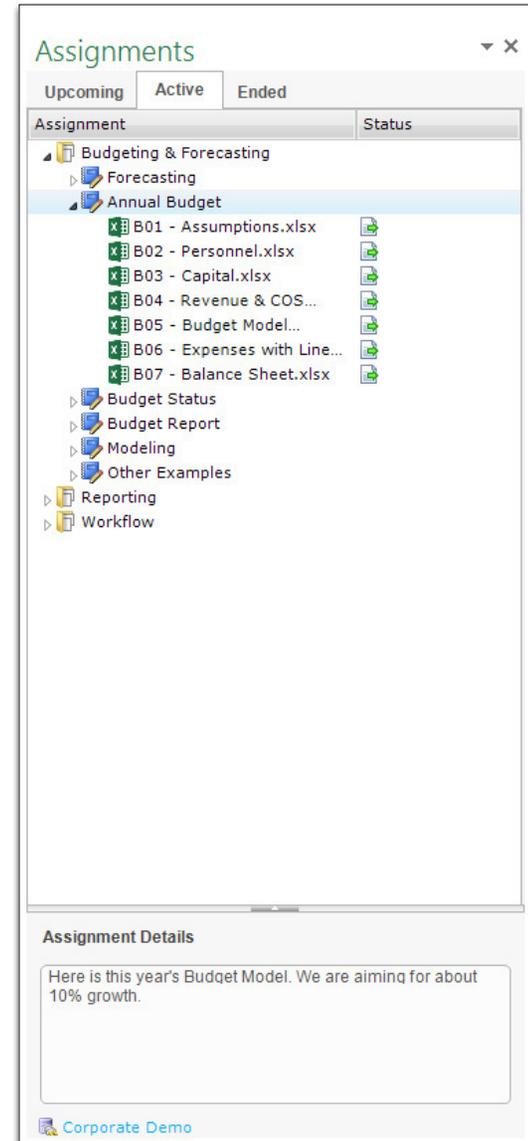


*Budgeting*

The Excel task pane, styled to resemble Microsoft Outlook, has three main menu items: “Data Settings”, “Interface Settings”, and a data entry window. This can get a little technical, so let me try to summarize the purpose of each element. “Data Settings” is where your administrator will go to configure where data and dimensions are located in the underlying spreadsheet. In other words, this feature helps to decide where input data goes into a worksheet and where it is stored in the Data Warehouse. “Interface Settings” ties the back-end settings that are configured in the “Data Settings” to the end users – and what they’ll see when inputting data. And finally, the data entry window is an optional way of entering data into Excel, which is then saved to the data warehouse. This particular feature offers dynamic accounting logic that allows you to automatically spread numbers across rows in Excel, enter comments at the row or line level, and enter many rows of line item details under one

single row in Excel (consolidating several expense items into one expense row). It also allows one to automatically chart the current row in Excel and compare it to another row with historical data. The task pane can accomplish a lot, but it is utilized by administrators to maximize the experience for end users.

In short, BI360 Planning can store data (numbers and text) from any Excel spreadsheet. The data is stored to the Data Warehouse database and from there, the stored data can be sent back to the ERP system, used to feed additional reports, or even processed into OLAP cubes for advanced analysis. Additionally, for select ERP systems, BI360 Planning can also write directly back to the budget tables in the ERP system.



Task Pane - Budgeting

## Budgeting and Forecasting with BI360 Web Portal

It is officially time for the BI360 Web Portal to shine in budgeting and forecasting processes. The flexibility of today's web application ecosystem is driving more and more applications away from traditional desktop applications. Of course, part of this trend comes from the

rise of mobile computing, and browser-based applications facilitate the cross platform functionality required to reach today's modern audiences. If your team consists of a larger number of users who are entering budgets and forecasts, as well as reports and/or dashboards,

it is advantageous for you to deploy Planning with the BI360 Web Portal. Imagine your colleagues having the ability to input data through the internet or your corporate network, without any BI360 software installed on their computers or devices.

Acct	Description	Actual Jan	Actual Feb	Actual Mar	Actual Apr	Actual May	Actual Jun	Actual Jul	Actual Aug	Actual Sep	Forecast Oct	Forecast Nov	Forecast Dec	Total
61540	Benefits	296	269	299	299	230	345	337	338	274	300	310	305	3,602
62010	Marketing	111,835	126,779	125,354	98,279	91,670	130,067	142,773	157,645	125,131	124,000	123,000	124,000	1,480,532
62020	Conference and seminars	1,039	916	999	879	776	1,226	1,186	1,366	1,064				9,451
62030	Advertising	334	379	348	355	276	462	431	419	367				3,371
62040	Gift and donations	38	32	36	36	29	47	42	40	35				334
63010	Travel	576	626	703	605	536	858	785	858	624				6,171
63020	Special events	110	133	142	113	92	150	145	147	125				1,158
64010	Consulting	2,607	2,427	2,644	2,324	2,118	2,861	3,072	3,205	2,390				23,646
64020	Audit and Accounting	441	492	495	452	377	582	564	565	457				4,425
64030	Legal	2,435	2,033	2,217	1,970	1,687	2,966	2,442	2,803	2,022				20,574
64040	Contractual Services	379	344	367	369	345	456	497	447	369				3,571
64050	Training	25	26	28	25	24	34	32	33	28				255
65010	Bad Debt Expense	26	26	29	27	22	33	34	35	26				257
67010	Office Supplies	704	802	807	723	583	883	947	893	692				7,035
67020	Other Supplies	442	480	466	418	344	591	589	581	461				4,372
68010	Hosting Fees	88	94	86	86	65	103	97	112	78				811
68020	Telephone	2,214	2,409	2,358	1,867	1,650	2,801	2,442	2,528	2,133				20,402
68030	Telephone - Cellular	686	787	778	643	593	860	922	997	755				7,020
<b>Total Expenses</b>		<b>124,275</b>	<b>139,055</b>	<b>138,154</b>	<b>109,468</b>	<b>101,417</b>	<b>145,325</b>	<b>157,336</b>	<b>173,014</b>	<b>137,030</b>	<b>124,300</b>	<b>123,310</b>	<b>124,305</b>	<b>1,596,988</b>
<b>Total Other Expenses Last Year</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>								
<b>Total Expenses Budget</b>		<b>124,275</b>	<b>139,055</b>	<b>138,154</b>	<b>109,468</b>	<b>101,417</b>	<b>145,325</b>	<b>157,336</b>	<b>173,014</b>	<b>137,030</b>				<b>1,596,988</b>
<b>Variance</b>		<b>-124,275</b>	<b>-139,055</b>	<b>-138,154</b>	<b>-109,468</b>	<b>-101,417</b>	<b>-145,325</b>	<b>-157,336</b>	<b>-173,014</b>	<b>-137,030</b>				<b>-1,596,988</b>

Web Budgeting

## BI360 Planning in Action

The Planning module of BI360 will primarily be used for budgeting and forecasting, but there are other data entry processes that you can accomplish as well. Let's start by discussing the most common approaches to deploying budget models that BI360 Planning can handle. One option is to use multiple Excel workbooks differentiated, for example, by department. In this case, both central staff and department heads are required to enter data through Excel or web forms into the database. Another option involves leveraging your central staff to collect worksheets in which other users have saved data, and have the central staff save the data to the warehouse. Either approach can work, but the decision is yours as to which one will work best for your organization. The security and flexible collaboration elements of BI360 Planning allow budget managers to distribute ownership to department

heads, who have to manage and meet the financial plans for the year.

There are several other data collection tasks you can perform with Planning. First up: modeling. You can create a product or service price model, then use BI360 Planning to store each of these scenarios to the Data Warehouse. From there, you can use Reporting to output reports and/or charts. You can also perform what we call a “break-back” analysis to work backwards toward an end goal, using one of Solver's special break-back templates. Of course, you can design your own, to simulate items such as Net Profit and have BI360 auto-generate the related revenues and expenses, based on historical trends. If you wanted to create an allocations model in Excel, you can use Planning to store the allocated numbers to the Data Warehouse. From there, you are able to use the allocations in reports or

transfer the allocated numbers back to your ERP system. You can also create input forms for any text or numerical information and use BI360 Planning to store in the BI360 Data Warehouse. BI360 Planning allows you to store comments added to your reports or dashboards, so they are retrievable in future discussions. This module is action-packed – and it is similarly easy to implement.

## Implementing BI360 Planning

Much like the BI360 Reporting module, implementation is a simple process. You'll start by training your power users and identify your budgeting needs. If you're implementing the Data Warehouse, you'll prepare the software by populating the data store with historical figures and dimensions from your GL. If you are going the ERP write-back route, you can immediately move on to preparing Excel budget templates. Designing your budget templates in BI360 Reporting makes your templates dynamic and parameter-driven, based on the dimensions and data you populated to the Data Warehouse. From here, you will do some Planning setup, using the Excel task pane to configure settings for your data, your interface, and your input methodology. And finally, end users will receive the training necessary, so they can hit the ground running.

All of the modules can work dynamically toward amalgamated BI analytics, and Planning is closely tied to Reporting. However, using the Dashboards brings the data to life for an accessible, quickly digestible graphical analysis of a company's health. In the next section, we'll discuss BI360 data visualizations in depth to get an understanding of their power and related popularity for executives today.



# Dashboards

---

Dashboards, or data visualizations, are everywhere. You can see them in your car, in analyses of the stock market, and as breakdowns of any account activity you might have. BI dashboards are very similar. I often describe BI360's Dashboards as both brains and beauty. This tool visualizes company data in ways that are easy to understand for professionals at all levels of an organization, but are particularly popular with executives because of how quickly trends can be identified and informed decisions can be made. Let's dive in a little deeper with BI360 Dashboard.



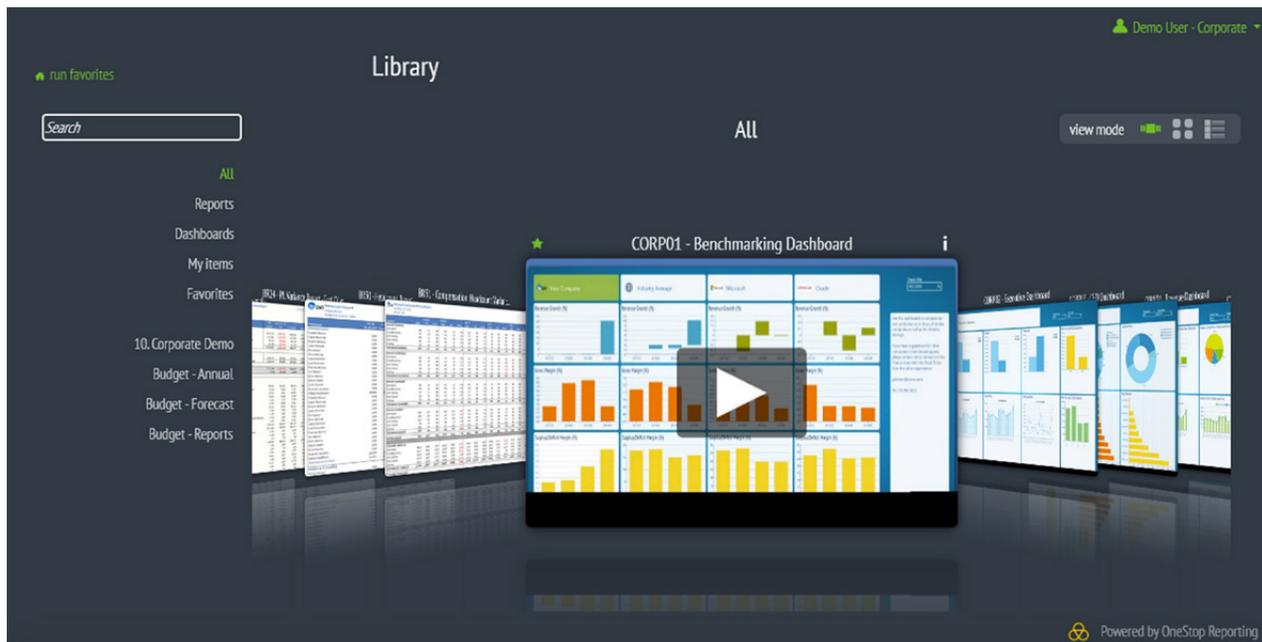
The Dashboards module is completely web-based, both for dashboard design and for end users. The ability to access, manage, and analyze your data in visual ways from anywhere you can connect to the internet offers you ultimate flexibility and power in terms of analytics. Furthermore, you can utilize dashboards to get your managers and users invested in analysis of trends and key metrics that motivate corporate performance and processes at a low cost and easy training.

Deploying BI360 Dashboards is a win-win in terms of how cost-efficient it is; IT is happy because the tool is easy to deploy to the users, and the Finance office is happy because it is inexpensive and easy to use. Because it is such a business-user friendly web-based interface, training the users has a low price tag. In terms of your end users, there is minimal training required because

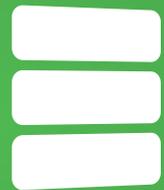
they can quickly learn how to design their own data visualizations using the Dashboard Designer.

Dashboards are an extension of reporting, with the method of analysis being illustrations of trajectories your company data is taking. BI360 Reporting is required to deploy Dashboards, while the Planning and Data Warehouse modules

are optional. You can produce dashboards live off of certain ERPs, producing data visualizations that display real-time information. If you do decide to implement the BI360 Data Warehouse, you can design dashboards with consolidated information from any of your data sources.



BI360 Dashboard Suite



# Data Warehouse

---

Historically, Data warehouses were seen as major projects for IT departments, frequently taking several years with large development budgets to create a BI data store that specifically served an organization's data management needs. Today, most of the design complexity and expense can be dispensed with as BI360 offers a turn-key solution that can be deployed in a fraction of the time. With the BI360 DW solution, you can leverage all of your data with little configuration, from multiple sources, to create richer financial and operational reporting, budgeting, forecasting and data entry, and dashboards. Additionally, the Data Warehouse Manager provides an easy to use desktop interface where administrators can set up and manage the BI data store with any need for technical skills.

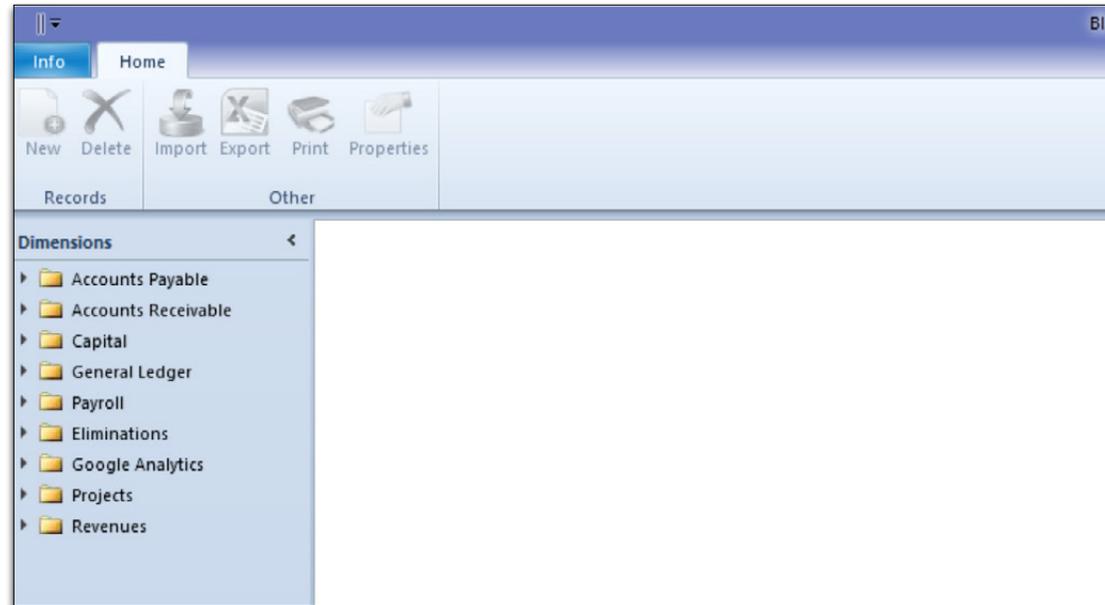
With Microsoft Office being the most common productivity platform used for business today, Solver designed the Data Warehouse Manager interface in a way that will make it look familiar to Office users. Its top level design element is similar to the Office ribbon, and an Outlook-style menu bar allows access to the feature menu.

## Modules

The BI360 DW database comes pre-designed with seven popular financial modules in addition to the ability to add up to fifty generic (user-defined) modules for any data type. The DW was designed to handle any non-financial data in addition to your financials using these customizable modules. Pre-configured modules include:

- General Ledger
- Accounts Payable
- Accounts Receivable
- Capital (Asset Information)
- Payroll
- Projects
- Revenues

You will have a dramatically reduced implementation time thanks to each module's pre-defined fields that are specific to that module/area. For your convenient customization, you



*Data Warehouse Manager*

can rename the modules using the Data Warehouse Manager interface. In each module and without any need for back-end customization or technical skills, you can add up to one thousand User Defined Fields, using the Admin Console to further extend the functionality of the transaction tables.



## Dimensions

The BI360 DW database comes with a number of pre-defined dimensions that are specific to each module, but also allows up to 50 user-definable dimensions, which you can add and share across modules. Using the Data Warehouse Manager interface, you can easily map the dimensions to each module and label as needed. Each pre-built dimension contains many dimension-specific attributes, which can be extended using User Defined Fields (UDFs) to customize the dimensions to match a customer's specific data model. Using the Admin Console, you can add up to one thousand UDFs to each dimension.

Business end users can manage dimensions within the Data Warehouse Manager interface. You can load the dimensions into the Data Warehouse Manager in a few different ways:

1. Directly import via the Data Warehouse Manager Interface import feature from an Excel or CSV file.
2. Import using any 3rd party data transfer tool, such as SQL Server Integration Services (SSIS).
3. Populate with the use of pre-defined Data Warehouse connectors (for Salesforce, Acumatica, Netsuite, Intacct, etc.).
4. Manual entry: Manual entry is specifically useful for budgeting and forecasting. Since Data Warehouse Manager is a warehouse, Accounts and other dimensions that do not exist in the source system(s) can be created and maintained directly within the Data Warehouse Manager environment.

## Currency

The Data Warehouse Manager comes equipped with advanced currency conversion functionalities, which work with business rules to calculate foreign currency exchange. This comes in handy when you are dealing with multiple currencies, both for reporting against actuals as well as for complex currency forecasting models. The tables can accommodate daily or monthly rates, which you can load from a source system via SSIS integration or enter manually. If you start with daily rate data, you can automatically generate monthly rates, while retaining the ability to directly override them in the Data Warehouse Manager interface. A combination of several advanced backend features ensures a very simple, but powerful end user experience. There are several elements to the currency conversion process:



1. **Currency Codes:** Currency Codes are the dimension members of the currency dimension, for example, USD, GBP, EUR, etc. You can manually enter, import directly from a file, or transfer your currency codes via an SSIS integration.
2. **Rate Types:** You can manually enter, directly import, or import rate types, such as Average, Closing, Historical, and Budget, using SSIS integration.
3. **Daily\Monthly Rates:** If you load daily rates into the system, BI360 automatically calculates monthly rates. Otherwise, you can manually load or import monthly rates.
4. **Rate Configuration:** The configuration ties together the Account type, such as Balance Sheet, the Scenario, such as Actual, and the Rate Type, such as Average.

## Data Explorer

Another feature, the Data Explorer, filters, groups and displays data for each DW module. As an administrator, you can see and validate what is in the DW at any time without needing to perform SQL queries or running reports. The Data Explorer interface allows you to view the transactions directly in the application or export it to Excel.

## Processes

Processes are SQL procedure-based rules, which enable data transformation and movement within the Data Warehouse Manager. Since these rules are created as SQL stored procedures within the Data Warehouse Manager, you can access and schedule them using external tools, like the SQL Server Agent. You can load rules into the warehouse using an XML import format. The XML file contains information about the parameters

used to execute the rule, as well as the SQL code for the process itself.

Practical applications of rules include:

- Currency conversion
- Data aggregation
- Inter-company and minority eliminations
- Allocations
- Data movement
- Other transformations

## Practical Usage Examples

The BI360 DW can serve you in many important business processes. Let's start with some of the basics. You can easily develop user-friendly reporting, budgeting, forecasting, modeling and dashboards with the BI360 suite components. BI360 supports a wide variety of methods for bringing data into the warehouse, both for dimensional and transactional data. You can customize modules, dimensions & attribute names to fit with your

organization's requirements and enhance your BI user experience. There are a wide variety of currency-related functionalities available in BI360, such as the ability to import daily spot rates from your ERP via SSIS, automatically calculate monthly Average and closing rates, and enter monthly rates directly into the database. BI360 has a business rules engine to accomplish complicated currency calculations for multi-national organizations. You can filter, view and validate data loaded into each module. But there's one big, more complicated task that you can handle quickly and easily with the BI360 DW.

The BI360 DW can be used as a multi-source consolidation warehouse, which allows you to perform powerful financial consolidations. Because you can load data from any ERP or external system such as ADP, FAS, and Ceridian, you're already consolidating information into one

place – a DW that stores your data by topic. Additionally, you can store and manipulate multiple scenarios of budget and forecast data via the Data Warehouse Manager. Because financial consolidations are such a massive undertaking for many companies, we will cover them in their own section later on, so we can dive a little deeper into the process and discover how you can achieve your consolidation goals more efficiently and effectively with the BI360 DW.

## Implementing BI360 Data Warehouse

The BI360 Warehouse installation process is very simple and only takes a couple of minutes, but a full implementation with ETL can take longer if there are many data sources or complex business rules to observe.

After the installer completes, you will have the pre-configured SQL Server database and the desktop application installed. Most companies choose to install the Warehouse Manager on the administrators' and power users' machines.

The next step is to determine which source systems and data are the primary sources that you want to load and to map them into the DW modules and dimensions. Designing the module and dimension relationships is known as defining the schema of the data warehouse.

Configuring the DW Period table and customizing module names and dimension names comes next. Many standard and non-standard calendar configurations can be handled by the data warehouse, including regular calendars, fiscal calendars (where the fiscal year starts on some month other than January), retail/manufacturing/accounting calendars such as 445,454,544 configurations,

as well as many other custom configurations. Some ERP systems use 13 or more periods, and BI360 can be customized to handle them as well.

If you are using multicurrency source systems or plan to implement multi-currency reporting, the next step would be to configure the currencies, rates, and rate types. If you have a source of currency rate data, you would typically plan to load these data in with your other ETL routines.

Next, the data loading will need to be set up. If you are planning to load data using SSIS or some other ETL tool, now is the time to work with the integration specialists to implement the integration. This can take as little time as under an hour for simple data sets to considerably longer if complex transformations are required. If you are just

planning to manually load data with Excel imports, the import process usually takes only a few minutes, provided that your data is organized correctly.

Once the data is loaded, you will be able to run your Business Rules, document integration decisions, and go through quick training, which can be done in a few hours.



# Financial Consolidations

---

You may or may not be new to financial consolidations, but this section is for anyone who is interested in the topic. Whether you are responsible for aggregating financial and operational data into a unified set of reports across subsidiaries for the entire parent company or just need to aggregate data from separate systems for a departmental-level analysis, the BI360 Suite is a powerful tool that can simplify the consolidated reporting process. In the last section, we discussed the BI360 Data Warehouse, which is the foundation of financial consolidations. However, it is not the only tool in the suite needed to produce these kind of reports. In addition to the DW, you'll also use BI360 Reporting for designing and running reports as well as BI360 Planning for data entry tasks such as adjustments, manual eliminations, and comments. You can also use the BI360 Dashboard tool for a graphical display of your consolidated data.

## Questions before Using BI360 for Financial Consolidations

In the beginning of any new project, there will always be a period of discovery and requirements gathering. Even if you know what you hope to accomplish and how, you need to capture the users' point of view and understand what they are missing in their current toolset. This section will speak directly to this point, with a focus on your financial consolidation process – and what you're hoping to accomplish.

First of all, you're going to want to make sure you understand your chart of accounts (CoA). Do you have a single chart of accounts for all of your companies, or do you have different charts of accounts for your subsidiaries that you have to map into a corporate or "consolidated" chart of accounts? Either way, you will want to have a clear picture of your CoA used in your companies

before you get started with BI360 consolidation. Additionally, if you have other dimension codes that you don't consider to be part of your "Chart of Accounts" (such as companies, departments, etc.), you should know if they will remain the same in BI360 or if they will also need to be mapped to "corporate reporting dimensions" used in your consolidation reports. Understanding these facets of your

financial landscape is critical to a successful consolidation effort. Your understanding of the financial landscape should be clearly and completely documented before you really dive into the development of the consolidation process.

Speaking of documentation, do you have a clearly defined consolidation process? If you don't, you should write it down in detail, starting with

Code	Description	Alias	AccountType	DebitCredit	AccountCategory	Capital Life	Offset Account	Active
10100	Cash	100	BSC	-				<input checked="" type="checkbox"/>
11100	Accounts Receivable	100	BSC	-				<input checked="" type="checkbox"/>
11110	Intercompany Receivables	100	BSC	-		21110		<input checked="" type="checkbox"/>
12000	Inventory		BSC	-				<input checked="" type="checkbox"/>
13000	Prepaid		BSC	-				<input checked="" type="checkbox"/>
13100	Other Current Assets		BSC	-				<input checked="" type="checkbox"/>
16100	Long-Term Account Receivables		BSC	-				<input checked="" type="checkbox"/>
17100	Other Long-Term Receivables		BSC	-				<input checked="" type="checkbox"/>
17110	Intercompany Notes Receivable		BSC	-		25110		<input checked="" type="checkbox"/>
17300	Goodwill		BSC	-				<input checked="" type="checkbox"/>
18100	Building		BSC	-		30.00000		<input checked="" type="checkbox"/>
18200	Equipment		BSC	-		5.00000		<input checked="" type="checkbox"/>
18300	Computer		BSC	-		3.00000		<input checked="" type="checkbox"/>
18700	Accumulated Depreciation Building		BSC	-				<input checked="" type="checkbox"/>
18800	Accumulated Depreciation Equipment		BSC	-				<input checked="" type="checkbox"/>
18900	Accumulated Depreciation Computer		BSC	-				<input checked="" type="checkbox"/>
19100	Other Long-Term Assets		BSC	-				<input checked="" type="checkbox"/>
21100	Accounts Payable		BSC	-				<input checked="" type="checkbox"/>
21110	Intercompany Payables		BSC	-		11110		<input checked="" type="checkbox"/>
23100	Other Short-Term Debt		BSC	-				<input checked="" type="checkbox"/>
24100	Long-Term Account Payables		BSC	-				<input checked="" type="checkbox"/>
25100	Other Long-Term Debt		BSC	-				<input checked="" type="checkbox"/>
25110	Intercompany Notes Payable		BSC	-		17110		<input checked="" type="checkbox"/>
30000	Currency Translation Adjustment		BSC	-				<input checked="" type="checkbox"/>
31000	Retained Earnings		BSC	-				<input checked="" type="checkbox"/>
40010	Product Revenue		PLC	-				<input checked="" type="checkbox"/>
40020	Services Revenue		PLC	-				<input checked="" type="checkbox"/>
40030	Maintenance Revenue		PLC	-				<input checked="" type="checkbox"/>
40040	Other Revenue		PLC	-				<input checked="" type="checkbox"/>
40050	Intercompany Interest Revenue		PLC	-		65030		<input checked="" type="checkbox"/>

Chart of Accounts Route Options

a high level flowchart and drilling down to the operation tasks your users undertake. You should know exactly where your General Ledger data is coming from (including the server, database, and tables within that database) and if these data are available for direct integration to the BI360 DW or if it will require a manual file process. Will you only be bringing Monthly Trial Balances into the DW or also GL Journal Entry level detail transactions? Next, make a list of all the reports that you require in your consolidation process. Gather examples or screenshots of the desired report layouts, specifying the business rules for each row in the report. Excel is excellent for creating mockups if you already have your desired report layouts in mind. Finally, don't forget to think about security, regarding who needs access to what and why.

Security can be simple, but sometimes can be made more complex than necessary. You should compile a list of all users that will be using BI360 and list which data areas they should have access to. Some examples to consider: Which companies? Can they design reports or just run them? Can they enter data, such as manual eliminations? And will they be managing the DW by building trees, exchange rates, elimination processes, etc.? From

here, the BI360 Data Warehouse will be yours to easily shape into one of your most valuable tools.

## Configuration

Before you undertake the consolidation task, you will need to configure the data warehouse. This is a very straightforward task that non-technical staff can accomplish using the BI360 DW Manager with a little guidance and thought. The

TransactionID	Description	Category	Entity	Corresponding Entity	Scenario	TimePeriod	Vendor	Value1	Value2	Value3	ApprovalStatus	Comment1	RowComment	Comment3	Comment4
21500		MAIN	SAS		ACTUAL	20120130	TRAIN0001	-900.0000							
21510		MAIN	SCA		ACTUAL	20120130	TRAIN0001	-290.0000							
21520		MAIN	SCA		ACTUAL	20120130	TRAIN0001	-240.0000							
21530		MAIN	SCA		ACTUAL	20120130	TRAIN0001	-100.0000							
21540		MAIN	SCA		ACTUAL	20120130	TRAIN0001	-120.0000							
21550		MAIN	SCA		ACTUAL	20120130	TRAIN0001	-150.0000							
21570		MAIN	SEM		ACTUAL	20120130	TRAIN0001	-216.0000							
21560		MAIN	SEM		ACTUAL	20120130	TRAIN0001	-351.0000							
60185		MAIN	SUS		ACTUAL	20120130	CITYT0001	100379.0000							
60180		MAIN	SUS		ACTUAL	20120130	MERT0001	45679.0000							
60175		MAIN	SUS		ACTUAL	20120130	LNIDE0001	1038.0000							
60170		MAIN	SUS		ACTUAL	20120130	DOLEC0001	1038.0000							
60165		MAIN	SUS		ACTUAL	20120130	INTER0004	1038.0000							
60160		MAIN	SUS		ACTUAL	20120130	VISOR0001	-644.0000							
60115		MAIN	SUS		ACTUAL	20120130	MAAG0001	2019.0000							
60150		MAIN	SUS		ACTUAL	20120130	VISTAC001	1475.0000							
60145		MAIN	SUS		ACTUAL	20120130	NORTH0001	983.0000							
60140		MAIN	SUS		ACTUAL	20120130	BURNE0001	6762.0000							
60135		MAIN	SUS		ACTUAL	20120130	ACETR0001	9466.0000							
60130		MAIN	SUS		ACTUAL	20120130	CONSU0001	57.0000							
								Sum = -171,000.0	Sum = 0.0	Sum = 0.00					

BI360 Data Warehouse Manager in action

main tasks are to decide which modules to use, which fiscal/ calendar year concept to use for your consolidation, which dimensions to use for each consolidating module, and which rate types to use if you are converting currencies. This simple process leads to the meat of a consolidation exercise, the configuration of your consolidated CoA.

When configuring your CoA, there are a couple of routes you can take. First of all, you can elect to go with a single CoA used across all subsidiaries, which is the easiest of your choices. This can also be the most challenging in some cases, as it requires buy-in from all stakeholders in the financial organization. If you have already achieved this, or you always had a consistent CoA, you can more easily include the CoA as part of the automated data upload (ETL) to the BI360 DW. If you are forced to maintain the separate CoAs

used by subsidiaries, then there are still several options available to you for the consolidation process.

If your consolidation scenario involves incompatible or differing CoAs in some of your subsidiaries, you have several options for how you can handle the situation in BI360. The first option: you can set up a mapping of the subsidiary to the parent COA inside the ETL tool, which isn't bad because all of the mapping is performed in a single integration file or process. However, most ETL tools, including Microsoft SSIS, are relatively technical, and if there are new accounts in the subsidiaries that don't fit any of the mapping rules that are set up in the ETL tool, then you are going to need an ETL expert to update the ETL tool for you before data again can be correctly loaded to the BI360 DW. Some situations, where the rules are relatively static or well defined, can be easily handled in this way.

The second option: You can configure the subsidiary-to-parent CoA mapping in Excel by setting up a simple mapping schema in a workbook. The ETL tool, typically SSIS, can then reference the Excel mapping file(s) as it loads a subsidiary's GL data into the BI360 DW and handle the mapping as data is loading. This is all very non-technical because it just requires Excel to maintain the mappings, and it is also easy to push the mapping process out to subsidiaries since they best know their own local CoA. You are also keeping the consolidated chart of accounts in the BI360 DW very simple and clean since you only will deal with a single CoA in the DW, which means that your reports will be easier and faster to write than if you brought in all kinds of detailed accounts from each subsidiary. However, you will need to be aware of and manage the Excel files(s), so they are always in the same location on the server and always up to date. Handing

Excel files within the context of ETL systems can become tricky, as user error can much more easily contribute to a bad Excel file import, which can foul up the entire process. The risks associated with this method usually outweigh the benefits of having Excel as the interface to the mapping file.

The third option involves using a custom BI360 Data Warehouse dimension as a steering table, allowing you to set up the subsidiary-to-parent COA mapping inside the BI360 DW Manager. You can set up a separate dimension for the express purpose of acting as a steering table. This is the preferred solution, as the DW Manager is a simple interface to master, so business end-users can configure the account mappings on their own. The ETL would then look at the custom dimension you created to manage the mappings, and all data would always get automatically mapped correctly.

Now that we've discussed your options regarding configuration, let's move on to loading and validating your data.

## Data Loading and Validation

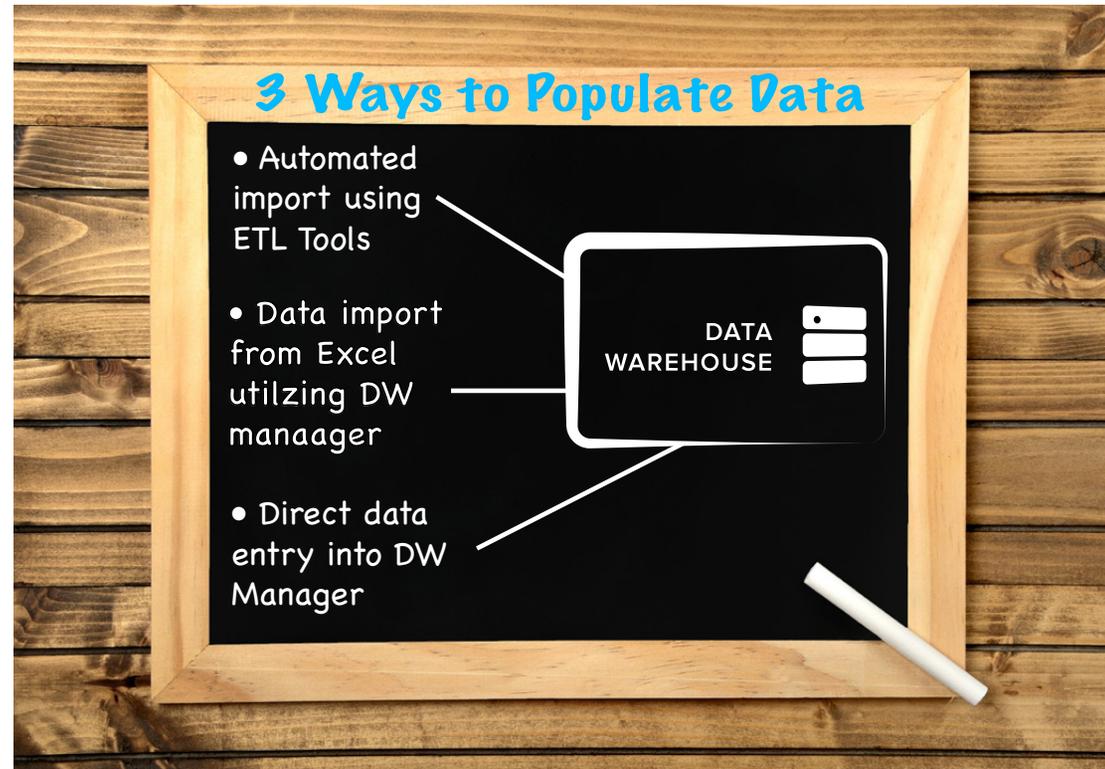
There are generally three types of data that are loaded to the BI360 DW: transactions, exchange rates, and dimensions. Examples of transactions are GL summary data (which is typically the sum of balances per account, GL segment, fiscal period), and GL detail, which is the journal entry detail level for the GL transactions. For the purposes of consolidation, the GL transactions are usually the most important data area to consider. However, consolidation does not need to be limited to the GL.

Exchange rates are typically easier to load than other data sources because their structure is relatively

straightforward. You can have as many rate types (Average, Budget, Closing, etc.) as you want or need in BI360. If required, you can load separate monthly rates for a particular currency for each company. Setting up the Exchange rates is fairly simple, and they can be configured as "multiply-by" or "divide-by" rates as desired. If you are loading rates from your ERP or other data sources that typically only store daily rates, BI360 can automatically convert daily rates to monthly rates, as the BI360 DW Currency Module stores both daily and monthly rates.

Finally, we come to dimensions. The dimensional data is really the main tool for analysis in your system, and there are a few main components that are worth mentioning. In the BI360 DW, the Dimensions are each related to one or more transaction tables by a key column. The column is called the "Code" field and is also

known as the “natural key” in the parlance of data warehousing. The Code field has the requirement of being unique in the table where it resides. This means that you cannot have two records in a dimension that have the same value in this field. This is an important point to stress in consolidation situations, as sometimes when you are loading data from two companies, you may come across records with the same code, which may have slightly different description fields. Typically, when looking at the incoming dimensional data, if the description fields are different from each other, but the Code is the same, then you are dealing with bad data in the descriptions or a CoA that has not been cleaned up. This is the main reason that it is very important to have a clean CoA or clear business rules before embarking on a consolidation process.



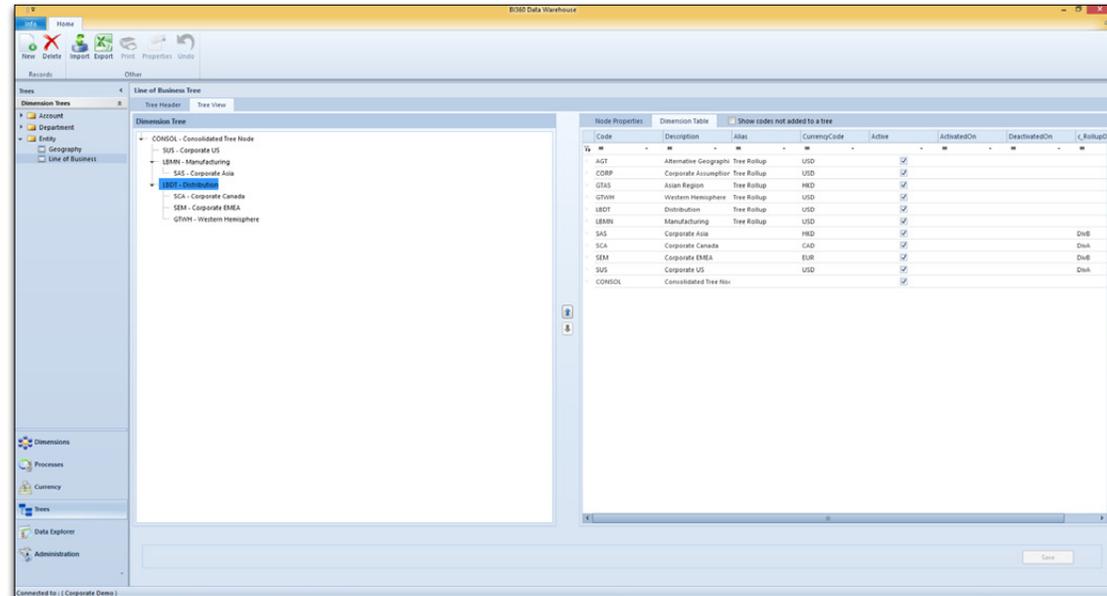
Trees are not usually imported into the data warehouse as it is typically quick and easy to design the trees inside the BI360 DW. However, imports from Excel are supported and may be convenient in some cases. For example, when dealing with large account trees, which roll

up multiple local CoAs into a single corporate CoA, it may be easier to maintain them in Excel, and then upload them into BI360. If your source system has trees, it is usually also possible to load the trees directly into the BI360 DW using, for example, Microsoft SQL Integration

Services (SSIS). This has the added benefit of allowing multiple systems to share the maintenance of the tree objects and thus not require you to maintain them in two places.

There are three different ways you can populate the BI360 DW with data. First of all, you can set up automated import using an ETL tool, like Microsoft SSIS, the BI360 ETL tool, or the BI360 DW Connector wizards.

Secondly, you can also import data from Excel using the import menus in the BI360 DW Manager. If some of your data only needs to be loaded once, such as history from an old ERP system or budgets from a third party budgeting system that is only updated once a year, this method is sometimes the quickest and easiest. You might also import files if you are only creating a test or pilot model in the BI360 DW.



*Account Trees*

Finally, you may enter data directly into the DW Manager. This is often easiest for dimensions, exchange rates and trees that don't change very often or have no good external system of record. Transactions, such as GL data, have to be imported via the methods listed above, as they cannot be entered directly into the warehouse via the Data Explorer.

## Management and Consolidation

Once your dimensional data has been loaded into BI360, you can decide to use Account attributes or Account Trees (or both) to manage and simplify the consolidation processes. Some of these processes include mapping of subsidiary-to-parent accounts, grouping of accounts,

and creating consolidation trees for your companies. We've already discussed mapping techniques above, so let's move on to using account groups.

If you group your accounts using attributes on the Account dimension, this will make your reports faster to build, faster to run and require little or no report maintenance when you add new accounts to your ERP in the future. For example, if you group all "Short Term" asset accounts into a group called "Short Term Assets", using this grouping on a report will automatically add the new accounts into your report as long as the data warehouse is maintained with this grouping.

BI360's auto-elimination and minority interest handling is a new feature that takes the pain out of some previously complicated reporting requirements. These processes require that trees on the Entity dimension be configured with

	September, 2015	August, 2015
<b>Cash Flow from Operating Activities</b>		
Net Income	88,605	(46,335)
<b>Adj NI to Net Cash Provided by Ops. Activities</b>		
Depreciation & Amortization Expense	(37,987)	(47,301)
Other Current Assets	(731)	(819)
Non-Current Assets	(8,096)	(9,887)
Accounts Receivable	(1,857)	(2,434)
Accounts Payable	2,029	2,239
Prepaid Expenses	(926)	(1,000)
Accumulated Comprehensive Income	0	0
<b>Net Cash Provided by Operating Activities</b>	<b>41,037</b>	<b>(105,537)</b>
<b>Cash Flows from Investing Activities</b>		
Purchase of Property, Plant, and Equipment	(14,194)	(17,993)
Accumulated Depreciation	42,387	52,830
<b>Net Cash from Investing Activities</b>	<b>28,194</b>	<b>34,837</b>
<b>Cash Flows from Financing Activities</b>		
Proceeds from Loans	16,044	18,805
<b>Net Cash from Financing Activities</b>	<b>16,044</b>	<b>18,805</b>
<b>Net Increase in Cash</b>	<b>85,276</b>	<b>(51,895)</b>
Cash at Beginning of Period	1,658,019	1,709,914
<b>Cash End of Period</b>	<b>1,743,295</b>	<b>1,658,019</b>
Check - Cash End of Period from Database	1,743,295	1,658,019

*Tracking IFRS*

relationships defining the ownership percentages of each subsidiary.

The consolidations in BI360 are executed using the data processes, which are procedures that run from the Processes section of the Data Warehouse Manager. There

are three BI360 consolidation rules: currency conversion, minority interest eliminations and intercompany activity eliminations. Running or automating these rules in the BI360 DW Manager creates additional transactions, which can be

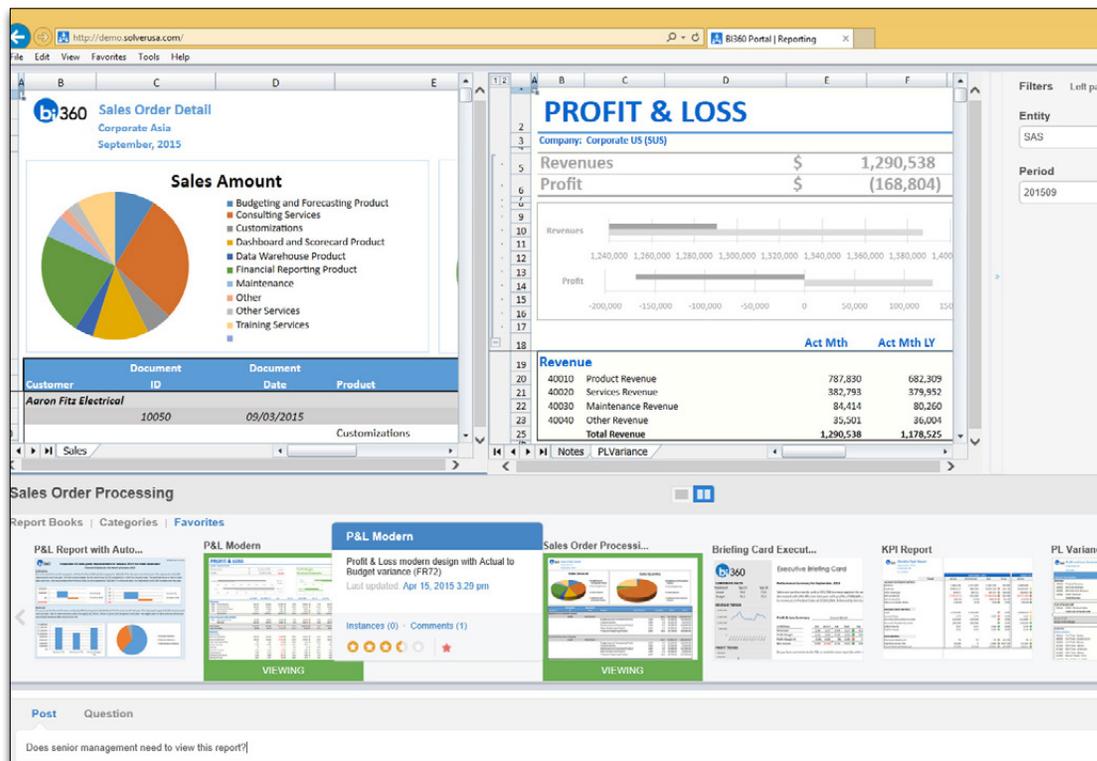
used to create consolidated financial statements. Let's dive a little deeper into each rule.

First up, currency conversion. This script generates foreign currency transactions in the selected periods. It can be set up to automatically run on a daily basis and recalculate

historical data if the rates need to change. You can also use it to create additional forecasting scenarios if you set up separate forecast currency rates. We have seen some very complicated models that customers have built – the sky really is the limit.

Next, minority interest eliminations. This calculation generates minority interest eliminations in selected periods. The purpose of this calculation is to accurately determine the portion of transactions in subsidiaries that contribute to the consolidated financials if some other entity owns part of a subsidiary. You can also use this to build reports that show how financials look at any subsidiary level in a hierarchy. Any complex cross- or fractional-ownership scenario is allowed, with each entity being owned 100% or less.

And finally, the intercompany activity elimination rule produces intercompany elimination transactions for activities that took place between subsidiaries in the selected periods. The purpose of this is to accurately eliminate the transactions that should not contribute to a consolidated financial statement due to what are effectively internal transfers between subsidiaries.



Financial Consolidation Report

For some companies, it may be desirable or beneficial to set up data entry forms in BI360 so users can input data such as assignment of corresponding entity codes (if this information is missing in your ERP system), manual elimination transactions, IFRS to local GAAP adjustments, and other consolidation adjustments for data that came in incomplete or wrong from a subsidiary. You can use the BI360 Planning module to create highly user friendly input forms either for use with the BI360 Excel interface or the BI360 Web Portal.

Such manual entries are typically stored to a separate Category code(s), which is a dimension in the BI360 DW, so that you later can track, include or exclude your adjustments with your imported GL data. Additionally, you can break out the adjustments into separate

columns in your consolidation reports.

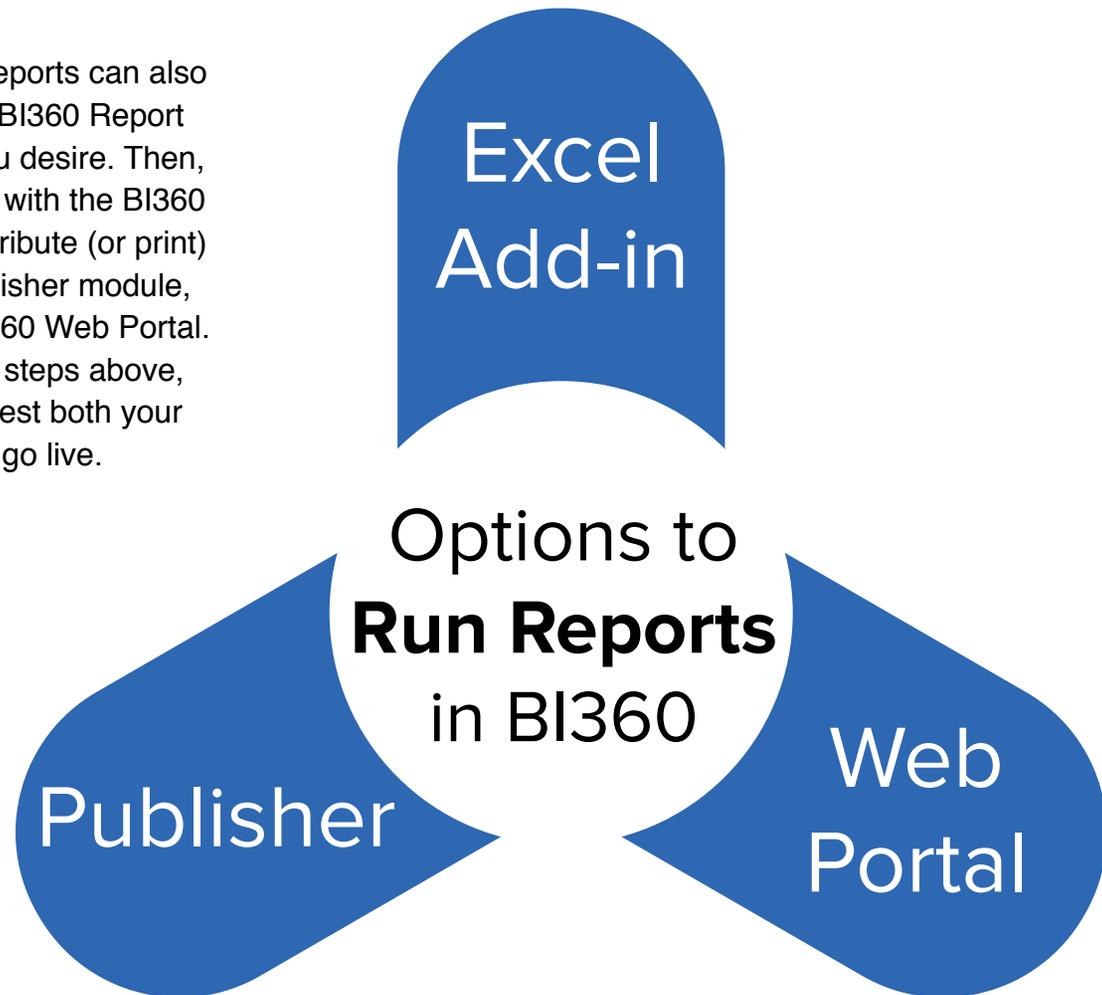
The BI360 DW has an audit capability (i.e. for Sarbanes Oxley and other audit reasons) that automatically will track who enters and changes the adjustment transactions and at what date and time. It can also include text comments to explain what the adjustments were needed for.

## Report Design and Distribution

Once the BI360 DW is set up and populated, processes for currency conversion and eliminations have been run, and any manual adjustments have been entered, it is time to design your financial consolidation reports. For most companies, these types of

reports will include trial balance reports, as well as consolidated and consolidating Profit & Loss, Balance Sheet, and Cash Flow reports. Many companies desire to automatically compile the same report across sheets in a single Excel workbook, starting with a consolidated version of the report on the first sheet and then, replicating the same report format on the other sheets, according to a consolidation tree set up in the BI360 DW. Although this is a powerful feature in the BI360 Report Designer, when you start to approach 75-100 sheets in the same workbook, it will significantly slow down the report execution. It is usually better to consider on-demand execution for specific sheets, running the report in separate Excel files per company, or scheduling the job using BI360 Publisher.

Of course, any number of other reports can also be created. In short, you use the BI360 Report Designer to set up the reports you desire. Then, you have three ways: run reports with the BI360 Excel add-in, run reports and distribute (or print) automatically with the BI360 Publisher module, or run and view reports in the BI360 Web Portal. Once you have completed all the steps above, make sure you set aside time to test both your data and your reports before you go live.



# Final Thoughts

If you are still reading at this point, I don't think it would be fair to call you a newcomer to BI anymore. Corporate performance management processes can be complex, especially when you're trying to figure out which software platform to choose to help you achieve your specific data management and analysis goals.

Hopefully, what you have gained from this book is that BI360 is business-user friendly, flexible, collaborative, and secure. You shouldn't accept anything less than simple to use self-service Business Intelligence, which BI360 delivers with quick and easy implementation, Excel-powered functionality, and powerful analytics. In today's

business culture, flexibility is essential for the fast pace and diverse usage patterns in our workforce. BI360 offers the flexibility to pull data directly from your ERP or from a BI data store, as well as the option to work on-premises with an Excel platform or access your data from anywhere you have a web connection. With teamwork being so essential and our teams working from many locations while on the road or from their home office, Solver's focus on secure and flexible collaboration makes this software the most consumer driven and innovative BI tool on the market.

I know that one book will not answer all of your questions, but you hopefully understand the value of

BI360 a little better. While learning about the BI360 suite, we have covered BI, corporate performance management, and analytics that can drive better, richer decision-making for a more successful future for your company. If after reading this book, you still have more thoughts you would like to discuss, Solver would be happy to help you answer your questions and review any aspect of BI360's easy-to-use, comprehensive BI suite for collaborative, streamlined decision-making capabilities.

# Global Solver Directory

## North American Offices

### Global Headquarters

Solver, Inc. Address: 10780 Santa Monica Blvd | Ste 370 Los Angeles | CA 90025  
Email: [info@solverglobal.com](mailto:info@solverglobal.com)  
Phone: +1.800.281.6351 (US) /  
+1.310.691.5300 (Outside US)  
Fax: +1.310.691.5324

### Canada

2300, 125-9th Avenue SE  
Calgary AB, T2G 0P6  
Email: [info-canada@solverglobal.com](mailto:info-canada@solverglobal.com)

## Europe Offices

### Sweden - EMEA Headquarters

Kungsgatan 56  
111 22 Stockholm  
Email: [info-emea@solverglobal.com](mailto:info-emea@solverglobal.com)  
Website: [www.solver.se](http://www.solver.se)

### United Kingdom

421 Chynoweth House  
Trevisson Park, Truro TR4 8UN  
Email: [info-uk@solverglobal.com](mailto:info-uk@solverglobal.com)  
Phone: +44 (0) 741 151 3550

### Italy

Viale Luca Gaurico, 9-11  
00143 Rome  
Email: [info-italy@solverglobal.com](mailto:info-italy@solverglobal.com)  
Phone: +39 06 54832840

## Asia Pacific Offices

### Singapore

1557 Keppel Road, #03-07  
Singapore  
Email: [info-apac@solverglobal.com](mailto:info-apac@solverglobal.com)  
Phone:  
+61 280149103 (Main)  
+61 2 8014 9103 (Australia)  
+61 9 801 0260 (New Zealand)

### India

59 Saket Nagar  
Indore MP 452001  
Email: [info-india@solverglobal.com](mailto:info-india@solverglobal.com)  
Phone: +91 93424844243

## Latin America Offices

### Mexico

Rodolfo Gaona No. 81, piso 7.  
Lomos de Sotelo, Mexico D.F.  
CP 11200  
Email: [info-mexico@solverglobal.com](mailto:info-mexico@solverglobal.com)  
Phone: +52 55 2452 92 00

### South America

Jr. Manuel Excorza No. 185, Dpto. 301  
San Borja, Lima  
Lima 41  
Email: [info-latam@solverglobal.com](mailto:info-latam@solverglobal.com)  
Phone: +51 997 889 443 | +51 993 864 257

For more information, contact us at:

[info@solverglobal.com](mailto:info@solverglobal.com)

+1.800.281.6351 (US)

+1.310.691.5300 (Outside US)

**See BI360 in Action!**

[Join us for a live demonstration of BI360 Suite »](#)