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# Cashflow modeling and scenario analysis in dynamic and uncertain environments

**A compilation of resources that show you  
how to react appropriately in extreme and  
unforeseen circumstances.**

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1

## Understand that cash is king

"Cash flow is the ultimate value driver," says Jack. Any business, regardless of its niche, needs sufficient cash at all times in order to run effectively. That's why your cash flow statement is at the heart of your company's financial reporting.

Recognizing the importance of cash flow is imperative to improving your finance team's reporting processes. Remember, preparing your cash flow statement isn't just another finance drill; it's a key insight into your company's performance and where it stands financially.

2

## Improve your indirect cash flow reporting

The indirect method of cash flow reporting starts by presenting cash flow with net income or loss before adding or subtracting non-cash revenue and other expenses.

"It's a rather ugly yet necessary form of presenting cash flow," says Jack. "It's actually what's required by the public reporting entities in the US."

The indirect method is often used in external communications to report a company's cash flow to banks and investors. It's also commonly used in financial models like annual plans, long-term projections, and company valuations.

Unfortunately, the indirect method has some drawbacks.

"It doesn't provide a lot of value in understanding a company's cash flow or how to improve it, and that's mainly attributable to the fact that it offers no insight into any major drivers," says Jack. "It's also almost incomprehensible for non-finance people, and many finance folks as well."

In his webinar, Jack shared some tips for improving your indirect cash flow statements by tracking key metrics like DSO, DSI, accounts payable, capital expenditures, depreciation estimates, and more.

3

## Create a cash budget (aka direct cash flow statement)

The direct method of cash flow reporting offers much more intuitive insight into a company's cash flow.

It works by looking directly at the in and outflow of a company's cash and provides insight into its major cash drivers, including customer receipts, payroll, and payments to suppliers.

"The direct method also allows us to focus on the specific timing of inflows and outflows of cash over the next couple of months and summarizes everything in an ending cash balance," says Jack.

This method is generally used by cash managers, but companies can and should also use it for a more intuitive look at their flow of cash.

4

## Run a critical analysis of your accounts receivable

Accounts receivable is one of the biggest assets on any balance sheet. "It's also a great reflection of customer satisfaction, the quality of our goods and services, and the credit status/worthiness of our customers," says Jack.

To review your accounts receivable, you'll want to start by working out your best possible DSO and comparing that to your current average. Then, you'll want to identify the key reasons why your DSOs aren't where they could be.

To identify what's driving your accounts receivable, you'll want to look at some key drivers of the revenue process, including:

- Your credit policies.
- The financial health of your customers.
- The quality of your products and customer service.
- The efficiency of your collections management and your entire revenue cycle.
- Shipment patterns.

In his webinar, Jack outlines a detailed process for reviewing your accounts receivable by looking at key drivers starting at the sales process right down to the final day when you receive payment.

If, for example, your accounts receivable are simply driven by payment lags from your customers, you can address this by improving your customer service process.

"Rather than waiting 45 days to call a customer, call them on day 15. Then you've started the clock and removed any possible excuses for outstanding payments," says Jack.

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# Six ways to improve your cash flow and working capital management (cont.)



5

## Review your supply chain and inventory

Supply chain and inventory are a key asset in almost every industry except the service sector.

According to Jack, one of the keys to creating better supply chain and inventory processes is expanding the scope of inventory to include customers and returns and, prior to that, product conception/development, sales forecast, and planning.

"One of the first things I like to do when analyzing inventory is to create a value-focused report that lists inventory in descending order based on value," says Jack. From there, you should start reviewing your inventory by focusing on the top 20%.

Remember, if you're going to move the needle, it's best to start with the large items. "Pareto analysis is a very effective yet often under-used tool here," says Jack.

Another key area to look at when reviewing your company's supply chain and inventory is excess and obsolete inventory. This typically makes up a large component of inventory and also indicates a number of process failures.

Some root causes of excess and obsolete inventory, for example, include poor product management and sales forecasting.

"Some old school tools like variance analysis, roll forward, and trend schedules can provide a lot of insight into the dynamics of your company's inventory," says Jack.

6

## Generate cash by monetizing non-strategic assets

Last but not least, one of Jack's final tips for how you can improve your cash flow and working capital is simple; by monetizing non-strategic assets.

"I've found, for example, that a lot of organizations have an excess of unused real estate," says Jack. Renting out or selling these spaces can help generate cash for a company, as can;

- Licensing specific technologies to other markets.
- Divesting non-strategic product lines.
- Liquidating investments in partnerships and venture funds.

WATCH THE WEBINAR VIDEO BELOW

## Accounts Receivable

### Critical Analysis and Diagnostic (Continued)

Accounts Receivable Aging Schedule						
Minihouse Co.						
Customer	Total	Current	30-90	90-90	90-120	>120
A	80,000	50,000	30,000	10,000	-	3,000
B	54,000	30,000	30,000	10,000	2,000	2,000
C	40,000	10,000	30,000	10,000	-	-
Others	90,000	30,000	30,000	-	-	-
<b>Total</b>	<b>264,000</b>	<b>120,000</b>	<b>90,000</b>	<b>30,000</b>	<b>2,000</b>	<b>5,000</b>
<b>Total Sales</b>	<b>1,500,000</b>					
D90 Impact	95.2	26.8	19.5	7.3	0.5	1.2
Aging % of Total Sales						
%	100.0%	48.5%	38.2%	13.2%	0.9%	2.2%
Last Month %	100.0%	60.0%	30.0%	5.0%	5.0%	0.0%

#### Past Due by Root Cause

Root Cause	Count
Billing Errors	12
Quality	14
Shipping Error	8
Installation	4
Other	1

Adapted from Financial Planning & Analysis and Performance Management, Wiley, 2018

The traditional aging schedule contains tremendous insight into root causes of receivable delays, customer satisfaction and process efficiency. Effort should be made to analyze, identify and communicate root causes.

Apliqo FP&A Webinar Series with Jack Alexander - Episode 4: Improving Cash Flow and Working Capital Management

The smartest unified solution

apl原因



## Be realistic: business downturns are inevitable

"In FP&A, the first thing we have to do is recognize that economic cycles are cyclical," says Jack.

That means your company is going to face business and economic downturns, despite what some investment communities might want you to think.

And as a CFO, it's your role to acknowledge the challenges and potential downturns facing your business, plan for them, and minimize their impact on the company.

To do this, you should:

- Provide context during economic upturns and dampen any kind of irrational exuberance.
- Construct business models and practices that take into account the inevitable nature of downturns.
- Develop effective analysis.
- Prepare your company for a downturn during the good times.

## Know what NOT to do during a business downturn

Businesses suddenly facing an unexpected downturn tend to hit the brakes and take drastic short-term actions that only cause them more problems in the long run, including across-the-board cuts to discretionary spending, human capital, and investments.

If your business is hit with a downturn, you first need to ditch this "bunker mentality" and instead focus on putting in place a robust planning model that helps you better prepare for other inevitable downturns further down the road.

## 1

### Understand the value in planning

US President Eisenhower once said that "plans are useless, but planning is indispensable." And in FP&A, there's a lot that we can learn from that.

"We know that the future is going to be different than we project, and so the value really lies in the critical thinking and discussion that goes into planning rather than the plans themselves," says Jack.

When your business eventually faces a downturn, it'll be all the work and thinking that went into your planning procedures that really helps your business, rather than the individual documents you and your team put together.

## 3

### Create a cash budget (aka direct cash flow statement)

"We know that the future is going to be different than we expect it to be, and having a single-point plan really ignores this uncertainty," says Jack. That's exactly why it's so important to incorporate comprehensive scenario planning into your finance practices.

To do this, it can help to develop a primary base-case projection, identify and modify the key assumptions leveraging this projection, and then develop different potential scenarios facing the company.

Your team should then create an action plan for each scenario, which should:

- Describe the event and the probability of it occurring.
- Highlight its impact on the company.
- List the leading indicators of the event.
- Highlight a clear trigger event.
- Clearly outline management responses you'll take prior to, at the time of, and after the trigger event.

## 2

### Clearly identify your key business drivers

"There's been a lot of discussion over recent years about driver-based planning," says Jack. This involves focusing your plans on the operations that drive about 80% of your business.

For most businesses, a lot of this planning will come down to running a comprehensive analysis of revenue and margins. This should cover pricing, product life cycles, new product launches, currency fluctuations, and well as macroeconomic factors (like GDP, interest rates, public policy, demographics, and more).

"Interestingly enough, this is also an area where finance usually spends the least amount of time," says Jack.

## 4

### Embrace rolling forecasts

Rolling forecasts always look 12-24 months ahead and take into account both the company's key business drivers and key assumptions, offering a comprehensive overview of the company's performance.

For a closer look at Rolling Forecasts and how they can revolutionize your planning processes, [check out our summary of Jack's webinar on Budgeting and Planning Best Practices.](#)



## Are you ready for the next FOREX shock?



**Exchange rates: there is virtually no other external influence that is harder to predict. And yet almost all companies are exposed to the volatile foreign exchange markets. In our blog, we show the best way of managing one of the biggest risks associated with corporate planning.**

The foreign exchange market is the biggest market in the world. Each day currencies valued at several trillion dollars are traded all over the world – a volume which stock markets don't even come close to matching. Even the New York Stock Exchange on Wall Street – the most famous and strongest stock exchange in the whole world – doesn't stand a ghost of a chance against the forex market. The sheer size of the market and the large number of players are also the main reasons why price fluctuations occur suddenly and unexpectedly. Exchange rates are influenced by many different factors: changes in interest rates, inflation, political decisions, developments on the labor market or the demand for imports and exports can wreak havoc with international trade. This makes the foreign exchange market not just the planet's largest financial market but also the most volatile one.

### Unforeseeable

Let's look back to 2015. The Swiss National Bank (SNB) discontinued the Euro rate ceiling of 1.20 Francs on January 15. Europe's single currency temporarily fell more than 20% from the stable exchange rate to less than 1 Franc! Feelings of shock prevailed on the markets. No one saw this development coming. Four years later many companies are still struggling with some of the consequences – and that comes as no surprise. In our highly globalized world, there is virtually no company without international exposure in some form or other and thus also exposed to exchange rate fluctuations. Exchange rates play an important role when it comes to cross-border transactions: they have a direct impact on calculated or expected income. If a currency's value changes within a short space of time, then assets, liabilities and cashflow can literally change over night.

### Better risk management

Let's not kid ourselves. Unfortunately, no software allows us to see into the future. Therefore, we will also never succeed in accurately predicting exchange rates. Consequently, it isn't the duty of corporate planners to read tea leaves but rather to correctly assess a range of possible risks and outcomes define possible measures to mitigate foreseeable (and unforeseeable) risks. Modern software solutions enable multi-dimensional modeling of cause and effect chains and can depict complex facts in such a way that they take all relevant dimensions into account. Planning managers can conduct detailed stress tests based on the data obtained and model possible scenarios.

### Planning has its limits

Exchange rate fluctuations are just as complex as the effects they have on business. It is difficult to model the effects on the different dimensions (regions, products, customers, assets, cash flow, sales and cost structures per currency to which exposure exists, etc.). Conventional planning tools such as Excel reach their limits, the reason being that the tools are not capable of creating different scenarios and performing stress tests. However, that would be necessary to include external influences in corporate planning – above all in cases where the influences are not foreseeable in principle. Stress tests make it possible to develop hedging strategies and to determine the impact of currency fluctuations on income, costs and balance sheet items. So why do many companies not consider – or only give inadequate consideration to – currency effects where planning is concerned? Because they are not able to do so.

### Making the right decisions

This type of modeling makes it possible to better prepare for risks, even unforeseeable ones. The results of the stress tests are used to derive measures, in order to be able to implement natural hedging strategies. For instance, a company can transfer costs incurred in good time to regions with a positive forex exposure. Companies which use a modern software solution and can properly manage exchange rate risks have a decisive competitive advantage. They are capable of making the right decisions – even in extreme situations like the Francageddon shock of 2015.



# Cash is king — Why cash flow planning is a must



**Cash is king. In CFO circles this is a given. Which is why detailed cash flow planning has long since become the gold standard in modern companies. But many finance departments are still overwhelmed by the sheer complexity of it. This is often due in large part to the fact that they have no process in place or have simply chosen the wrong planning tool. In this blog we will show you why an integrated reporting and planning solution is the best way for a company to improve its cash flow planning on the long term.**

## Integrating operational planning

The following are some of the most common mistakes in cash flow planning: Only profit & loss models are made, which means you're focusing too narrowly on the income statement. Operational planning, and in particular demand and procurement planning (S&OP planning), as well as investment planning, all of which can have a major impact on the balance sheet and cash flow, are forgotten entirely. Many companies don't include these components in the software analyses they use, with the result being that they are left out of the overall analysis. The consequences snowball and companies end up empty handed when it comes to management options and the relevant key performance indicators (KPIs) aren't included in any performance analysis. Companies are thus unknowingly letting go of a crucial management tool for analyzing the effects on the balance sheet and cash flow, for optimizing finances and for being able to take the right steps at the right time. And exactly those things are necessary for integrated, driver-based planning.

Companies that optimize their cash flow planning have a competitive edge. They can better manage liquidity risk and always know how much liquidity they have and where they have it. And it enables them to allocate capital more effectively, which translates into higher returns. However, the actual planning can take different forms and vary from company to company, with the greatest differences seen in the planning tools themselves. Many companies still rely Excel solutions, while others have software solutions that can't even show all the components necessary for comprehensive analysis.

## Pooling KPIs into one application

What's important for cash flow planning is an overall view of all key performance indicators. Even though many companies find it to be a difficult undertaking, the solution is quite simple. The right software solution is well equipped to handle the task of pooling the numerous positions. The only thing the application needs is access to the financial data of the company. This data is uploaded into the application and the software links all the relevant profit & loss and balance sheet positions with the cash flow positions. This ensures that balance sheet transactions are reflected in the cash flow. Every change to cash flow relevant profit & loss or balance sheet positions is mapped automatically.

## The greater the transparency, the better the overview

Using reporting and planning software with cash flow data allows companies to create a transparent view of all KPIs. CFOs will then find it easier to identify the right KPIs, understand sensitivities (including currency effects and temporary liquidity bottlenecks) and use the information to optimize their cash flow planning. This gives them a new management tool with which they can improve the company's financial positions and use the freed up resources for vital growth activities, such as new production sites, product improvements, investments, marketing, recruiting, etc.

# What is COVID-19's real impact in your business?



## Almost 2 months following the outbreak of COVID-19, infections in China are finally dropping. But with the world's second-largest economy still in lockdown, we take a look at the economic repercussions of this virus and how your business can prepare for them.

To better understand the potential economic repercussions of the coronavirus outbreak, we need to have a solid understanding of China's role in the global economy.

After launching its economic reform in 1979, China has shown impressive economic growth for almost 40 years. Today, China is the world's second-largest economy and the backbone of countless industries around the globe.

China is the world's fastest-growing consumer market, largest manufacturing economy, and biggest exporter. It's also home to the headquarters of 129 Global 500 companies and has remained the world's largest trading nation since 2014. In 2021, China's share of the global gross domestic product is expected to be over 20%.

In 2018, the Chinese generated 33% of global spending on luxury goods. That same year, Chinese tourists also spent \$130 billion overseas, making them the world's biggest-spending travelers. With the outbreak of the coronavirus, however, China's economy came to a sudden standstill.

In February 2020, China's official Purchasing Managers' Index fell to 35.7, the lowest it's been since 2004 and a sign of contracting manufacturing activity. Desperate to control the spread of the virus, the Chinese government shut down factories and retail stores and quarantined workers. According to NPR, the country's strict quarantine measures prevented 300 million migrant workers from returning to their jobs.

China has also forced airlines to ground its planes during Lunar New Year, one of the nation's most important holidays and a big time for travel and spending. The lockdown is expected to cost Chinese airlines over \$12 billion, while the global airline industry is expected to lose \$29 billion.

Given that China is such an important cog in global economics, the repercussions of the coronavirus outbreak can already be seen throughout Asia, the US, UK, and Europe.

For Japan, for example, the coronavirus could not have come at a worse time. Since October 2019, the nation has battled a devastating typhoon and consumer tax hikes that caused its economy (the third-largest in the world) to shrink by 6%. Now, with its largest trading partner and biggest tourism driver on the ropes, Japan is expected to go into recession.

Countless other Asian countries are also heavily reliant on China, for trade and tourism including Hong Kong, Singapore, Vietnam, Cambodia, India, and The Philippines. Singapore's Prime Minister Lee Hsien Loong has announced his fears of a recession, with his nation's GDP expected to drop to a 0.5% contraction as a result of China's economic standstill.

Only weeks ago, Germany's Bundesbank also warned its economy (the fourth-largest in the world) was facing serious "economic risks with regard to the coronavirus outbreak." Germany is China's biggest trading partner, technology exporter, and second-largest investor in Europe, and analysts at Moody's Investors Service expect the nation's economic growth rate will drop to just 1% as a result of the virus.

In the US, stock prices plunged to their lowest since 2008 and the central bank isn't just considering cutting interest rates, the decision has been made and announced to drop rates by ½ a percent to target zone of 1% to 1.25%. Yields on the US' benchmark 10-year treasuries also dropped 11 basis points, while Footsie, DAX, CAC 40, and S&P/ASX 200 stocks all dropped by up to 2.8% in response to the COVID-19 outbreak.

### Run regular Scenario Analysis

Scenario Planning is one of the best weapons in your arsenal against times of financial/economic uncertainty. Unlike Trend Analysis, Scenario Planning works by building multiple plausible scenarios and painting a detailed picture of the effects each scenario will have on your company's key drivers. Every day harbors new developments regarding the coronavirus, so it's important your FP&A team run regular scenario plans to stay prepared on how the outbreak of the virus might affect your company.

### Beware of the "hype"

News organizations are concerned with making headlines. Hence, they don't always make the best distinction between hard facts and speculation. As you stay up-to-date regarding the COVID-19 outbreak, make sure you read more than just the headlines and take your time to discern what news is really worth considering in your plans.

### Stabilize your supply chain

Global supply chains are one of the main economic areas affected by the coronavirus, mainly because China is behind so much of the world's manufacturing. As you run your Scenario Analysis, pay close attention to how different outcomes will affect your supply chain and try to anticipate any interruptions to your chains as early as possible.

### Use event trees

Event Tree Analysis is a forward-looking, top-down planning method that helps you explore the effects of multiple responses to a single event. Use them together with your Scenario Planning to really paint a clear picture of what responses are available to you in different scenarios concerning the coronavirus outbreak. Like with Scenario Analysis, make sure your team doesn't get carried away planning for too many different events. Instead, always focus on the events that, based on hard facts, are the most probable.





At the beginning of the month, we looked at the business implications of COVID-19 and shared a handpicked list of tips to help your company prepare for the outbreak.

Now, [McKinsey & Company released a short report confirming our biggest prediction](#); the best way to prepare your business for the uncertainty of COVID-19 is with Scenario Planning.

## UNCERTAINTY IS THE ONLY CERTAINTY

Late February, COVID-19 crossed an infection point; cases outside China outnumbered those within the country for the first time since the initial outbreak in December. Now, the virus has moved to over 50 countries and affects over 40% of the global economy.

In its latest report, McKinsey & Company details 3 distinct scenarios of how the Coronavirus pandemic might play out through 2020:

### Best Case (Quick Recovery)

Hubei's economy returns to at least 80% functionality by the end of Q1. By the end of Q2, transmissions across Europe and the Middle East are contained, travel bands are lifted, and economic activity across multiple sectors returns to normal. Based on current conditions, this is the least likely scenario.

### Base Case (Global Economic Slowdown)

Economic activity in China stabilizes, but the transmission of the virus continues to grow throughout East Asia, the Middle East, and Europe. Cases only start to reduce by early Q2 and the aviation, tourism, and hospitality sectors start to return to normality in Q3.

### Worst Case (Global Pandemic and Recession)

The virus spreads with more cases across the Americas, Africa, and India. Travel restrictions remain in place until late Q4. Consumer confidence remains low across multiple industries, with some experiencing a harsh, unrecoverable loss in demand.

**In both the base and worst-case scenarios put forward in McKinsey's report, companies are going to be facing several challenges, including supply chain disruptions and drops or delays in customer demand. It's important to remember, however, that the McKinsey report provides only speculative insight into the spread of the virus and its economic repercussions.**

### Forgetting "business as usual" – using Scenario Planning to weather the storm

One thing we can say for certain about the COVID-19 outbreak is this; business as usual is not an option. The outbreak has already caused unprecedented economic disruptions across the globe, and the way your business manages these disruptions depends on its ability to plan for the unforeseeable future.

Scenario Planning is arguably the best weapon in your company's forecasting arsenal to deal with these kinds of situations. It works by outlining detailed future scenarios and analyzing their effects on your company's key business drivers.

Unlike trend analysis, which is based on the principle that "the future will likely be just like the past," scenario analysis offers a broader, more comprehensive look at what the future might hold for your business.

The scenarios put forward in McKinsey's report serve as a good starting place to try and gauge the effects of COVID-19 on the global economy. However, your company needs to do its own scenario planning, focused on disruptions to its core business drivers. Stay tuned for our upcoming post on how to incorporate Scenario Planning in your forecasting model.

### Remember: COVID-19 is a health issue

The COVID-19 outbreak has taken a huge toll on the global economy. However, we encourage all businesses to remember that, above all, this virus is a health issue affecting hundreds of thousands of people in unprecedented ways. With that in mind, we encourage all businesses to:

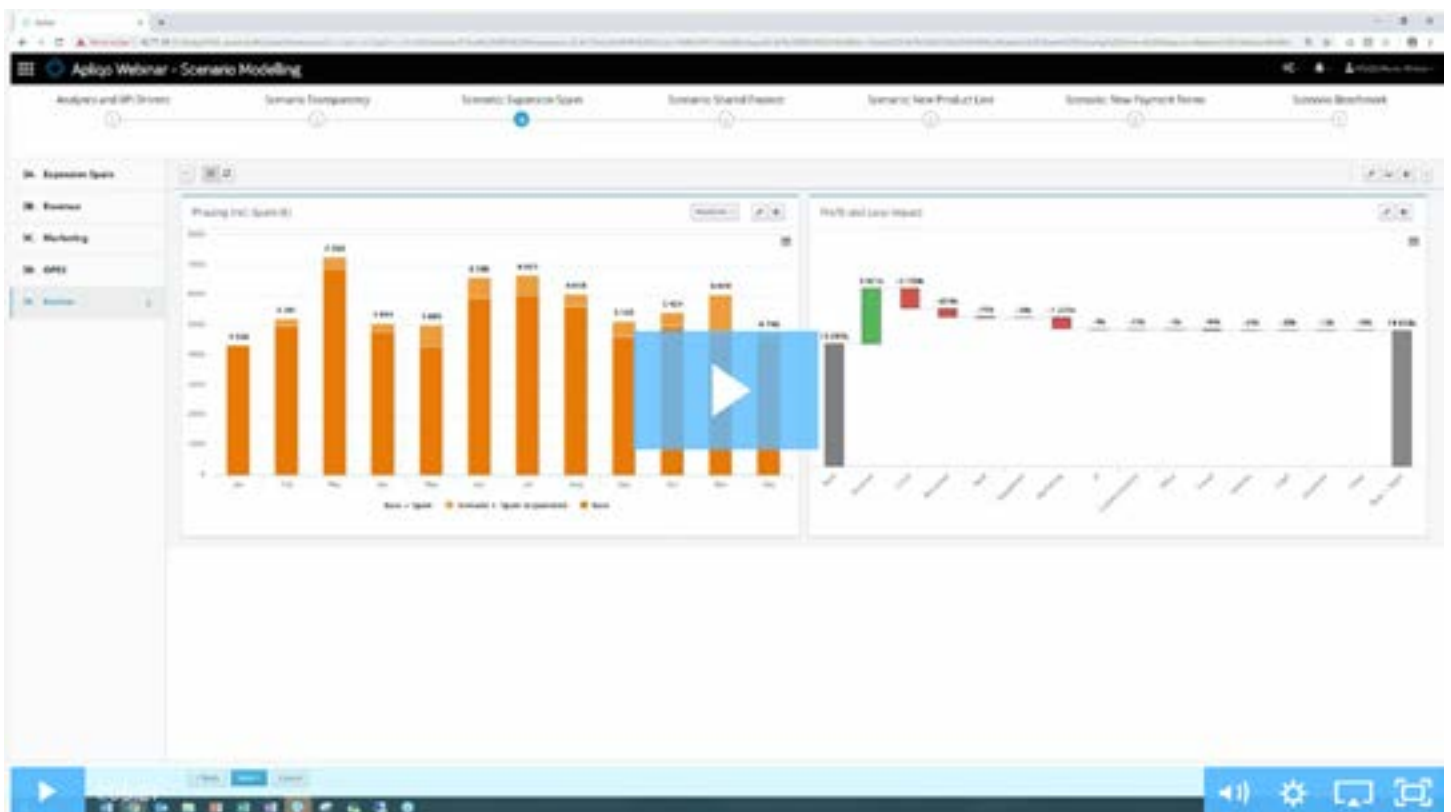
- **Protect their employees.** Your company's first response should be to adhere to all guidelines put forward by local and international authorities and offer maximum support for all staff members.
- **Set-up a multidisciplinary COVID-19 response team.** The team's top priority should be employee health and safety. Next, it should also cover financial stresses, supply chain disruptions, sales and marketing stabilization, and communication with third-parties.
- **Accompany their customers.** COVID-19 has caused major disruptions to consumer demand across the globe. The best thing your company can do is accompany the changing needs of its clients during this time.
- **Demonstrate Purpose.** If there's one thing you take away from the McKinsey report, let it be this; "Businesses are only as strong as the communities of which they are a part."

# Scenario Modeling

## A webinar on scenario modeling



Scenario Definition and Modelling helps you understand the cause and effect to the bottom line of your business. The power of Scenario Modelling unfolds if a company can simulate, stress test and benchmark defined scenarios against internal and external targets.



## Preface - Value creation

Shareholders invest their funds in companies, putting their wealth at risk with the intention to receive a greater amount in return. If this is accomplished, in general, this can be considered value creation.

The purpose of this White Paper is to highlight the methodologies used by companies to manage their value creation process based on VBM (Value Based Management) and to demonstrate how they align this with the Unified Performance Management (UPM) framework.

From an accounting perspective, profit can be defined as the amount of income exceeding costs. In many cases, this simple perspective is sufficient to define value creation.

Economic profit is defined as the amount by which cash inflow exceeds the costs associated with all factors. This not only includes expenses incurred in operating the business but also the cost of capital invested in the business.

As companies became more complex – mainly driven by globalization and technological developments, driving efficiency and growth – factors such as time differences, depreciation and amortization of assets, book versus tax accounting policies, and investments such as inventories and accounts receivable cause profits to become more difficult to measure. In addition, the continuous changes of international accounting standards (e.g. US-GAAP or IFRS) have led to more complexity with regard to the correct valuation of assets and liabilities. At the same time, the disparity between accounting profits and economic profits diverges more and more.

In order to create value, a company cannot only generate accounting profits, it must also generate economic profit to account for the cost of capital (usually referred to as WACC or Weighted Cost of Capital) and thus take into account the risk of investing in an asset. On the one hand, if a business does not produce sufficient return to generate economic profit, it will ultimately lose value. On the other, this also means that if a company only generates return that is equal to the cost of capital, the value of the company will remain the same, i.e. the shareholder will simply have swapped one asset for another with the same value.

Time plays a very important role in assessing the value of a business. Normally, measuring profit over just one year does not capture whether value has been created or not, as investments in a business typically generate return over a longer period of time. This period, known as the economic life of an investment, is the relevant period for value measurement.

Assessing the value of a company (or a group), a business unit, division or legal entity is more of an art form than a science. But well-designed processes and models support value assessment, help companies to evaluate risk and allocate capital efficiently to drive value – through VBM and UPM.

## Advanced Financial Planning — Closing the loop

Advanced Financial Planning (AFP) is defined as a corporate financing model that looks at the profit & loss account, the balance sheet and cash flows - where the impact of all relevant business and value drivers is determined - from a profit, expense, asset, financing or capital perspective and this, in one coherent loop.

The basis for a functioning AFP model is the identification of the relevant value drivers of an organization and the ability to understand sensitivities of these as well as the competence to create what-if scenarios around the key value drivers.

AFP ultimately enables finance organizations to communicate the impact of plans to the respective stakeholders, from top management and executives to the board effectively.

VBM is based on a functioning AFP model, as it requires all aspects of value creation - profit and capital.

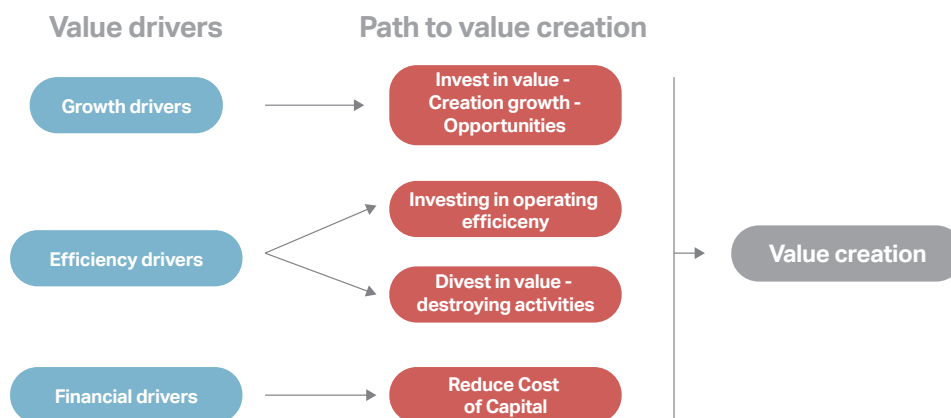
## The theory of Value Based Management and how it fits into Unified Performance Management

Value-based management focuses on the creation of value (through the execution of strategy), the management of value (governance, change management, organizational culture, communication, leadership), and the measurement of value (valuation).

Organizations pursuing a value-based management approach are aligned to unleash value within an organization through long term planning and financial modeling (corporate scenario planning), corporate benchmarking (peer group analysis), mergers & acquisitions (pro forma integration), and an efficient capital allocation analysis (economic profit through transparent charge of capital charges to business units).

Integrating value management into the performance framework provides management with a bird's eye view of the organization, a comparison with its closest peers, and alternatives to unleashing value.

## VBM as the key concept to managing and executing corporate strategy



The identification and management of value drivers draws the attention of management to activities that will have the greatest impact on value. Thus, management will be able to translate value creation into tangible and specific actions.

There are three categories of value drivers: growth drivers, efficiency drivers and financial drivers. By focusing on value drivers, management can prioritize the specific activities that will affect performance in each area (using KPIs to measure and manage performance and outcome).

To identify those value drivers that a company should focus on, the company has to address two key questions:

- Which factors will have the most significant impact on future value creation for the business?
- Which of these factors can be managed most effectively?

There are two simple ways to identify value drivers:

- Value drivers have a significant value impact
- Value drivers are controllable (e.g. commodity price inputs may be important to your business but since management does not influence them, they may not deserve significant management attention other than from a risk management perspective).

## Value driver analysis

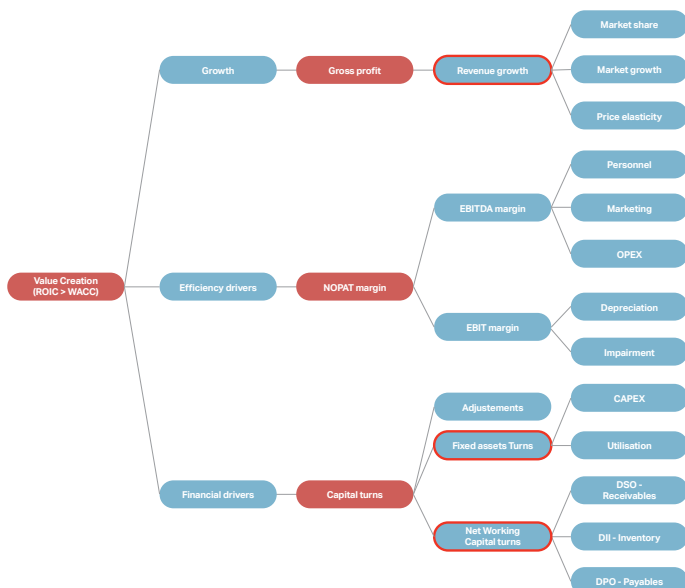
Value driver analysis is an important foundation for strategic planning: it helps management to identify and define critical strategic levers. If, for example, efficiency drivers are important to a company, management can direct strategic planning to focus on efficiency strategies and activities supporting it. In short, value drivers ensure that a strategy is grounded in the reality of operating performance.

Identifying value drivers is a three-step process:

1. Develop a value driver “map”
2. Test for value driver sensitivity
3. Test for controllability

### Step 1: Develop a value driver “map”

To understand where your company’s value drivers lie, first, you need to break down the broad operating parameters of the business into progressively smaller components, until you reach the level where daily operations management decisions are made. Then, the specific factors influencing sales growth, operating profit (represented as NOPAT margin – net operating margin after tax), capital efficiency (capital turns), etc. are documented.



### Step 2: Test for driver sensitivities

The company must first define the basis level for each operating factor, after which it can test changes of each factor impact on the overall value of the business (based on net present value calculation methods such as the discounted cash flow method). This usually leads to valuable and interesting insights into the relevance of the specific operating factors and often also leads to a change of management priorities.

### Step 3: Test for controllability

Each of the operating variables must then be examined to discover those that management can control and influence.

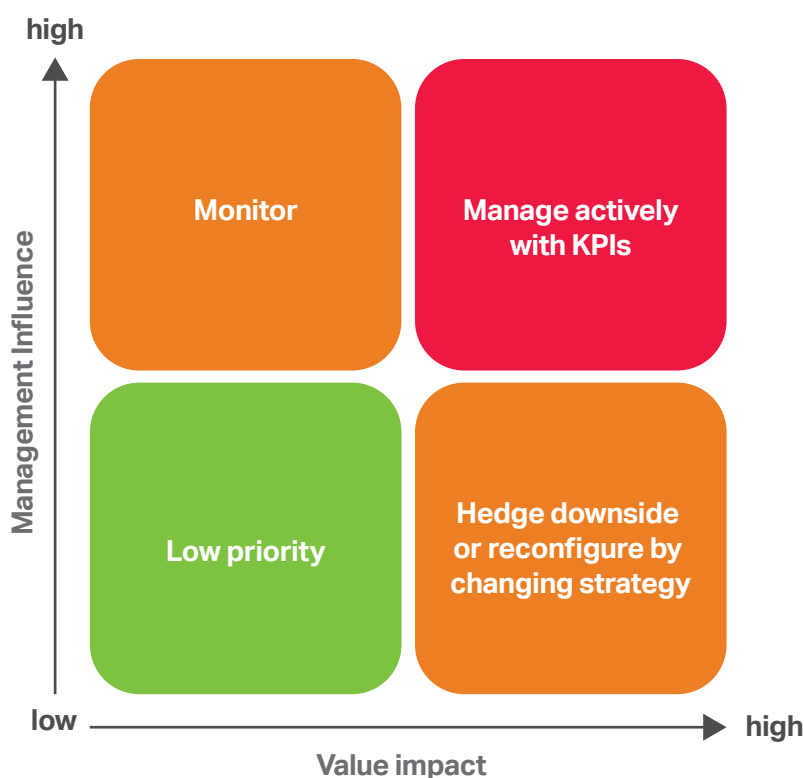
A value driver analysis requires significant investments in terms of time and energy. It may also require information that is difficult to obtain and involves the development of an interrelationship model between variables within the business. This kind of complex modeling can be facilitated by the use of appropriate tools – such as functional databases like IBM Cognos TM1. Modern functional databases are designed to support this kind of modeling and sensitivity testing with multiple variables and large number of data sets.

However, companies that have made this investment have discovered that this analysis helps to draw management’s attention to a manageable number of value drivers. Further, it provides a foundation to optimize the strategy around value driver performance and maximize value creation.

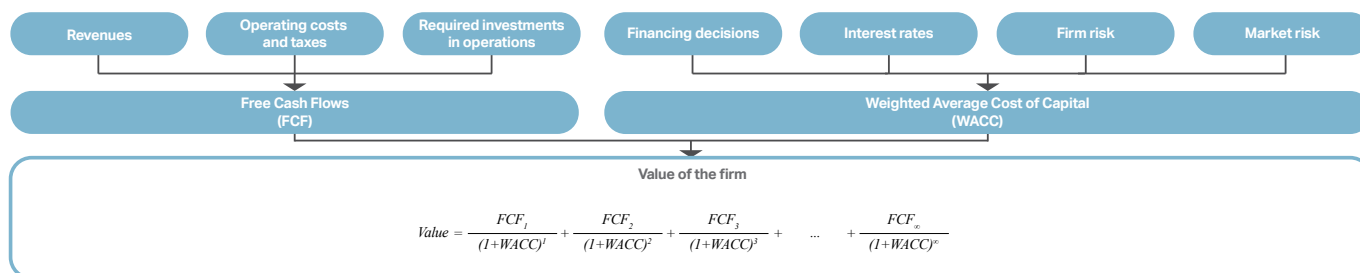


## What drives value: Focusing on what matters

The value driver matrix below illustrates a framework for the prioritization of value drivers. The key task here is to identify those variables that reside in the red quadrant and to manage the resources directed at influencing variables in the orange quadrants. Based on the insights gained during the value driver analysis, process management can easily assess where to allocate value drivers and communicate priorities effectively within the organization.



## Measuring and allocating cost of capital – Valuing a business



The value of a company is determined by the volume, timing and risk of its free cash flows (FCF). In particular, a firm's value is the present value of its FCFs, discounted at the weighted average cost of capital (WACC).

## Assessing free cash flows based on value drivers

Free cash flows are assessed on the basis of value driver maps and specific business plan modeling – using historic, current and future data input for the relevant value drivers. The level of granularity depends on the complexity of an organization. The company must decide whether it wants to assess the value of its business by dividing the company into different parts (i.e. legal entities, cash generating units, divisions, business units) or looking at it as a group (at consolidated level).

Splitting the organization into separate parts enables management to assess the value creation of its strategic business units (SBUs) and enables better, informed strategic decisions and optimal capital allocation.

## Assessing cost of capital based on capital allocation and the CAPM model

“The weighted average cost of capital (WACC) is the rate that a company is expected to pay on average to all of its security holders (both debt and equity) to finance its assets.

The WACC is the minimum required return (investment threshold rate) that a company must earn on an existing asset base to satisfy its creditors, owners, and other providers of capital in order to keep or attract stakeholders. Companies raise capital from a number of different sources: equity and debt instruments, warrants, options, pension liabilities, government subsidies, etc. Different securities that represent different sources of finance are expected to generate different returns (depending on the risk profile). The WACC is calculated taking into account the relative weight of each component of the capital structure. The more complex the company's capital structure, the more laborious it is to calculate the WACC.”

Source: Investopedia

So far, the theory how to calculate the WACC is straight forward (based on the capital asset pricing model or CAPM), but in real environments, it is not that easy to assess the cost of capital because many organizations have complex organizational structures with different inter-company relations (debt and equity funding) and holding or financing entities that take over the role of an internal bank, making appropriate capital allocation a difficult task.

VBM solutions help organizations to allocate capital and cost of capital based on capital utilization and provide management with a tool to assess the “right” cost of capital and capital used by its SBUs. This, in return, makes a transparent assessment of value creation in the organization and informed, aligned decisions around capital allocation possible.

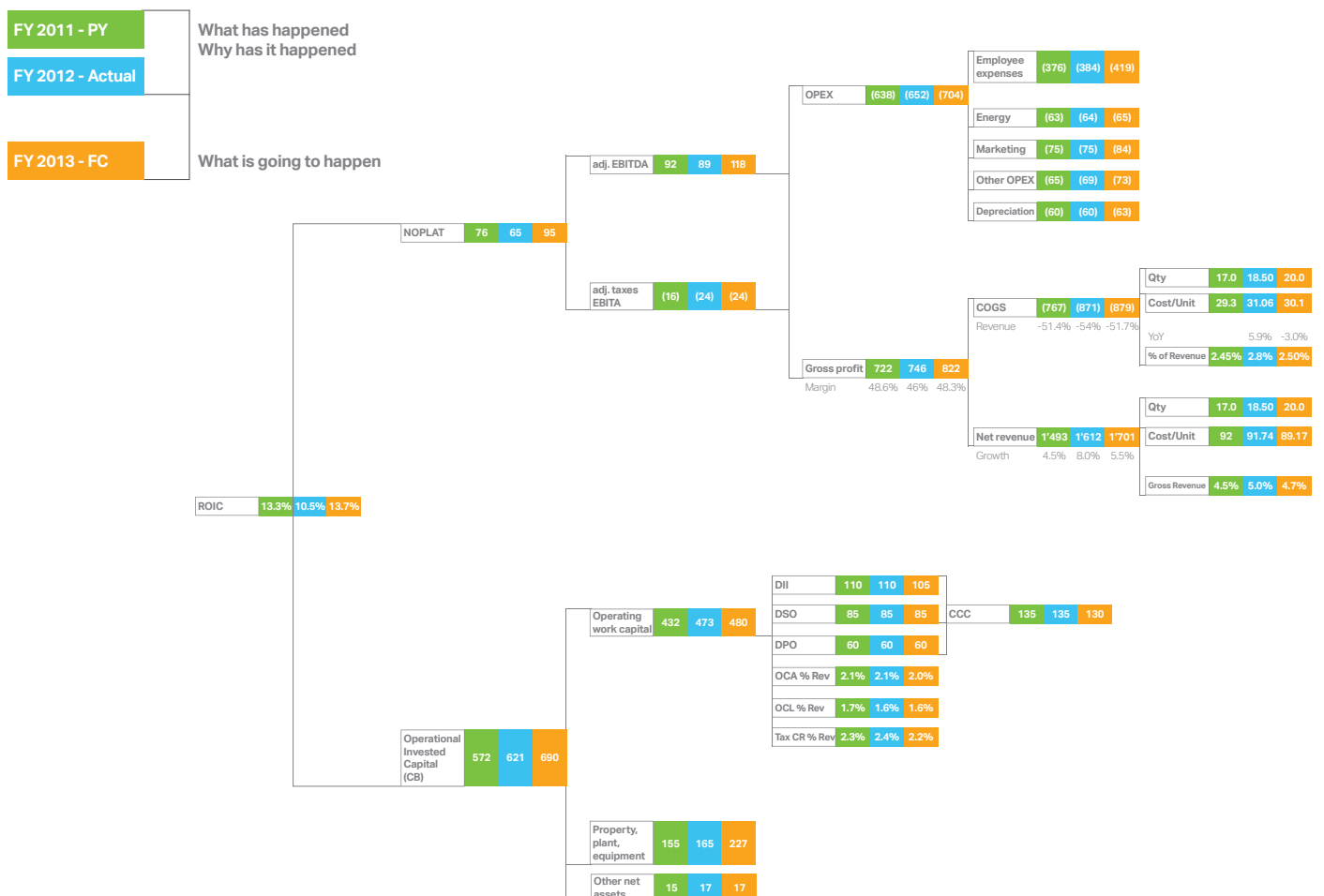
**“The WACC is calculated taking into account the relative weight of each component of the capital structure. The more complex the company's capital structure, the more laborious it is to calculate the WACC.”**

## Reporting for value creation and capital efficiency

Value based management as a management concept is well received and understood by top management and corporate financial experts. However, it is often not understood as well by lower level management and/or operations. As such, one of the most difficult tasks is to introduce the concept of VBM in an organization so that all relevant managers will understand and know how to use it efficiently.

Thus, a simple and transparent reporting process backed by a Unified Performance Management solution (UPM) can be of support in communicating effectively. The value driver map presented through a UPM solution can link VBM to the operational goals.

Management will then be able to break down the different parts of the value tree into specific KPIs that are shown in the graph below, supporting the company to understand cause-/action relations and sensitivities.



## Advanced financial planning – Closing the loop: a simple mapping exercise?

### No secret recipe

Many companies are still stuck in a relatively early stage of performance management solutions where the information provided to management is purely limited to profit & loss measures. The reasons for this are manifold but can mostly be explained by poor data quality, a lack of knowledge on how to build an AFP model or uninspiring PM implementations.

The components for the creation of a functioning AFP model are not to be found in a secret recipe but are fairly simple and can be implemented with relative ease, according to the following must-have list:

- Need of a transparent and well-structured chart of account (detailed), group chart of account (condensed for statutory or external reporting)
- Access to trial balance data from general ledger systems that reconcile (monthly data, minimum 2 years history)
- Identify value drivers, allocate the value drivers to the relevant group chart of account items
- Map group chart of account items to a group cash flow chart of account to be created (condensed for management or external reporting), in accordance with the relevant accounting standards (i.e. IFRS)

The mapping exercise can be explained with the following example. The principles for this exercise are a P&L, balance sheet and a cash flow statement that is derived from the movements of the balance sheet and profit & loss statement (based on indirect method – IAS 7.18).

### Key principles specified for the preparation of a statement of cash flows

Key principles specified by IAS 7 for the preparation of a statement of cash flows are as follows:

- Operating activities are the main revenue-producing activities of the entity that are not investing or financing activities, so operating cash flows, including cash receivings from customers and cash payments to suppliers and employees [IAS 7.14]
- Investing activities are the acquisition and disposal of long-term assets and other investments that are not considered to be cash equivalents [IAS 7.6]
- Financing activities are activities that alter equity capital and the borrowing structure of the entity [IAS 7.6]
- Received and paid interest and dividends may be classified as operating, investing, or financing cash flows, assumed that they are classified consistently from period to period [IAS 7.31]
- Cash flows arising from taxes on income are normally classified as operating cash flows, unless they can be identified specifically by financing or investing activities [IAS 7.35]

The indirect method adjusts accrual basis net profit or loss for the effect of non-cash transactions. The operating cash flow section of the cash flow statement under the indirect method would look like the table on the next page.

## Key principles specified for the preparation of a statement of cash flows (continued)

Profit before interest and income taxes		XX,XXX
Add back depreciation		XX,XXX
Add back impairment of assets		XX,XXX
Increase in receivables		XX,XXX
Decrease in inventories		XX,XXX
Increase in trade payables		XX,XXX
Interest expense	XX,XXX	
Less interest accrued but not yet paid	XX,XXX	
Interest paid		XX,XXX
Income taxes paid		XX,XXX
Net cash from operating activities		XX,XXX

- The exchange rate used for the translation of transactions denominated in a foreign currency, should be the applicable rate on the date of the cash flows [IAS 7.25]
- Cash flows of foreign subsidiaries should be translated at the exchange rate prevailing when the cash flows took place [IAS 7.26]
- With regard to cash flows of associates and joint ventures, where the equity method is used, the statement of cash flows should only report the cash flows between the investor and the investee; where proportionate consolidation is used, the cash flow statement should include the venturer's share of cash flows of the investee [IAS 7.37-38]
- Aggregate cash flows relating to acquisitions and disposals of subsidiaries and other business units should be presented separately and classified as investing activities, with specified additional disclosures. [IAS 7.39] The aggregate cash paid or received as consideration should be reported net of cash and cash equivalents acquired or disposed of [IAS 7.42].
- Cash flows from investing and financing activities should be reported gross, by major class of cash receipts and major class of cash payments, except for the following cases (re. below), which may be reported on a net basis: [IAS 7.22-24]
- Cash receipts and payments on behalf of the customers (e.g. receipt and repayment of demand deposits by banks, and receipts collected on behalf of and paid over to the owner of a property)
- Cash receipts and payments for items with a quick turnover, large amounts and maturities that are short, generally less than three months (e.g. charges and collections from credit card customers as well as purchase and sale of investments)
- Cash receipts and payments relating to deposits by financial institutions
- Cash advances and loans made to customers and repayments thereof
- Investing and financing transactions which do not require the use of cash should be excluded from the statement of cash flows but they should be separately disclosed elsewhere in the financial statements [IAS 7.43]
- The components of cash and cash equivalents should be disclosed and a reconciliation presented to amounts reported in the statement of financial position [IAS 7.45]
- The amount of cash and cash equivalents held by the entity that is not available for use by the group should be disclosed, together with a commentary by management [IAS 7.48]



## A practical example — Closing the loop

The following tables represent a simple example of a profit & loss statement, balance sheet and cash flow statement. The purpose of the references is to help you map the relevant group chart of account item to the group cash flow item in the statement of cash flow.

This example should illustrate how to build a model with existing trial balance data and how to build a fully reconciling AFP model for reporting and planning.

### Profit and Loss

1.1.xx - 31.12.xx

Ref		
	Revenue	10'000
	COGS	-5'000
	OPEX	-3'500
A	EBITDA	1'500
A	Deprn & amort	-500
	Interest	
D	Expenses	-200
D	Taxes	-240
J	Net profit	560

**REF** - Reference key between P&L, Balance Sheet and Cashflow

**OB** - Opening Balance

**CB** - Closing Balance

**MOV** - Movements in the Period

### Balance sheet

31.12.xx

Ref		OB	CB	MOV	Weighting
K	Cash	1,500	1,750	250	1
C	AR	2,000	2,500	500	-1
C	Inventory	3,000	3,500	500	-1
	Current assets	6,500	7,750	1,250	-
E	Gross fixed assets	10,000	12,000	2,000	-1
B	Accum. deprn	-5,000	-5,400	-400	-1
F	Gross intangible assets	2,000	2,500	500	-1
B	Accum. amort	-500	-600	-100	-1
	Fixed assets	6,500	8,500	2,000	-
	Total assets	13,000	16,250	3,250	-
G	ST debt	1,000	1,700	700	1
C	AP	2,500	3,500	1,000	1
C	Other curr liabilities	500	490	-10	1
	Current liabilities	4,000	5,690	1,690	-
H	LT debt	4,000	5,000	1,000	1
	Total liabilities	8,000	10,690	2,690	-
I	Equity	2,000	2,000	-	1
J	Retained earnings	3,000	3,560	560	1
	Shareholders Equity	5,000	5,560	560	-
	Total L & E	13,000	16,250	3,250	-

### Cash flow

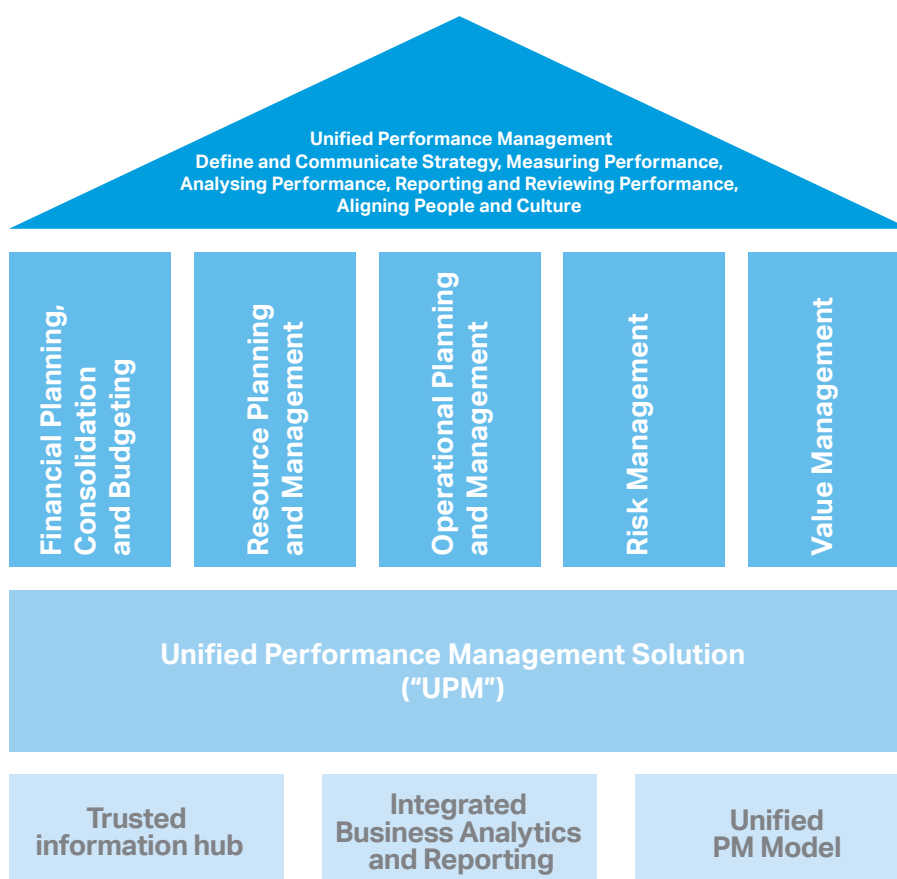
1.1.xx - 31.12.xx

Ref		
A	EBIT	1,000
B	Deprn & amort	500
C	Net working capital change	-10
D	Interest exp & taxes	-440
	Cash flow from operations - CFO	1,050
E	Investments fixed assets	-2,000
F	Investments intangible assets	-500
	Cash flow from investing activities - CFI	-2,500
G	ST debt financing	700
H	LT debt financing	1,000
I	Equity financing	-
J	Dividend payout	-
	Cash flow from financing activities	1,700
K	Net cash flow	250
	Cash balance beginning period	1,500
	Cash balance ending period	1,750

As demonstrated in the tables above, the net cash flow calculation bases on the indirect method of '250' and is equivalent to the movement in cash in the balance sheet. Ultimately there is simple check mechanism where one can test if the AFP model is reconciling and thus successfully mapping of all the group chart account items to the group cash flow chart of account items can be established.

## Key components of a VBM solution

### UPM Framework – How VBM and AFP fit into it



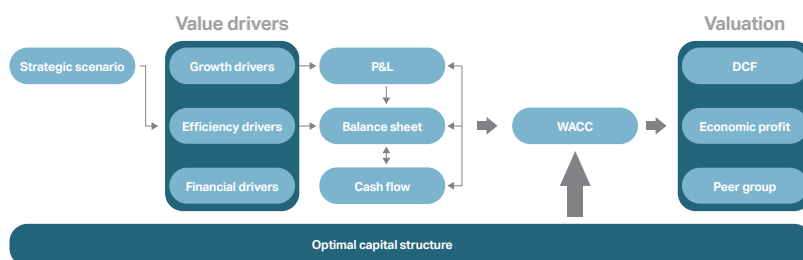
Value based management focuses on the creation of value (through execution of strategy), the management of value (governance, change management, organizational culture, communication, leadership) and the measurement of value (valuation).

Organizations with a value based management approach do focus on unleashing value in the organization through long term planning and financial modeling (corporate scenario planning), corporate benchmarking (peer group analysis), mergers & acquisitions (pro forma integration) and on the analysis of efficient capital allocation (economic profit through transparent charge of capital charges to business units).

Integrating value management into the performance framework provides management with a bird's eye perspective of the organization, a comparison with its closest peers and alternatives to unleashing value. As such, VBM is a pillar of the UPM framework that closes the loop) between operational and strategic management.

## The VBM model

The VBM model is based on the value driver map in conjunction with a core financial model that considers profitability (P&L), financial position (balance sheet) and solvency (cash flow) as well as the allocation of cost of capital (WACC) to determine the net present value of the firm (based on different valuation techniques such as DCF, Economic Profit or Peer group analysis / valuation-multiples analysis).



## Why a VBM solution should be implemented and how an AFP model can be created in the organisation

When VBM and AFP are implemented, this can unleash tremendous values in the organizations by aligning strategy with operational execution and focusing on the allocation of resources to where they can yield the highest returns.

Business	Change in behavior	Impact on business
Retail household goods	Shift from a broad national growth program to focus on building national regional scale first	30 – 40 % growth in potential value
Insurance	Repositioned product portfolio to emphasize products most likely to create value	25 % increase in potential value
Oil production	Use new planning and control process to help drive major program	<ul style="list-style-type: none"> <li>• Multimillion dollar reduction in planning function through streamlining</li> <li>• Prompted an acquisition</li> <li>• Exposed non-performing managers</li> </ul>
Banking	Chose growth versus harvest strategy, even though five-year return on equity very similar	124 % potential value increase
Telecoms	Generated ideas for value creation - New service  - Premium pricing  Approx. 40 % of planned development projects in one business discontinued  Sales force expansion plans completely revised after discovering how much value they would destroy	240 % potential value increase in one unit 246 % potential value increase in one unit

## A practical example of AFP and VBM – Apliqo FPM

Apliqo FPM provides a Unified Performance Management (UPM) solution that empowers business users. AFP and VBM concepts have been built-in and represent the core of the UPM model developed by Apliqo.

Apliqo FPM is a Unified Performance Management Solution targeted at the C-Level offices. It provides a pre-built Performance Management Solution with unified reporting, analysis and planning in ten different modules.

It has been developed on the basis of more than 10 years of best practices gained in over 300 projects around the globe with more than 200 customers.

- Access best practice performance management process reports, analysis, modeling and planning capabilities
- Reduce implementation risk with the Apliqo UPM framework
- Leverage hundreds of pre-built Apliqo FPM planning, analytical and reporting applications
- Customize according to requirements, thanks to a highly flexible business modeling engine
- Implement and expand functionality when needed
- Improve performance management processes by creating a unified, coherent loop throughout the organization.

## Closing words – How does VBM fit into the new century

The idea that the sole purpose of a firm is to generate money for its shareholders can be attributed predominantly to an article published in 1970 by Milton Friedman. For decades, the concept of shareholder value was used as the key concept in many (mostly public and private equity backed) companies and the magic of it seemed to work. But once the financial crisis hit the world, the concept was greatly criticized for its weaknesses – despite all of its merits.

Companies are going back to the roots of what businesses are all about – creating value for customers. Peter Drucker once said “There is only one valid definition of business purpose: to create a customer. It is the customer who determines what a business is. It is the customer alone whose willingness to pay for a good or a service converts economic reason into wealth, things into goods.

The customer is the foundation of a business and keeps it in existence.” As such, shareholder value can no longer be seen as the key mantra and key management concept but should be considered an integral part of the performance management process to ensure that capital is allocated efficiently and that strategic decisions are made in conjunction with value creation – for the long term.



[Click here and learn more about Apliqo FPM, the definitive tool to unify all financial plans in your FP&A process with integrated applications using driver-based methodologies across your enterprise.](#)