DIGITAL TRANSFORMATION OF THE FINANCE FUNCTION

HOW THE FINANCE FUNCTION REMAINS RELEVANT IN THE NEW WORLD OF BIG DATA AND ANALYTICS

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30 SECOND SUMMARY

Driven by the accelerating digitalization, the finance function faces the risk of being reduced to an efficiency-first support role. By redefining its value contribution and self-perception, finance can seize the opportunities that digitalization offers to develop into a digital driver that shapes the digital landscape of the entire organization.

This point of view is aimed at finance executives, wishing to pursue the second avenue. The authors offer practical insights and actionable steps on how finance can become the digital driver of an organization. In our view the key is to communicate this vision clearly, empower your agile teams, harness the opportunities of big data and AI, and start small and grow fast.

1 DIGITAL DISRUPTION:
Addressing the challenge to the traditional role of finance

Exhibit 1: Typical structural service-delivery archetypes of the finance function today and tomorrow

Dimensions	Archetype 1	Archetype 2	Archetype 3
	"No frills"	**"Financial Adviser"**	**"Analytics Hub"**
	• Cost- and efficiency-oriented	• Focus on value contribution	• Innovation driven, high analytical competence
	• Delivery of core finance processes, no additional service provision	• Strategic business partner	• Strong support of operational units
	• Centrally organized	• Likely decentrally organized	• Delivers high-quality insights combined with strong efficiency

Competence and role model	Core Finance		Finance & Operations
Organization	Centralized		Decentralized
Value/cost focus	Maximum efficiency		Quality and value contribution

Analytics helps to resolve the traditional conflict between efficiency and value contribution by efficient core operations and an adaptive level of additional insights

The process of digitalization and the competitive pressure to catch up with this development has led to a seismic shift in the traditional role and self-perception of the finance function in many organizations. This has resulted in two scenarios:

• Finance tasks can be at least partially automated, leading to more efficient processes and ultimately leaner and smaller finance organizations

• Digitalized finance processes become better and finance is able to elevate the quality of its processes as well as the its relevance to the organization

Under the first scenario, finance executives accept the digital change as an external factor, with the likely consequence of being trimmed to efficiency alongside a potential self-reporting through the business units. At the other end of the spectrum of outcomes, finance executives may grasp the opportunities of this digital change and become drivers of the digital transformation themselves across the organization.

Under the latter scenario, the finance function combines operational and financial data (big data) and uses advanced analytics and AI to enhance business decisions while acting as a service provider for the entire organization. It turns into an eye-level adviser and partner to business units, guiding them in their decision-making process. In several organizations, this transformation is already underway and has allowed finance to integrate more strongly with the business while adding more relevance to the output of the function.

In this POV we outline how senior finance executives embark on this journey and establish a credible, holistic digitalization roadmap.
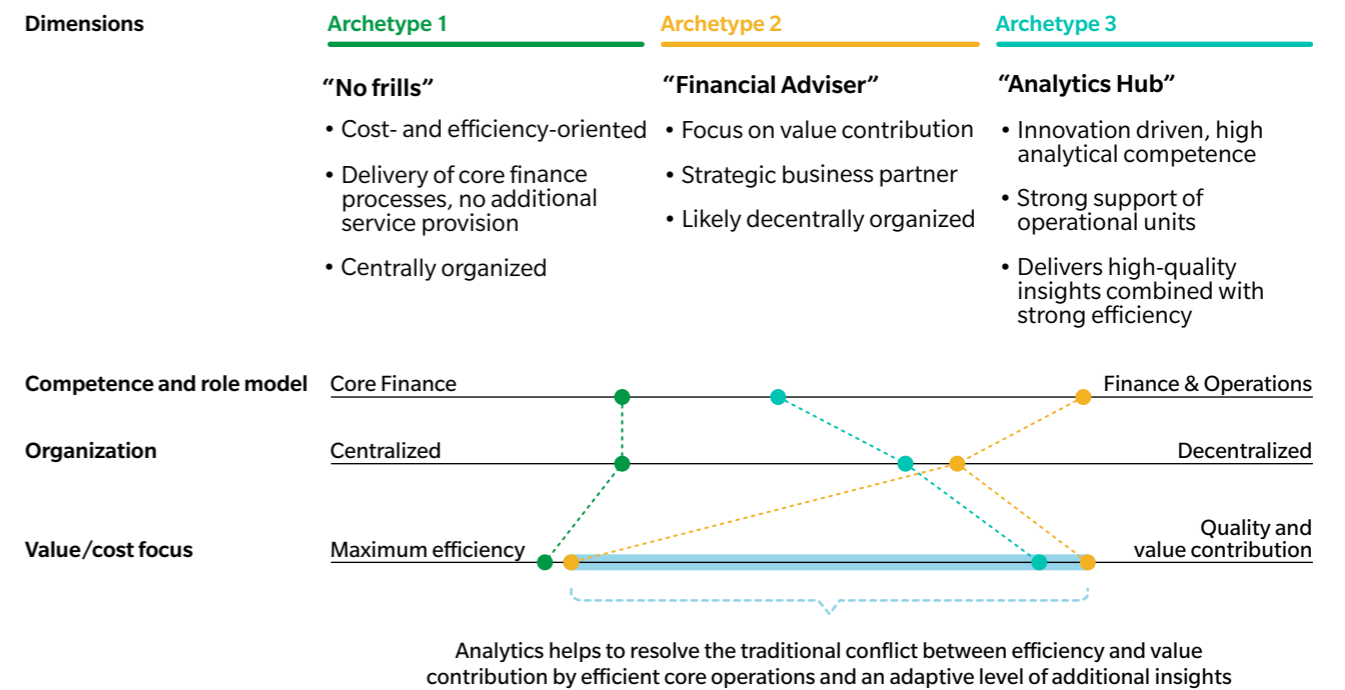
WAY FORWARD — HOW TO TRANSFORM THE VALUE OFFERING FROM FINANCE

To increase the relevance of Finance to the business, the first question to be addressed is the role and self-perception of the finance function. The most common role today is "Financial Adviser, which includes all core finance activities but also specific support and expertise for (some) operative units. Generally, traditional role models face a trade-off between efficiency and value proposition to the business, as increases in output are directly linked to an increase in input (resources).

Digitalization can help to resolve the target conflict between the role as pure and cost-efficient versus comprehensive and value-contributing at high costs.

The first objective, cost-efficiency, is triggered by automation, which helps to redesign and streamline processes with support of robotic process automation technologies, valid especially for transactional processes. To address the second objective, the relevance to the business, the key lever can be described as data-driven insights. The restriction today is neither the availability of data nor the technological infrastructure to handle large data volumes. The key requirement and challenge is to evaluate those data in a structured, efficient, and targeted method. This is where data analytics come into play.

WHAT COUNTS — ANALYTICS AS A KEY ELEMENT FOR THE DIGITAL FINANCE FUNCTION OF THE FUTURE

In this chapter, we will explore how analytics can enhance the value proposition of the finance function. We start by asking the question of centralized versus decentralized organization of analytic competence and how the advantages that come with integration into the finance function can achieve full impact with analytical tools.

Analytics describe the systematic computational analysis of data or statistics and the use of information generated by those analyses.

What are the general advantages of analytics to the business?

The business world has experienced a development that is often characterized as "VUCA" (increased in volatility and complexity, accompanied by uncertainty and ambiguity), which makes the decision-making process complex. At the same time, finance function is required to give guidance to the business based on transparent criteria.

Before we outline how analytics can support this process, we need to define our understanding of analytics. There are various definitions of analytics depending on the particular methods and systems. Independent of the specific purpose, we can use the following general definition: Analytics describe the systematic computational analysis of data or statistics and the use of information generated by those analyses.

So how can analytics help to support the decision-making process in a complex world? The answer is simple: Almost all decisions are driven by an expectation of future development of business drivers. Analytics provide a framework by identifying those drivers where statistics can help to make better projections and where it does not add value. Thereby they can optimally enhance, but not replace a decision-making process.

Reflecting the changing conditions of VUCA, the most important factors for using analytics are:

1. The methods used in analytics are transparent and unbiased: The determination of prediction formulas is based on the underlying data and can repeated anytime, revealing same results
2. In most cases, they are fully capable of dealing with VUCA elements: A well-calibrated model identifies relevant and non-relevant data, as well as those outliers that could potentially distort results
3. Analytics tend to improve with usage: The more data used for calibration, the higher the forecast accuracy

After outlining the rationale behind the use of analytics, let's have a look at the organization of analytical competence.

Why is the centralization of analytical competence advisable?

Two aspects support this hypothesis: First, the basic skillset and framework of analytical models is identical and independent from the specific purpose. A central team is suited to leverage the gained experience and can be more easily utilized across the organization compared to dedicated teams for specific business units.

Secondly, fields of application for analytics need to be identified and specified across the organization, which requires time. At the beginning, there might be only a few isolated application cases which would not justify the need to build decentralized teams in all business units concerned. A centralized pool of resources can
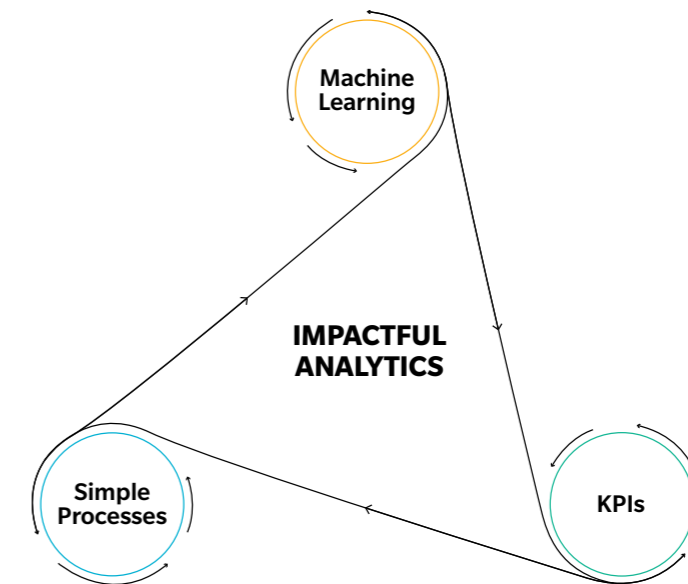
address this concern. The more application cases are realized, the stronger the pull from business units to generate their own use cases will be.

With increasing maturity, decentralized satellites with strong operational knowledge can support the trajectory of analytics in the organization. In that case, the central team can begin to focus stronger on overarching questions such as methodology, guidelines, and governance.

Why is the Finance function predestined to host impactful analytics competence?

Innovative digital tools are intended to measure and improve key performance indicators (KPIs) that are most relevant to the business. When analytics are driven by individual operating units, the KPIs are likely to lack a holistic view and a clear link to the financial success of the entire organization.

Viewed from this angle, analytics resolves the historical trade-off between efficiency and value proposition to the business. Digitalization can help to resolve the

conflict between the role of the finance function as pure and cost-efficient versus comprehensive and value-contributing but at high cost by offering both a clear value contribution to the business and an efficient way of delivering analytical and digital expertise for the entire organisation.

WHAT IS IMPACTFUL ANALYTICS?

This section answers the question of how to build an analytics hub.

Analytics is no panacea to deliver a positive financial impact on an organization. Up-front, it needs to be decided which KPIs should be considered by the analytics models and how the outputs can be embedded in the upstream and downstream processes.

Only when looking across all three components (KPIs, process simplification, and advanced analytics does the full potential of modern analytical approach unfold. We call the combination of these three components "impactful analytics."

KICK-OFF THE CHANGE:
GUIDING PRINCIPLES TO LEAD THE WAY
Assuming the finance function accepts the call for digital rejuvenation, there are some guiding principles that can help to structure the path of change.

Exhibit 3: The four guiding principles when embarking on a digital rejuvenation

Communicate a vision
Finance executives should form a clear view of their role and the business activities of their teams in one, five, and 10 years. This vision should be transparent to all involved to ensure alignment with the strategy.

Wind up the flywheel
All-encompassing big pushes are likely to disappoint in their outcome. Experience has shown that starting small, with pilots, and growing successful pilot projects into digital products is the better way forward. Pilots that solve problems for the business generate appetite for more projects.

Empower your people
Digital transformers grow when they are given legroom for maneuver and headspace to think. Self-organizing, agile scrum teams are a proven method to start the journey. This requires senior executive buy-in, clear communication from above, and a dedicated product owner that manages expectations and workloads to build an innovative and motivated modern workforce.

Never lose sight of the business case
Don't be afraid to tackle the real business problems. Failure and learning along the way is expected and should not deter from further progress.

2 CASE STUDY:
Customer analytics to improve financial and operational steering at a gas and electricity utility

In this section, we highlight how a large European gas and electricity utility applies the impactful analytics toolkit. It helps them simplify and agree on consistent metrics and obtain more precise forecasts, which enhances their decision processes. Nowadays, the finance function is regarded as a trusted analytics adviser across the value chain.

The utility distributes gas and electricity to private households under the umbrella of distinct brands. For legacy reasons, each brand follows its distinct procurement and financial planning processes.

The utility adopts the impactful analytics approach to streamline the operational and financial planning processes. The first step is to support all stakeholders in simplifying the planning processes across the three brands. After a thorough consolidation of the relevant KPIs and processes, they deploy the advanced analytics toolbox. For brevity, this section focuses on the development and deployment of the advanced analytics solution.

STEP 1:
IDENTIFYING AND PRIORITIZING USE CASES
In the first step, the finance function identify and prioritize potential applications for the impactful analytics toolkit. The first application is the digital rejuvenation of the retail processes.

Exhibit 4: Steps to develop and deploy impactful analytics

Simplify processes
- Involve all stakeholders early
- Communicate the need for change
- Consolidate and simplify processes

Define KPIs
- Review existing KPIs
- Discuss strengths and weaknesses with stakeholders and senior management
- Support stakeholders to redefine KPIs where necessary

Machine Learning *Focus of next section*
- Build machine learning tools around the new processes and KPIs
- Collect and wrangle data
- Deploy analytics toolkit

Deploy toolbox *Focus of next section*
- Design a user experience that captures all stakeholders
- Explain and interpret results to generate actionable insights for stakeholders

Exhibit 5: Developing and deploying machine learning solutions from scratch

- Data gathering, wrangling, and exploration
- First data insights, hypothesis testing
- Initial churn and acquisition models showcase feasibility and generate further appetite amongst stakeholders

- Further data exploration delivers trusted results
- Advanced machine learning model reassures stakeholders that features are considered
- User design workshops to understand how core users interact with toolkit

- Product live and embedded in local IT infrastructure
- User trainings allows the stakeholder to fully utilize the customer analytics toolkit
- Evolving stakeholder requirements delivered through agile sprints

Exhibit 6: What impactful analytics delivered to the utility

STEP 2:
PUTTING THE IMPACTFUL ANALYTICS TOOLKIT INTO ACTION
Breaking down the machine learning section into three distinct phases with clearly defined deliverables helps to move forward in a structured manner with clear exit points if the product development does not meet the expectations of stakeholders (See Exhibit 5.)

Delivering the pilot phase
During the pilot phase, data is gathered, wrangled, and explored. This allows stakeholders to systematically explore and test their initial hypothesis which unearth valuable, often unexplored, insights on the data map. Rudimentary churn and acquisition models are coded and capture only the quintessential features of the data. If the stakeholders see further merit in the pilot, the second phase is launched.

Delivering the MVP phase
The second phase produces a Minimum Viable Product (MVP) that satisfy the core users. Data exploration improves the data model that allows core users to draw reliable conclusions. Advanced machine learning methods now need to capture all features requested by core users. In the case of the churn models, these now need to be able to accurately predict customer behavior following a price adjustment. Finally, a user design workshop with the core user group helps to understand how the users intend to interact with the toolkit. Building these considerations into the first version of the user interface increases user trust and the willingness to accept the new toolbox and redesigned planning process[1].

Putting the product into operation
Finally, the MVP is converted into a full-fledged product that runs continuously on the client's local IT infrastructure. Further features are added to the data and model landscape to meet the requirements of the wider user group. Training sessions help users to apply the tool in their day-to-day processes and a creative, agile process begins by adding useful features to the tool to satisfy an increasing user group.

STEP 3:
HARVESTING THE FRUITS AND PLANTING NEW SEEDS
Lighthouse projects such as the one just described shine a light on what is possible for an organization and raises aspirations for the next steps.

The success of the retail project sparked a plethora of initiatives to simplify and improve processes across the entire finance function. Within the retail controlling unit, the procurement and financial planning processes plan to be digitalized and streamlined on the back of the portfolio predictions. Furthermore, the case study ignited additional digital projects to improve the controlling processes in the trading, grid, and energy generation units.

Seeing colleagues getting development opportunities and recognition for change initiatives can increase the agility of an organization and change the digital transformation dynamics from a "push from above," where executives need to force the digital transformation, to a "pull from below," where their staff is actively driving new digital projects.

The process of developing the customer analytics toolkit improved the data governance framework, which in turn reduces the friction and costs to develop further digital tools. The utility invested in upskilling existing staff and developed a new talent proposition that attracts data scientists, software developers, and data engineers of the highest caliber.

1   The time needed to deliver the pilot and MVP was 18 weeks.

3 PUTTING THE FOUR PRINCIPLES INTO ACTION
How to start the digital journey in your organization

In Section 1 we looked at the basic principles that need to be considered when embarking on a digital rejuvenation. In this section, we explore how these principles can be turned into actionable steps.

PRINCIPLE 1: COMMUNICATE A VISION

A clear commitment from the top is necessary to provide the necessary momentum and enthusiasm for a digital transformation of the finance function. This ensures the full-hearted support right from the board level down to the shop floor.

Mature organizations have complex processes and deep data stories, making progress ever slower as dependencies grow. An agile working style is one way to implement change more quickly and to move closer to the market. To achieve this, successful organizations tend to view themselves as a connected collection of service providers to internal or external clients. The first step to build such a modular organization is to simplify processes and weed out steps that are off the critical path.

Such a rethinking of how the finance organization delivers its services has the potential to engender
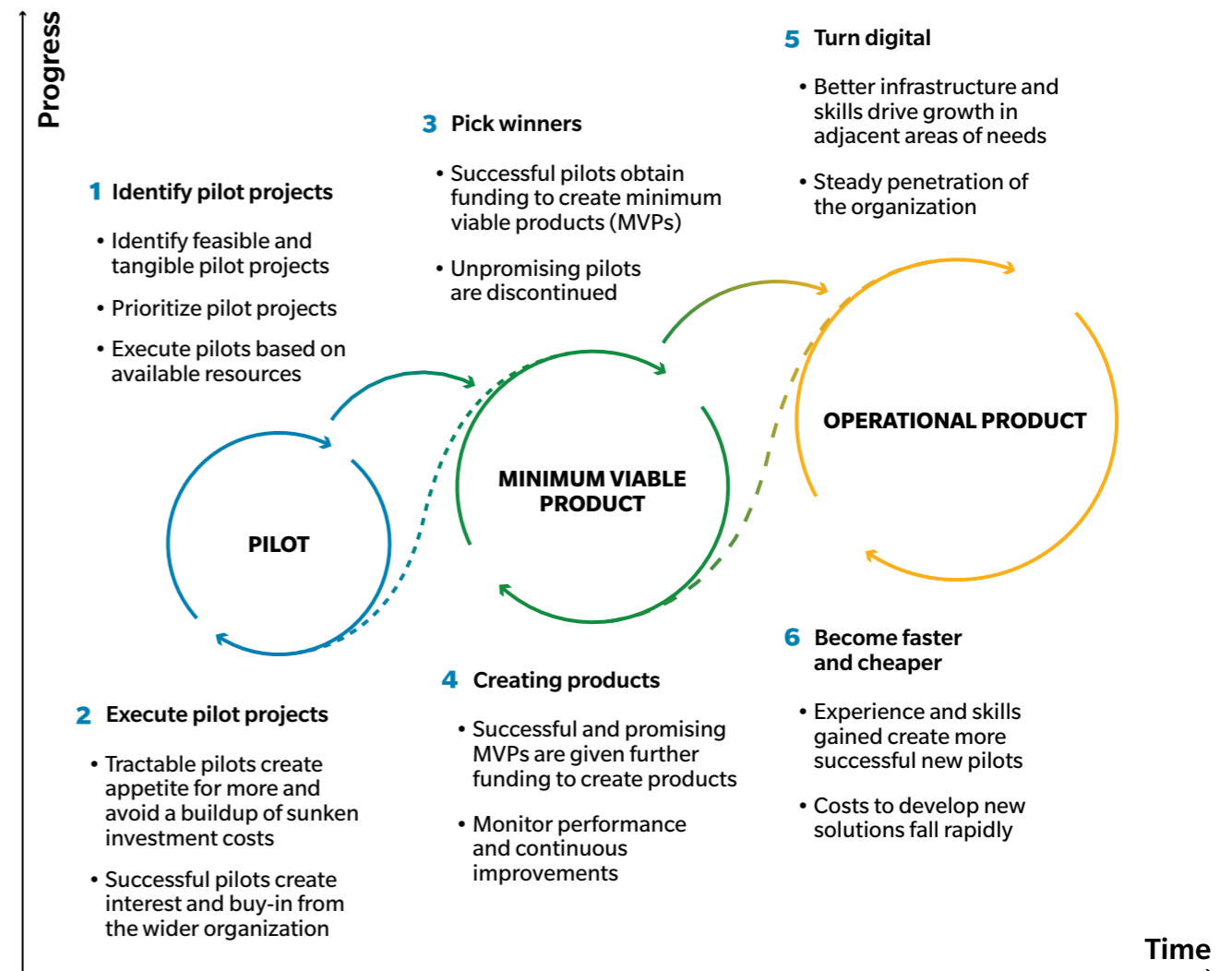
fear over the change in status. Hence, it is important to take people with you on this journey and be open about what is happening. The transformation needs a range of skills, meaning there is a place for everyone involved. Generalists will be valued contributors when it comes to simplifying processes, while specialists such as coders, data engineers, and subject matter experts are required to implement the new processes.

Exhibit 7: Organizational and data complexity leads to decreasing rate of progress for traditional organizations

Rate of Progress

Organizational and Data Complexity

With increased organizational and data complexity, the rate of analytics progress declines when replying on traditional technical approaches and management styles.

Exhibit 8: Digital progress is best achieved through an iterative process where one starts small but grows fast, that is "spinning up the flywheel"

Progress

1 Identify pilot projects
- Identify feasible and tangible pilot projects
- Prioritize pilot projects
- Execute pilots based on available resources

2 Execute pilot projects
- Tractable pilots create appetite for more and avoid a buildup of sunken investment costs
- Successful pilots create interest and buy-in from the wider organization

PILOT

3 Pick winners
- Successful pilots obtain funding to create minimum viable products (MVPs)
- Unpromising pilots are discontinued

MINIMUM VIABLE PRODUCT

4 Creating products
- Successful and promising MVPs are given further funding to create products
- Monitor performance and continuous improvements

5 Turn digital
- Better infrastructure and skills drive growth in adjacent areas of needs
- Steady penetration of the organization

OPERATIONAL PRODUCT

6 Become faster and cheaper
- Experience and skills gained create more successful new pilots
- Costs to develop new solutions fall rapidly

Time

PRINCIPLE 2: SPINNING UP THE FLYWHEEL

Starting small and growing fast is a tried and proven approach to strengthen the digital competencies of an organization. The guiding principle is to commit to small pieces of work that can be delivered along an acceptable timeline (pilot projects) and to invest in promising pilot projects to create the next evolution step of minimum viable products (MVPs). MVPs have sufficient core features to deploy the product to the first adopters and thus reduce the risk of building

products that internal or external customers do not value. The full-fledged, production-quality product is only developed once early adopters are convinced of the product´s potential.

Weeding out products with little potential or acceptance early in this iterative fashion reduces the investment cost and risk. With growing experience, the velocity in which products are delivered increases and the costs of producing digital tools decreases. This gathering of momentum from a first set of pilots towards a digital organization is what we call spinning up the flywheel.

PRINCIPLE 3:
EMPOWER YOUR PEOPLE

The modern labor force seeks to take ownership and wants to feel empowered by their employers. Creating new solutions is a creative, agile process which requires headspace to be creative and legroom to maneuver new ideas into an organization. This is only possible with senior management buy-in and initially a degree of patience and willingness to accept new working processes.

The key message to managers across all seniority levels is to step away from micromanaging your developers. Agile teams get tasks assigned through the product owner(s), and the teams subsequently determine themselves the how and who of problem solving.

While this might be difficult or undesirable in the beginning, there needs to be a joint understanding between managers and developers that ownership over the "how" and "who" will gradually move to the development team. The role of monitoring this transition and maintaining the standards and processes in the agile team falls onto the scrum master. Experts in certain content areas (so-called "chapters") are encouraged to emerge as are primus inter pares. But the team becomes collectively responsible for delivering the products.

PRINCIPLE 4:
NEVER LOSE SIGHT OF YOUR BUSINESS CASE

Developers, especially when working in self-organized, agile teams, run into the risk of being tangled in a self-focused web of technicalities when developing digital tools. It is the role of the product owner to constantly seek new requirements and desired product refinements defined by stakeholders and break them down and translate these into backlog items the agile team can tackle. As such, the product owner needs the rare skillset of grasping strategic vision, being sympathetic to hard-nosed business considerations, and being an empathetic communicator of the strategic vision to a senior audience and technical staff alike. He/She needs a common-sense approach to combine the three elements of KPIs, advanced analytics, and process simplifications to achieve the golden triangle of impactful analytics.

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