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Data-Driven Decision Making 2.0
From insight to foresight

Table of Contents

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Executive Summary

The proliferation of data is driving an ever-increasing need for faster, more reliable and more holistic decision making.

To tackle today's and tomorrow's business challenges with the best possible outcomes, companies must consider carefully **how** they integrate hybrid information and data sources.

The next era of data-driven decision making will be born out of new ways of analyzing information and data, *plus* new ways of activating the results.

Those companies that can effectively adapt to these changes will make data-driven business strategies a reality. They will be the ones that enjoy a competitive edge and achieve growth in today's ever-changing market.

Here we explore how leading companies are tackling the challenges and opportunities of true data-driven decision making and real-world examples of how to put the theory into action.

> *We have models to offer clients the right product, at the right moment, with the right tone of voice, for the right price.*

> *We are happy to have some data sources now accessible in one place. This will already help the business to use them. Based on their experiences we will consider next steps.*

> *The best decisions are made when you combine information and use your brain.*

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Challenges and opportunities for better decision making

The shift towards data-driven strategies has been fueled by the digital-first economy, the proliferation of data and AI. Global spending on big data analytics technology and services was $180 billion in 2019, growing at a rate of 12% each year [1]. At the same time, businesses continue to strive for faster, more holistic and more reliable decision making. This is true for strategic decisions, such as business planning cycles, strategy-making. But it's just as important for tactical decisions, such as price increases, portfolio changes and media buying. Moreover, the quality of these decisions and predictions should preferably increase.

Impossible? No, we will explain.

The smart combination of existing data and information, with new data and information sources is a prerequisite to do so.

To better understand where companies stand in their quest for data-driven decisions, we interviewed some of our clients who are information experts and thought leaders in the industry. We explored the challenges, opportunities and solutions of where the information and analytics industry is heading. Their common observation: The world is changing rapidly. So, businesses must cope. Better, businesses must make data-driven decisions a reality to grasp new opportunities – to stay competitive.

Key to how companies tackle these changes is the organization's approach to *how* strategic and tactical decisions are made and *what* data and information sources inform that decision.

For businesses, decision making 2.0 is:

> ### More agile
> Decisions are (partly) automated. Since market dynamic changes are occurring faster and more frequently, the need for faster decisions increases too. The need for speed increased even more during COVID-19. At the same time, existing forecasting models do not work anymore because of the significant disruptions of consumer behavior. So, for companies to react quickly (from marketing campaigns to innovation strategies), "real-time" predictions are needed to give them a competitive edge.

> ### More holistic
> Decisions need to be constantly guided by a truly '360°' holistic view. There is more pressure to break down team and data silos within organizations as this leads to different views of 'reality' or which data should drive a particular decision. The need for holistic decision making – along with stakeholder alignment - is fueling a rise of unified positions or departments (such as Growth Management), where sales, marketing, finances are being integrated.

> ### More accurate
> Decisions must be made based on more accurate predictions. As companies incorporate more data and information sources into their forecast models, the quality and accuracy of those models are under a microscope. Organizations want to have confidence in the forecast models which can most accurately predict the effects of actions.

So, what is a smart combination of data and information?

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The smart combination of data and information

Vinay Ahuja (Vice-President – Procter & Gamble Europe, Consumer Market Knowledge, Analytics & Insights) recently described it quite nicely in ResearchWorld[2]:

"...we have [...] brought our consumer market knowledge and data analytics teams under one Analytics & Insights organization because if you can learn how to mix oil and vinegar well you can have one potent salad dressing."

Insights are a prerequisite for making this dressing, but they are only the oil. A must-have, but not enough: it's nice to know that people prefer a peach-flavored ice cream, but what will an introduction of such a product bring? It's nice to know that people want an easier access to their bank account, but what will happen if you, as a business, don't comply with that need? It's interesting to know that your competitor will introduce a smartwatch for the elderly, but do you need to worry?

Insights are more meaningful when transformed into foresights. To make better decisions, the consequence of acting on the insight should be clear. An insight is often based on one piece of information; *to make the insight more meaningful one needs to smartly combine different sources of information.*

This approach helps in producing the best possible forecast in terms of market share, net profit, etc., necessary to deliver the foresights decision makers are looking for.
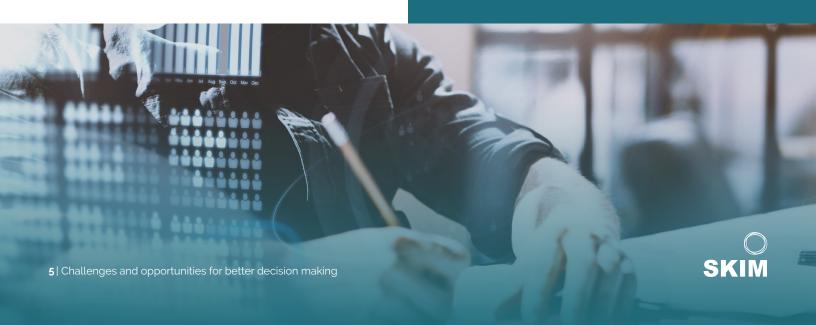
DIKW framework
Data - Information - Knowledge - Wisdom

Data can be anything to which a number is attached – temperature, net income, sales, advertising awareness, etc. Typically, it is presented in the form of datasets.

Information is inferred from data, and answers questions: 'Which product has less than 80% weighted distribution?', 'When and where could we best advertise our new snack bar?', 'Which product is the best candidate for target group Y?', etc. In other words, information is used to make data valuable and meaningful.

Knowledge often refers to skills and experience – examples are (brand, communication, innovation) strategies, how to write a concept, brand books, a brand positioning document. Knowledge is also the framework with which to interpret new information. E.g., a competitor introduces a very aggressive pricing strategy, accumulated knowledge (experience, expertise) in the company can be employed to define the best answer.

Wisdom is the highest layer of DIKW and is often not associated with companies since it often refers to good vs bad, ethical vs non-ethical, etc. However, with the upcoming of Corporate Social Responsibility, the importance of wisdom may be on the rise within companies. An example is the early adoption of Unilever to try to make the whole company and its products sustainable.

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The journey towards data-driven decision making

Information trends and developments converge at the company's data department. Or department**s** rather, since 9 out of 10 times there are more departments working on (the same or different) information: be it the IT professionals, data scientists, the A/B testers, the futurists, social media teams, the local and global market and consumer insight managers, business intelligence, or the pricing experts. As one client stated: *"I have seen that data science and insights are two separate teams with separate managers. Insight managers always report to commercial business units, but for data science it differs - they can report under IT, finance, commercial or general management."*

Regardless of industry, all companies recognize the growth potential of unlocking the value of these fragmented data and information sources. However, **how** each company goes about achieving this differs significantly. Each company sets out on a different journey to realize true data-driven decision making. Each one faces distinct challenges depending on where they are in that journey.

1. From adamant at getting it structured...

Scattered groups of people dealing with information and reporting to distinct functions with different goals is part of the problem to combine sources, obviously. Even in these digital times, it proves difficult to align all sources, have the same names for the same constructs and avoid siloes. The sheer volume of data, lack of centralization and/or analytical skillsets makes the "smart combination" a highly manual, time-intensive and inefficient effort. Moreover, different departments, according to one of our clients, *"hardly talk with each other."*

This fragmentation becomes even more challenging once a company is dealing with multiple categories, has no customers they can readily identify and has a diversity of outlets. Particularly FMCG companies tend to have many different information sources, ranging from sales and distribution data, consumer and brand trackers to trend research, (ad hoc) pricing research and qualitative studies. Further complicating the issue is the size of the company, and its zeal to understand their information sources better. An example is Unilever, a company that is mentioned by many other companies as a leader in dealing with the

combination of information. Smaller-sized companies often simply don't have the budget to make similar progress, but nonetheless are on the verge of diving into the combination of information.

2....to being already in a good place...

Subscription services or other direct-to-consumer type companies, such as social media platforms, tech companies or financial institutions, have it easier. They can identify their customers and know exactly what their customers are doing within the realm of their products and services. For example, social media platforms know exactly what you do, once you are on their platform. An insurance company knows exactly which policies you have purchased, and quite likely also knows who you are living with, your age, gender etc. One client said: *"We have models to offer clients the right product, at the right moment, with the right tone of voice, for the right price."*

Such knowledge is based on predictive modelling. Once you have an online platform or website, your possibilities are much richer. Questions related to awareness, churn, retention etc., can be answered instantly, real-time, and automatic; for such questions, ad hoc research is not needed.

3....to somewhere in-between

Many companies are in-between these extremes, such as companies selling durables, household appliances, computer hardware, or cars. Each has their own challenges One of clients revealed: *"We are obviously struggling to bring different data sources together and make data-driven decisions."*

Despite the challenges that many companies experience, all of them are clearly progressing – often step by step – along their path towards data-driven decision making. They are getting data organized and moving towards combining these. *"We first want to understand the separate sources completely, to see what it delivers; then we will add new sources".*

And*: "we are happy to have some data sources now accessible in one place. This will already help the business to use them. Based on their experiences we will consider next steps."*

Regardless of where companies are in their particular path – they are on their way.

Selecting the right analytics approach for data-driven decisions

Whatever a company's current situation, there will always be business issues to tackle. One consequence of information overload is that *"business leaders lose sight of what their key business questions areas* one client said.

Another simply observed: *"More data, more questions."*

Note that data and information have different meanings that are often used interchangeably. Information is a higher level of understanding – businesses need both alongside each other, e.g. the sales *data*, and *information* from the brand strategy.

As stated before, business challenges need to be solved quicker, more holistically and with more accurate predictions.

Although sources may be scattered throughout the company, better predictions can only be made by combining these sources with the best analytical approach.

There are three ways companies can combine information, depending on the type and nature of the business issues at hand:

1. Triangulation

Triangulating hybrid data and information sources allows companies to assess them together. The integration is not done technically, but conceptually. This means that sources are grouped around business questions, each source is examined separately, but the conclusions are then combined into an overall, agreed-upon conclusion, recommendation and, if possible, a forecast.

Note that triangulation is particularly appropriate when there is important information (i.e. no data) that needs to be taken into account. Triangulation is often done in alignment with key stakeholders across the company.

By taking this approach, decisions can be made more holistically. One client was truly clear: *"Sources do not have to be technically linked. The ease of use, the accessibility, is more important than technical integration."*

2. Integration

Integrating data sources can quantify relationships between various datasets and especially improve the reliability and accuracy of predictions. Since historic and predictive data are combined (e.g., sales data, distribution data *plus* conjoint data), by nature, this approach provides a more complete picture.

A holistic view emerges because you incorporate, or fuse, more data sources simultaneously.

3. Automation

Continuously integrating data sources means data sources are connected and modeled at scale and speed. Predictions are based on new data feeds on a weekly or even daily basis, by channel or even at the retailer level

With this approach, data-driven decisions can be made faster and more accurately. *"And this"* one client said, *"is the holy grail."*

One of our clients drew an analogy to a cube:

"To solve a business question you look at data from different angles, as at a cube. You start with one side (for example Nielsen data) and then, when needed, you look from another angle and add for example a predictive choice model to it.

Sometimes that is enough to answer a question, but when for example 'brand experience' is relevant or emotional factors, you need to look at other sides of the cube and add more qualitative insights to it."

Obviously, this refers to triangulation rather than integration of information.

In general, if there are data available to integrate, one can choose for data integration or data automation. If information sources should also be part of combining data, then typically triangulation is the best option. There is an exception to this latter statement. Data integration is still possible using information sources: the information bits are then added as an assumption in the integration. Examples: the weighted distribution will never exceed 85%; or the difference between prices of SKUs 1 and 2 will never differ more than 10%.

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Which analytics approach is best?

The importance, urgency and frequency of the question at hand will determine which approach to combine information is best. Two examples:

> A recurring, important question such as optimizing a portfolio per outlet may call for the continuous integration of sources.

> An important issue such as which innovations to launch next year, requiring many different types of information, would best be solved by doing triangulation.

"Tactical short-term problems," one client said, *"can often best be solved by using an advanced tool to avoid many useless time-consuming discussions"* reflecting his annoyance with – to his opinion - too many discussions based on gut-feeling instead of on facts. And: *"A more strategic issue simply requires human input, it's impossible to solve through a stand-alone model."*

The choice of what to do with these sources depends on the number, complexity, and credibility of them. For example, one client remarked: *"Integration is as good as its weakest link – you don't always know which sources are exactly behind a piece of information, and then data integration can be tricky".* There is therefore no standard way of combining information to solve the business questions.

Hence, the approach will almost always be tailor-made.

Learn how and why Chivas chose to intergrate sales and research data to guide marketing decisions when preparing for a new whisky brand launch in Australia.

Read full story

Art & science: Why data alone isn't enough

Fact-based, faster, more accurate, holistic decision making – this should be music to everybody's ears! Well, not exactly. It can be argued that real innovation and creative communication cannot be measured. Hence the answer to quite some business questions does not solely lie in facts and figures, but in creatively dealing with the issues at hand.

Both approaches have merits. The more emotional a category is (e.g., perfume, jewelry, vegan food, headphones) the less the numbers will tell you the total story. For rational and/or commoditized categories (e.g., detergents, daily dairy, mobile subscriptions, vitamin supplements), numbers are a big slice of the understanding. *"For home care products, like detergents, I can predict today what will happen in about ten years. But I cannot do that in the personal care category where emotional factors, such as naturalness, or brand emotions are playing a role. These are more difficult to predict."*

Marketing is moving into two directions: art (creativity) and science (fact-based)[3]. That also means that marketers will feel (more) comfortable on one of these two sides. Their challenge will be to incorporate the other side in their doings, and this currently is certainly not always the case. Too many decisions are still made based on some data and a lot of gut-feeling which is the reason for companies to move towards data-driven decision making and stronger ROI measurement.

However, as one of our clients said: *"the best decisions are made when you combine information and use your brain".*

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Realizing data-driven decisions:
The way forward

Use multiple information sources, involve multiple stakeholders

Once all information sources have been identified, the analytics approach has been determined and predictions and/or insights revealed, it is important to consider how to best deal with the outcomes.

Insight activation is no new challenge to companies, but with more sources to consider, the need to "get it right' is amplified. This is not only a technical issue.

Data across sources often have caveats, known by its users, but not to any system using the data. Knowing how the data was gathered, its quality etc. is a critical component to the ultimate accuracy of the prediction.

Thus, the human aspect is maybe even more important than in traditional research. Not only in defining the business questions and translating that to the best way of combining information, but also in ensuring data quality, interpreting the outcomes and deciding which alternatives are the best to pursue.

Using multiple information sources will obviously help the quality of decision making: more agile, more accurate and/or more holistic. Insights will turn into foresights.

A further way to improve activation of insights is to involve multiple stakeholders simultaneously for shared decision making.

We re-use the earlier mentioned cube to illustrate the different views: a sales director will look at information sources differently than a finance director, who will interpret information differently than the business development manager. Hence, next to using different information sources, different expertise is needed to interpret the combination of sources.

Activation will always have to take on an interactive form, with multiple sources and multiple disciplines brought to the table to discuss the results.

As one client remarked:

"I need to bring information back and discuss it with the business in an engaging way, to make them live the information, instead of sending them reports."

The two main forms of activation are:

> **Activation workshops** – interactive cross-stakeholder sessions aimed at understanding the results and brainstorming about the best way(s) forward.

> **Wargaming** – interactive sessions involving multiple stakeholders, which take the results further, by not only thinking about actions to be taken, but also understanding and anticipating competitor responses.

One strong aspect of such forms of activation is that different stakeholders are at the same table at the same time, discussing the relevant business questions.

These approaches, in our experience, help to align stakeholders in making faster, better and more holistic decisions.

Heineken on holistic revenue management decisions and improving pricing strategies via activation workshops:

> *What ultimately unlocks the full potential of pricing is cross-functional collaboration; the involvement of multiple stakeholders facilitates connecting all lenses and results in an optimal pricing strategy."*
>
> Revenue Management Lead for Africa, Middle East, and Eastern Europe - Heineken

Read full story

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Real-world examples:
Data-driven decision making in action

Integrating diverse data and information sources, along with stakeholder alignment, is not a straightforward process. While many organizations agree on the theory of data-driven business strategies, in practice the outcomes look quite different.

Here we share real-world examples of how organizations on different paths are realizing true data-driven decision making:

Building a more effective promotion strategy for PepsiCo
Integration, workshop

Every company doing promotions has this piercing question – what is the best promotion strategy? Such was the challenge PepsiCo Benelux faced with its savoury snacks, nuts and cereals categories, all of which are under constant pressure from competition.

Too many promotions may dilute brand perception, swallow net profit, etc. Too few promotions may lead to eventual loss of market share. PepsiCo needed to optimize its promotions strategy with sustainable impact on sales and revenue growth.

To define this strategy, SKIM analyzed 3 years of sales data to determine the long-term impact of promotions. We combined this with a conjoint study to test new promotions. Integrating both data sources led to valuable insights including the short- and long-term impact of promotions, along with learnings about channel, frequency and promotion.

PepsiCo's Shopper Insights Manager and Business Analyst:

"With the new insight into which promotion works best, we have the tools available to adapt or schedule promotions for the rest of the year, taking into account the impact on both volume and revenue, but also cannibalization on the rest of our portfolio. Our plans for next year and beyond will now be better following shopper behavior and we can really build a long-term promotion strategy."

Read full story

Revealing omnichannel shopper journey for consumer tech accessories
Triangulation, workshop

A consumer product brand needed to better understand the omnichannel path-to-purchase for mobile phone accessories amidst a disrupted market. SKIM combined four data and information sources to provide a 360-degree view of the shopper's decision journey.

We integrated passive metering of online consumer behavior, traditional qualitative shop-alongs, quantitative online buyers research, and online behavior of people intending to buy the mobile phone accessory.

The analysis revealed specific consumer journeys types, the most influential communication touchpoints and most occurring shopping activities.

Armed with a more holistic view of their shopper, the company had a more accurate understanding of what was happening before, and during, online purchases of mobile phone accessories.

We then led two intensive workshops, with over 50 cross functional stakeholders to help them implement the results in short- and long-term activation.

Based on these interactive workshops, they were able to adapt their marketing strategies to better influence these online decisions.

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Defining the best innovation strategy for a leading consumer health brand
Integration, wargaming

A top global consumer health company needed to define the best strategy to enter a new market. SKIM collected information on market shares, brand positions, previous product introductions and company strategies to tackle this innovation question. We used wargaming sessions to integrate the different information and data sets, and to define actions.

Teams of marketing directors, regulatory specialists, insight managers, and brand managers wearing different 'brand hats' engaged in a realistic and competitive company role play. The wargaming sessions elicited many new insights about both competition and their own company.

Moreover, the team was able to develop a new ways of looking at their portfolio and realize quick alignment to define the best strategy to move forward in the new category.

Having the key stakeholders actively participate in the wargaming session led to quicker alignment than in the past.

Improving business planning for fast-moving consumer goods
Integration, wargaming

For a leading global FMCG company we integrated the sales and distribution data and integrated these data with a conjoint pricing study to develop a simulation model.

This model was therefore based on historic and predictive data. The predictive model helped understanding market dynamics, resulting in more accurate predictions.

A wargaming session served to better understand competitors, while at the same time informing local teams better.

The result was the best possible pricing strategy to follow for the coming year.

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About SKIM

SKIM is a global insights agency helping leading companies thrive by understanding decision making. To stay ahead in today's environment, it's critical to know how decisions are made and how the changing environment influences decisions for consumers, healthcare and B2B professionals. To understand how decision making has changed (and how it hasn't!), we adapt sophisticated research techniques and develop new innovations to address this new reality. *The result?* Practical brand communications, revenue management, product innovation, e-Commerce, and advanced analytics recommendations you can use to propel your business forward, both online and offline.

What sets SKIM apart is our decision behavior expertise + deep analytical and choice-modeling roots + a thorough understanding of the marketing challenges brands face. This unique combination, along with our creative thinking, is the reason why strategy consultants and leading companies, from Fortune 500 to digital disruptors, have continued to partner with us for decades.

With 9 offices around the world and 180 enthusiastic SKIMmers ready to help crack your business case, how can we team up with you today?

skimgroup.com/holistic-decisions

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decision behavior experts