



When Business Planning Moves Beyond Spreadsheets

My spreadsheets are restricting me. What can I do?



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Why is my spreadsheet giving me the wrong answer?

-Daniel Reif, CEO at Finicast

It was half past midnight. "Crap", I said to myself, "I don't do well on little sleep." But I was staring at my spreadsheet and was still getting that error. I had several "#N/A" returns from the lookup formula. How could that be? I knew I had entered our entire list of customer names. I had checked that twice already. I looked at the formula. It pointed to the customer list in the "Customers" tab.

I clicked on the "Customers" tab. The names of the customers were in column A. They were all there. After a few minutes, I found it. I discovered the darn error. When I added the new customers, the list grew to row 137 of column A in the "Customers" tab, but the lookup formula only pointed to rows 1 through 125. I tweaked the formula, and I was confident that everything would now roll up beautifully.

I was wrong.

I wasn't able to get the results I expected—the results *everyone* expected. I was still \$2.6M short. How was it possible?



```
=!ERROR[AND($B31,'Customer Hierarchy'!$A:$K,3,FALSE)='Sales Hierarchy'!$B1,VLOOKUP('Bookings Data Import'!$C31,'Product Hierarchy'!$A:$Q, MATCH('Conversion Rates'!$B$1,'Conversation Rates'!$A$1:$Q$1,0),False), "N/A"]
```



An unexpected error has occurred excel. Autorecover has been disabled for this session of Excel

#REF!

#REF!

#REF!

#REF!

#REF!

#N/A

#N/A

761968	PR
761969	PR
761970	PR
761971	PR
761972	PR
761973	PR
761974	PR
761975	PR

Bookings Data Import

P&L Summary

Expenses by Department

Bookings by Territory

Product Hierarchy

Customer Hierarchy

Spreadsheet Limitations Impact Analysis, Planning, and Forecasting

The above event was not uncommon in my days of doing business analysis, forecasting, and planning. I loved using spreadsheets such as Excel or Google Sheets, and I still do. They are an excellent tool. When our company was small, I was able to build models that I could easily edit, update, and use to provide business insights to the executive team on demand.

However, as our business grew and became more complex, our models became more sophisticated, and the limitations of spreadsheets quickly became a liability.



- I had to dedicate additional time to make sure that any update to the model flowed through multiple tables, multiple tabs, and multiple files.
- I was having to troubleshoot errors on a regular basis.
- Adding a new department, product line, or time period became a significant undertaking.

I no longer had the time or "brainwidth" to understand, analyze, and provide insights from the information I spent so much effort to consolidate. Instead, I was a spreadsheet mechanic, making sure all the nuts and bolts were tight and torn belts and hoses were replaced.

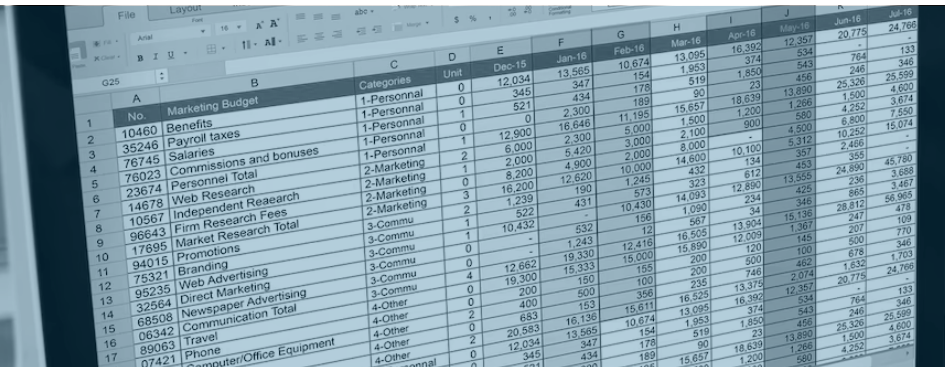
When systems and tools struggle to perform the function they are expected to, their users spend an inordinate amount of time maintaining them rather than extracting value from them. That was the case when I was bogged down in spreadsheet mechanics as opposed to gaining valuable insights to help drive decision-making.

To overcome this, companies often hire another layer of managers just to do strategic analyses. The result is higher costs for additional resources as well as inefficiencies created by distancing the more senior strategic analysts from the models and sources of data.

Spreadsheets Have Foundational Limitations

The fact that nearly a billion people use spreadsheets is proof of how great they are. Spreadsheets are frequently difficult to replace with more sophisticated systems because of their easy accessibility and low cost. However, as businesses expand, so does the need to look at more dimensions of the business, collaborate across teams, and manage larger and more complex data. At this point, spreadsheets are no longer sufficient for doing effective and efficient business planning. These are the key reasons why

- Stuck on Two-Dimensions
- Difficult to Share
- Limited Scalability



		Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16
1	Marketing Budget	12,034	13,565	10,674	13,995	16,392	12,357	20,775	24,795
2	Personnel	0	345	347	154	1,953	374	534	133
3	Salaries	0	521	347	178	519	1,850	543	346
4	Commissions and bonuses	0	2,300	11,195	15,657	1,200	1,296	25,326	25,599
5	Personnel Total	0	12,900	16,648	5,000	2,100	900	1,500	4,600
6	Web Research	0	6,000	2,300	3,000	8,000	10,100	5,312	2,466
7	Independent Research	0	2,000	4,900	2,000	14,600	134	453	355
8	Firm Research Fees	0	8,200	12,620	10,000	432	612	13,555	24,890
9	Market Research Total	0	16,200	190	573	14,093	12,890	425	665
10	Promotions	0	1,239	431	10,430	1,090	234	345	28,812
11	Branding	0	1,243	12,416	16,505	13,904	1,367	207	109
12	Web Advertising	0	19,330	15,333	15,850	12,009	145	600	770
13	Direct Marketing	0	200	600	396	200	500	678	346
14	Newspaper Advertising	0	400	153	15,611	13,095	374	543	764
15	Communication Total	0	20,583	16,136	10,674	1,953	1,850	456	25,326
16	Travel	0	12,034	347	178	519	23	13,890	1,500
17	Phone	0	345	347	154	1,953	374	534	133
18	Computer/Office Equipment	0	345	347	154	1,953	374	534	133

Stuck on Two-Dimensions

A maturing company's strategic planning must take into account the various factors that influence its operations and business. Examples of several dimensions that can affect performance include:

- Departments: marketing, sales, service, manufacturing, finance.
- Market segments: enterprise, mid-market, consumer.
- Geographies: regions, countries, areas.
- Product lines: SKU, product family, product category, product class.
- Business units: hardware, software, services.
- Customer Vertical: healthcare, automotive, telecommunications, e-commerce.
- Time periods: years, quarters, months.



A spreadsheet has just two-dimensions: letters for the columns and integers for the rows. Users are forced to utilize spreadsheets in ways they were not intended because they must examine data in more than two-dimensions.

This leads to a number of difficulties when producing, updating, and comprehending data in more complex spreadsheet models.

- As new dimensions are introduced, a spreadsheet must grow exponentially to accommodate for the new combinations added by these dimensions.

- If a new value is introduced for an existing dimension, this must be added in the many different places where that dimension is mentioned and formulas must be updated one-by-one.
- In order to see the data organized by different dimensions, workbook tabs explode in number to account for the many combinations.

Difficult to Share

Smaller companies generally have very few people who have enough understanding of the business to work alone building and maintaining models in spreadsheets. This is mainly because there are fewer goods, departments, customers, etc. As companies grow and become more complex, any individual responsible for the planning process will require assistance, information, and explanations from their colleagues.

Safely collaborating in a spreadsheet is not trivial.

- When aggregating different inputs, problems arise when multiple files or tabs are created for multiple contributors to enter information. Formulas that aggregate the information in these files or tabs must be precise and updated as circumstances change. The risk of error is high.
- Sharing a single file with numerous users raises the possibility that inputs will be entered incorrectly, data will be mistakenly overwritten, and even that someone will override a formula or alter the model's structure.
- In general, sharing files via email or shared links increases the risk that sensitive company data may be leaked, either by users failing to remove it before sharing the file or by hackers gaining access to it.

Limited Scalability

In the early stages of a company, detailed spreadsheet models tend to have fewer dimensions, and fewer values per dimension. There are fewer products and customers. There may not yet be a need to add regions, segments or product lines as dimensions. There are fewer transactions and fewer historical periods. The relatively small size of models makes it possible for calculations to happen virtually instantly and the user experience with spreadsheets tends to be good.

Company growth and increased complexity rapidly change this.

- Given the limitation of a two-dimensional table structure, spreadsheets tend to explode in the size of the data because data tables are repeated to accommodate for different dimensions.
- When spreadsheets grow to hundreds of thousands of rows, with lookup formulas and conditional formulas to selectively find and compute data, the response time gets longer.
- Users may be stuck for several minutes or even hours waiting for calculations to complete. In some instances, the software even crashes and one hopes that the latest changes were saved

There is a Better Way: Modern Planning Platforms

Improvements in computing and networking power allow companies that want to gain a competitive edge to replace their spreadsheets with a planning platform. These planning platforms come in a variety of forms. The following are the necessary ingredients for a planning software solution to be an acceptable evolution from spreadsheets.

- Intelligent Scalability
- Easy to Use
- End-to-End Planning
- Collaborative

Intelligent Scalability

As the number of required dimensions increases, so does the amount of computations needed in a model used for business planning. Global businesses can easily achieve billions of data points and calculations in a comprehensive planning model. Without the proper planning software, it is impossible to create, edit, and update these models.

Requirements of growing businesses tend to outpace improvements in computing power and memory of traditional spreadsheets, and even many of today's planning solutions. These alone cannot be relied on to have enduring scalability.

A truly robust solution requires innovative algorithms that intelligently select which calculations to perform when in order to optimize the use of computing and memory resources.

Easy to Use

Some planning software solutions are difficult to implement and manage, and require companies to bring in a third party implementation consultant and/or to form a large team of dedicated resources for the sole purpose of programming and maintaining the models. This makes a transition from spreadsheets very expensive, and even cost prohibitive for many companies.

Moreover, analysts that create and maintain planning solutions using spreadsheets have invaluable company knowledge. Distancing these critical resources from model building by inserting a third party consultant or internal team layer creates inefficiency and lack of flexibility when implementing and managing the new solution.

New planning software should be easy to start, learn and use for existing spreadsheet analysts. This prevents unnecessary costs and leverages existing planning expertise.



End-to-End Planning

Planning impacts all aspects of the business. Yet, there are point solutions that focus only on one function, such as financial planning or revenue operations, and don't provide alignment across the company. When a department in the company implements a point solution, it becomes difficult to maintain consistency with other departments that use different tools.

Spreadsheets are open-ended and thus do not restrict planning to one department or function. The same principle should apply to new planning software. A big driver for efficiency and scalability is to be able to use a single system to integrate planning for all functions. Planning components such as sales forecast, headcount requirements, or travel expenses by department should be directly linked to the financial plan.

Modern planning platforms are able to integrate data from all departments and functions into a single system, ensuring a cohesive plan across the company.

Collaborative

Business planning is intrinsically collaborative. The process requires inputs from many individuals, and the outputs are needed by multiple stakeholders.

When models are large and complex, sharing the entire model increases the risk of error, is not secure, and in some cases may not be feasible. It is important to be able to customize the information shared based on the individuals with whom it is shared. Being able to share a piece of a large table so each user only sees what they need helps keep the data secure and prevents the user from being overwhelmed with a greater volume of unnecessary information.

A planning solution should therefore have built-in features to collect and share data with as many individuals as needed in a simple and secure way.

Moving Beyond Spreadsheets with Confidence

Companies need to analyze increasingly complex data to arrive at the information needed to make strategic decisions that maintain and extend their competitive edge. When companies are small, the easy access to and familiarity with spreadsheets makes them an easy choice for companies to build planning models.

As companies grow, spreadsheets are no longer enough to handle the increasing amount and complexity of the information. Better planning software is needed to understand businesses in more than two dimensions, handle larger amounts of data, and securely collaborate across the organization in the planning process.

There are various options to replace spreadsheets in the planning process and they are not all the same. For a successful transition, the new software must:

- Have intelligent algorithms that scale to process more data and not just rely on more processing power and memory.
- Be easy to use for broad adoption.
- Be open-ended to be able to integrate planning for all functions.
- Have built-in, secure collaboration workflow features.

About the Author

Daniel Reif has over 20 years of experience in a number of leadership, strategic planning, and operational execution positions. These roles include more than ten years of managing large-scale operations at Infinera as well as numerous advising positions at small and mid-size businesses. Daniel is passionate about disruptive technology and helping companies to create new products, business models, and operationalize processes to achieve revenue growth while maintaining nimbleness and efficiency.



About Finicast

Finicast provides a modern SaaS enterprise planning platform to model, plan, forecast, and track performance across organizations of all sizes. Using a proprietary data engine combined with an intuitive user experience, Finicast provides a collaborative planning platform for companies who have reached the limits of traditional spreadsheet solutions due to their business scale, operational complexity, and market dynamics. Based in San Mateo, CA, Finicast serves customers across many industries and sizes.



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